California Environmental Protection Agency

# Air Resources Board

## PUBLIC MEETING AGENDA

## January 28, 2010

**LOCATION:**
Air Resources Board
Byron Sher Auditorium, Second Floor
1001 I Street
Sacramento, California 95814

This facility is accessible by public transit. For transit information, call (916) 321-BUSS, website: http://www.sacrt.com
(This facility is accessible to persons with disabilities.)

**TO SUBMIT WRITTEN COMMENTS ON AN AGENDA ITEM IN ADVANCE OF THE MEETING GO TO: http://www.arb.ca.gov/lispub/comm/bclist.php**

## January 28, 2010
## 9:00 a.m.

**Agenda Item #**

**10-1-1: Report to the Board on the Air Resources Board's Program Priorities for 2010**

*Executive Officer James Goldstene will brief the Board on major program priorities for 2010.*

**10-1-2: Public Hearing to Consider the Adoption of Proposed Amendments to the Regulations Applicable to Portable Diesel Engines and Diesel Engines Used in Off-Road and On-Road Vehicles**

*Staff will present to the Board amendments to extend the deadline for the removal of certain uncertified portable engines for one year. In addition, staff will present amendments to make two-engine water well drilling rigs subject to the Off-Road Regulation instead of the Portable Engine Air Toxic Control Measure (ATCM) and In-Use On-Road Diesel Vehicle Regulation. Revisions are also proposed to provide additional clarity and enforceability to the Statewide Portable Equipment Registration Program Regulation and Portable Engine ATCM.*

**10-1-3: Public Hearing to Consider Amendments to the Verification Procedure, Warranty and In-Use Compliance Requirements for In-Use Strategies to Control Emissions from Diesel Engines**

*Staff will present to the Board proposed changes to the Verification Procedure (Procedure), which is used by staff to evaluate diesel retrofits through emissions, durability, and field testing. The Procedure is ARB's key tool for ensuring that diesel retrofits used by fleet owners are an effective means for reducing emissions from existing diesel vehicles and engines. Staff's proposed changes are intended to further the objectives of the verification program and to strengthen the protections and remedies for the system purchasers. The changes will improve the process of matching retrofits with their intended vehicles, strengthen ARB's ability to quickly and effectively address systems with high warranty claim rates, provide additional information to fleets on the maintenance and appropriate use of their diesel retrofits, and provide better information to staff regarding durability performance.*

**10-1-5: Public Meeting to Provide California's Plan for Adapting to Climate Change**

*Staff from the California Natural Resources Agency will provide an overview for the Board of the 2009 California Climate Adaptation Strategy. California is experiencing significant climate change impacts, including shifting precipitation patterns, increasing ambient temperatures, sea level rise, increasing severity and duration of wildfires, earlier melting of the snow pack, and effects on habitats and biodiversity. Some impacts of climate change can no longer be avoided. To prepare, the California Natural Resources Agency has developed, in cooperation and partnership with multiple State agencies, a first-of-a-kind multi-sector strategy to help guide California's efforts.*

**10-1-6: Public Meeting to Update the Board on the Climate Champions Program**

*Staff will present to the Board an overview of the California Climate Champions program and the range of activities undertaken by the Champions that have raised awareness about climate change, and the steps they have taken to mitigate its impacts.*

**10-1-7: Public Meeting to Provide an Overview of the Greenhouse Gas Cap-and-Trade Program**

*Staff will present to the Board an overview of the preliminary draft regulation for California's greenhouse gas cap-and-trade program, which was released to the public on November 24, 2009. The final draft regulation is scheduled to be heard by the Board in October 2010.*

**10-1-9: Public Meeting to Update the Board on ARB's Enforcement Program**

*Staff will present an update to the Board on progress made to address concerns and issues presented at the October 12, 2009, workshop and during Board meeting open comment periods.*

**CLOSED SESSION – LITIGATION**

The Board will hold a closed session, as authorized by Government Code section 11126(e), to confer with, and receive advice from, its legal counsel regarding the following pending or potential litigation:

*Central Valley Chrysler-Jeep, Inc. et al. v. Goldstene, U.S. Court of Appeals, Ninth Circuit, on appeal from U.S. District Court (E.D. Cal. - Fresno), Case No. 08-17378.*

*Fresno Dodge, Inc. et al. v. California Air Resources Board et al., Superior Court of California (Fresno County), Case No. 04CE CG03498.*

*General Motors Corp. et al. v. California Air Resources Board et al., Superior Court of California (Fresno County), Case No. 05CE CG02787.*

*Green Mountain Chrysler-Plymouth-Dodge-Jeep, et al. v. Crombie, 508 F.Supp.2d 295, U.S. District Court Vermont (2007), appeal to U.S. Court of Appeals, Second Circuit, Case Nos. 07-4342-cv(L) and 07-4360-cv(CON).*

*Pacific Merchant Shipping Association v. Goldstene, U.S. District Court (E.D. Cal. - Fresno), Case No. 2:09-CV-01151-MCE-EFB.*

*American Trucking Association, et al. v. U.S. Environmental Protection Agency, et al., U.S. Court of Appeals, District of Columbia Circuit, Case No. 09-1090.*

*POET, LLC, et al. v. Goldstene, et al., Superior Court of California (Fresno County), Case No. 09CECG04850.*

*Rocky Mountain Farmers Union, et al. v. Goldstene, U.S. District Court (E.D. Cal. - Fresno), Case No. 1:09-cv-02234-LJO-DLB.*

**OPPORTUNITY FOR MEMBERS OF THE BOARD TO COMMENT ON MATTERS OF INTEREST**

*Board members may identify matters they would like to have noticed for consideration at future meetings and comment on topics of interest; no formal action on these topics will be taken without further notice.*

**OPEN SESSION TO PROVIDE AN OPPORTUNITY FOR MEMBERS OF THE PUBLIC TO ADDRESS THE BOARD ON SUBJECT MATTERS WITHIN THE JURISDICTION OF THE BOARD**

*Although no formal Board action may be taken, the Board is allowing an opportunity to interested members of the public to address the Board on items of interest that are within the Board's jurisdiction, but do not specifically appear on the agenda. Each person will be allowed a maximum of three minutes to ensure that everyone has a chance to speak.*

**THE AGENDA ITEMS LISTED ABOVE MAY BE CONSIDERED IN A DIFFERENT ORDER AT THE BOARD MEETING.**

**TO SUBMIT WRITTEN COMMENTS ON AN AGENDA ITEM IN ADVANCE OF THE MEETING GO TO:**
**http://www.arb.ca.gov/lispub/comm/bclist.php**

**IF YOU HAVE ANY QUESTIONS, PLEASE CONTACT THE CLERK OF THE BOARD:**
**OFFICE: (916) 322-5594**
**1001 I Street, Floor 23, Sacramento, California 95814**
**ARB Homepage:** www.arb.ca.gov

**To request a special accommodation or language needs for any of the following:**

- An interpreter to be available at the hearing.
- Have documents available in an alternate format (i.e. Braille, large print) or another language.
- A disability-related reasonable accommodation.

Please contact the Clerk of the Board at (916) 322-5594 or by facsimile at (916) 322-3928 as soon as possible, but no later than 10 business days before the scheduled Board hearing. TTY/TDD/Speech to Speech users may dial 711 for the California Relay Service.

**Para solicitar alguna comodidade especial o si por su idioma necesita cualquiera de los siguientes:**

- Un intérprete que esté disponible en la audiencia.
- Documentos disponibles en un formato alternativo (es decir, sistema Braille, letra grande) u otro idioma.
- Una acomodación razonable relacionados con una incapacidad.

Porfavor llame a la officina del Consejo a (916) 322-5594 o envie un fax a (916) 322-3928 lo mas pronto possible, pero no menos de 10 dias de trabajo antes del el dia programado para la audencia del Consejo. TTY/TDD/ Personas que nesessitan este servicion pueden marcar el 711 para el Servicio de Retransmisión de Mensajes de California.

**SMOKING IS NOT PERMITTED AT MEETINGS OF THE CALIFORNIA AIR RESOURCES BOARD**

California Environmental Protection Agency

# Air Resources Board

## PUBLIC MEETING AGENDA

**LOCATION:**
Air Resources Board
Byron Sher Auditorium, Second Floor
1001 I Street
Sacramento, California 95814

This facility is accessible by public transit. For transit information, call (916) 321-BUSS, website: http://www.sacrt.com
(This facility is accessible to persons with disabilities.)

## INDEX

## January 28, 2010 at 9:00 a.m.


| Agenda # | | Pages |
|---|---|---|
| 10-1-1 | Report to the Board on the Air Resources Board's Program Priorities for | --- |
| 10-1-2 | Public Hearing to Consider the Adoption of Proposed Amendments to the Regulations Applicable to Portable Diesel Engines and Diesel Engines Used in Off-Road and On-Road Vehicles | 1-142 |
| 10-1-3 | Public Hearing to Consider Amendments to the Verification Procedure, Warranty and In-Use Compliance Requirements for In-Use Strategies to Control Emissions from Diesel Engines | 143-222 |
| 10-1-5 | Public Meeting to Provide California's Plan for Adapting to Climate Change | --- |
| 10-1-6 | Public Meeting to Update the Board on the Climate Champions Program | --- |
| 10-1-7 | Public Meeting to Provide an Overview of the Greenhouse Gas Cap-and-Trade Program | --- |
| 10-1-9 | Public Meeting to Update the Board on ARB's Enforcement Program | --- |

# TITLES 13 AND 17. CALIFORNIA AIR RESOURCES BOARD

## NOTICE OF PUBLIC HEARING TO CONSIDER THE ADOPTION OF PROPOSED AMENDMENTS TO THE REGULATIONS APPLICABLE TO PORTABLE DIESEL ENGINES AND DIESEL ENGINES USED IN OFF-ROAD AND ON-ROAD VEHICLES

The Air Resources Board (ARB or Board) will conduct a public hearing at the time and place noted below to consider adoption of amendments to the Statewide Portable Equipment Registration Program (PERP) Regulation, the Airborne Toxic Control Measure for Diesel-Fueled Portable Engines (Portable Engine ATCM), the Regulation for In-Use Off-Road Diesel-Fueled Vehicles (Off-Road Regulation), and the Regulation for In-Use On-Road Heavy-Duty Diesel-Fueled Vehicles (On-Road Regulation).

DATE: January 28, 2010

TIME: 9:00 a.m.

PLACE: California Environmental Protection Agency
Air Resources Board
Byron Sher Auditorium
1001 I Street
Sacramento, California 95814

This item may be considered at a two-day meeting of the Board, which will commence at 9:00 a.m., January 28, 2010, and may continue at 8:30 a.m., January 29, 2010. This item may not be considered until January 29, 2010. Please consult the agenda for the meeting, which will be available at least 10 days before January 28, 2010, to determine the day on which this item will be considered.

## INFORMATIVE DIGEST OF PROPOSED ACTION AND POLICY STATEMENT OVERVIEW

**Sections Affected:** Proposed amendments to title 13, California Code of Regulations (CCR), article 5, sections 2451, 2452, 2453, 2456, 2458, 2460, 2461 and 2462, the Statewide Portable Equipment Registration Program. Proposed amendments to title 17, CCR, sections 93116.1, 93116.2 and 93116.3, the Airborne Toxic Control Measure for Diesel-Fueled Portable Engines. Proposed amendments to title 13, CCR, section 2449, the Regulation for In-Use Off-Road Diesel-Fueled Vehicles. Proposed amendments to title 13, CCR, section 2025, the regulation for In-Use On-Road Diesel-Fueled Vehicles.

**Background**:
The Legislature passed the portable equipment registration statutes in 1995. These statutes (Health and Safety Code §41750 et seq.) required ARB to create and maintain a program for the registration of engines and equipment that are operated at more than one location throughout the State. Under these 1995 statutes, the Board approved a Statewide Regulation establishing the Portable Equipment Registration Program (PERP) on March 27, 1997, and it became effective on September 17, 1997. The Board approved amendments to the Statewide PERP Regulation on

December 11, 1998, February 26, 2004, June 22, 2006, March 22, 2007, and December 11, 2008. When an engine is registered in PERP, State law provides that the owner of that engine need not obtain local air district permits prior to operating. To be registered in PERP, however, the engine being registered must meet strict eligibility requirements at the time of application.

Most of the engines associated with portable equipment are diesel-fueled, making these engines also subject to the requirements of the Portable Engine ATCM. The Portable Engine ATCM covers all portable engines, not only those registered in PERP. The Board adopted the Portable Engine ATCM in February 2004. Portable engines include a wide variety of engine types and uses. A portable engine may provide primary power to a piece of equipment or it may serve as an auxiliary engine.

The Portable Engine ATCM requires that all diesel engines operating pursuant to a permit or registration in California must be certified to an off-road emission standard contained in 40 CFR Part 89 as of January 1, 2010, except for those engines designated as emergency use or low use. This requirement was first established in 1997 as part of PERP, giving businesses a maximum of 13 years to plan for the replacement or retirement of the older, uncertified engines.

In 2004, this requirement was moved from the PERP regulation to the Portable Engine ATCM so that it would apply to all diesel engines statewide, not just those registered in PERP. The PERP Regulation maintains a similar requirement for older spark-ignition engines to be put out of service by the same date. The owners of older spark-ignition engines have the option of seeking permits with the local districts in lieu of complying with the January 1, 2010 deadline in PERP.

In recent months, numerous members of the regulated community and the local air districts have expressed concerns about the requirement to replace all uncertified portable engines by January 1, 2010. In response, ARB staff is proposing to allow smaller companies the ability to phase-in compliance by deferring a limited number of uncertified engines until January 1, 2011. This phased-in approach is consistent with other ARB diesel rules and provides some relief to over 90 percent of the companies that currently have uncertified engines, yet retains over 70 percent of the emissions benefits of the rule expected in 2010.

In addition, members of the California Groundwater Association expressed concern that the replacement of older deck engines on existing two-engine water well drilling rigs is either technologically infeasible or severely cost prohibitive, which would force these rigs out of service without replacement. Because engine replacement on these drilling rigs is often not possible, the only option available to the operators of these vehicles is to retire them or to purchase a new drilling rig. A new drilling rig can cost several hundred thousand dollars. This would severely impact the water well drilling industry and their ability to drill new water wells in the State. These issues are very similar to the issues with two-engine cranes, which were addressed in previous amendments that the Board approved in December 2008. As such, ARB staff is proposing to add two-engine water well drilling rigs to the Off-Road Regulation consistent with other similar types of vehicles.

## DESCRIPTION OF THE PROPOSED REGULATORY ACTION

On January 28, 2010, staff will present to the Board amendments to the PERP Regulation, the Portable Engine ATCM, the Off-Road Regulation, and the On-Road Regulation. These proposed amendments would extend the deadline for replacing older engines for smaller companies, provide for the eligibility of certain types of engines, and modify the PERP recordkeeping and reporting requirements. These amendments will also subject two-engine water well drilling rigs to the Off-Road Regulation, and exempt them from the Portable Engine ATCM and On-Road Regulation. ARB staff is also proposing some minor revisions that are intended to provide additional clarity and enforceability to the implementation of the Statewide PERP Regulation.

The proposed amendments would allow certain engines to obtain permits or registrations that would not otherwise qualify, and would also provide limited relief for the affected industry relative to the replacement, recordkeeping, reporting, and registration of complying engines. Following is a more detailed description of the proposed amendments.

### Statewide PERP Regulation

*Spark-ignition Engine Replacement Extension*

ARB staff proposes to allow owners of small fleets to designate some of their currently registered spark-ignition engines to operate for one additional year beyond the current date. Under this proposal, owners with 25 or fewer total portable engines would be able to continue operating either one registered spark-ignition engine of any size or up to five registered engines not to exceed a combined total of 500 brake horsepower (bhp) until December 31, 2010. The owners of these fleets will have to submit a written request to designate which registered engines they wish to continue operating under this proposed regulatory amendment. If the fleet owner uses the one year extension for one large spark-ignition engine or up to five registered spark-ignition engines, they will not also get an additional extension for compression-ignition engines that they may own as proposed in the Portable Engine ATCM. However, the five engines designated to operate for an additional year can be a mix of spark-ignition and compression-ignition engines.

*Marine and On-Highway Engines*

ARB staff proposes to allow engines that are certified to the on-highway emission standards contained in 40 CFR part 86 and engines that are certified to marine emission standards contained in 40 CFR part 94 and 40 CFR part 1042 to be eligible for registration in PERP if such engines otherwise meet all other Statewide PERP Regulation requirements. In the case of auxiliary marine certified engines operated on vessels, these engines will be subject to the Commercial Harbor Craft ATCM, even if registered in PERP.

*Water Well Drilling Rigs*

ARB staff proposes to add a definition for two-engine water well drilling rigs as those owned by companies with a specific water well drilling contractors license. The deck engine of these rigs will remain eligible for PERP, but staff proposes to clarify that the engine will be subject to the Off-Road Regulation, not the Portable Engine ATCM. If registered in PERP, the deck engine will still be subject to district inspection requirements and applicable fees as listed in the PERP regulation.

*Recordkeeping and Reporting*

ARB staff proposes to reduce the amount of recordkeeping for registered certified engines which are not subject to any emission limitations. Staff also proposes to remove the annual reporting requirement for these certified engines. Engines and equipment units with emission limitations will continue to have daily recordkeeping and annual reporting requirements of the applicable operational data. Staff proposes to require that the specific location and date is recorded on a regular basis for certified engines, and each time it is moved for non-certified engines and equipment units. This is necessary to improve the enforceability of the requirement that registered portable engines and equipment units do not reside in one location for more than 12 consecutive months.

*Vendor Sales Report*

ARB staff proposes to remove the vendor sales reporting requirement from the Statewide PERP Regulation.

*Miscellaneous Amendments*

ARB staff is proposing the modification, addition, and deletion of terms in the definitions section, deletion of outdated provisions, and minor clarifications where needed. These changes are considered to be non-substantive and are intended to provide additional clarity and expediency to the Statewide PERP Regulation.

<u>Portable Engine ATCM</u>

*Diesel Engine Replacement Extension*

ARB staff proposes to allow owners of small fleets to designate certain diesel engines to operate for one additional year beyond the current date. Under this proposal, owners of 25 or fewer total portable engines would be able to choose either one diesel engine of any size or up to five diesel engines not to exceed a combined total of 500 bhp to operate until December 31, 2010. These engines would have to be currently registered in PERP or permitted by a local air district. These fleet owners will have to submit a written request to designate which engines they wish to continue operating under this proposed regulatory amendment.

*Water Well Drilling Rigs*

ARB staff proposes to define water well drilling rigs as those owned by companies with a specific water well drilling contractors license. The deck engines on two-engine rigs

will be exempt from the Portable Engine ATCM, as they will be subject to the Off-Road Regulation.

*On-Highway Engines*

ARB staff proposes to allow engines that are certified to the on-highway emission standards contained in 40 CFR part 86 and used in portable applications to operate beyond January 1, 2010. Many operators are using certified on-highway engines in non-motive, portable applications. This amendment will allow these engines to operate beyond the current replacement deadline. When these on-highway engines become part of the portable fleet, they be subject to the fleet emission standards contained in the Portable Engine ATCM.

*Miscellaneous Amendments*

ARB staff is proposing the modification, addition, and deletion of terms in the definitions section, deletion of outdated provisions, and minor clarifications where needed. These changes are considered to be non-substantive and are intended to provide additional clarity and expediency to the Portable Engine ATCM.

Off-Road Regulation

*Water Well Drilling Rigs*

ARB staff proposes to define water well drilling rigs as those owned by companies with a specific water well drilling contractors license. Both engines on two-engine rigs will be subject to the Off-Road Regulation. No special provisions will be added for these drilling rigs. The reporting date for water well drilling rigs will also be extended to allow time for the drilling rigs that were previously not subject to this regulation.

On-Road Regulation

*Water Well Drilling Rigs*

ARB staff proposes to exempt two-engine water well drilling rigs from the On-Road Regulation, but will be subject to the Off-Road Regulation.

## COMPARABLE FEDERAL REGULATIONS

There are no federal regulations comparable to the Statewide PERP Regulation. To date, the United States Environmental Protection Agency has adopted emission standards for new spark-ignition nonroad engines at or below 19 kilowatts (25 horsepower) and compression-ignition nonroad engines at or above 37 kilowatts (50 horsepower).

There are no federal regulations comparable to the proposed regulation to reduce emissions of diesel particulate matter and oxides of nitrogen from in-use on-road diesel vehicles that operate in California. Similarly, there are also no federal regulations comparable to California's in-use off-road vehicle regulation.

## AVAILABILITY OF DOCUMENTS AND AGENCY CONTACT PERSONS

ARB staff has prepared a Staff Report: Initial Statement of Reasons (ISOR) for the proposed regulatory action, which includes a summary of the economic and environmental impacts of the proposal. The report is entitled: Initial Statement of Reasons for the Proposed Amendments to the Regulations Applicable to Portable Diesel Engines and Diesel Engines Used in Off-Road and On-Road Vehicles.

Copies of the ISOR and the full text of the proposed regulatory language, in underline and strikeout format to allow for comparison with the existing regulations, may be accessed on the ARB's website listed below, or may be obtained from the Public Information Office, Air Resources Board, 1001 I Street, Visitors and Environmental Services Center, First Floor, Sacramento, California, 95814, (916) 322-2990, at least 45 days prior to the scheduled hearing on January 28, 2010.

Upon its completion, the Final Statement of Reasons (FSOR) will be available and copies may be requested from the agency contact persons in this notice, or may be accessed on the ARB's website listed below.

Inquiries concerning the substance of the proposed regulation may be directed to the designated agency contact persons, Michael Guzzetta, Manager of the Rule Evaluation Section at (916) 322-6025, or Joseph Gormley, Air Resources Engineer, Rule Evaluation Section, at (916) 322-5616.

Further, the agency representative and designated back-up contact persons, to whom nonsubstantive inquiries concerning the proposed administrative action may be directed, are Ms. Lori Andreoni, Manager, Board Administration and Regulatory Coordination Unit, (916) 322-4011, or Ms. Amy Whiting, Regulations Coordinator, (916) 322-6533. The Board has compiled a record for this rulemaking action, which includes all the information upon which the proposal is based. This material is available for inspection upon request to the contact persons.

This notice, the ISOR, and all subsequent regulatory documents, including the FSOR, when completed, are available on ARB's website for this rulemaking at http://www.arb.ca.gov/regact/2010/perp2010/perp2010.htm.

## COSTS TO PUBLIC AGENCIES AND TO BUSINESSES AND PERSONS AFFECTED

The determinations of the Board's Executive Officer concerning the costs or savings necessarily incurred by public agencies and private persons and businesses in reasonable compliance with the proposed regulations are presented below.

Pursuant to Government Code sections 11346.5(a)(5) and 11346.5(a)(6), the Executive Officer has determined that the proposed regulatory action would not create costs to any State agency or in federal funding to the State, costs or mandate to any local agency or school district, whether or not reimbursable by the State pursuant to Government Code, title 2, division 4, part 7 (commencing with section 17500), or other nondiscretionary cost to State or local agencies. However, the proposed regulatory action will create savings to some State and local agencies, as described below.

*Non-Certified Engine Extension*

In developing this regulatory proposal, ARB staff evaluated the potential economic impacts on representative private persons or businesses. ARB staff estimates that the total economic impact of the proposed amendments to the Statewide Regulation to affected private businesses and public (local, State, and federal) agencies is a savings of $66 million over the next one year. The savings created are from the one-year extension for replacing older engines as required by the Portable Engine ATCM and a reduction of reporting requirements.

The alternative to the proposed extension for older engines is to keep the existing deadline of January 1, 2010. The average cost of an engine replacement is approximately $175 per horsepower. Approximately 4,400 older engines with a total of about 1,050,000 horsepower are subject to the current requirement to be replaced by January 1, 2010. Approximately 80 engines with a cumulative size of 15,000 bhp are on two-engine water well drilling rigs; therefore the total amount affected is reduced to 1,035,000 bhp. The cost to replace all these engines would be about $181 million. With the current proposal, approximately 2,000 engines owned by 1,130 companies and public agencies with a combined horsepower of approximately 375,000 will be eligible to operate for an additional year. The cost to replace these engines would be approximately $66 million, therefore resulting in a savings for small business and public agencies of that amount for one year. The true cost savings will be less, however, because it is not expected that all the eligible engines will utilize the extension in this proposal.

Staff estimates that 210 local agencies will be affected by the proposed amendments. The total potential economic savings for local agencies is estimated by ARB staff to be $10.3 million.

Staff estimates that three State agencies will be affected by the proposed amendments. The total potential economic savings for State agencies is estimated by ARB staff to be $220,000.

Staff estimates that nine federal agencies will be affected by the proposed amendments. The total potential economic savings for federal agencies is estimated by ARB staff to be $510,000.

*Water Well Drilling Rigs*

In developing this regulatory proposal, ARB staff evaluated the potential economic impacts on representative private persons or businesses. ARB staff estimates that the economic impact of the proposed amendments to affected businesses is $13 million. The savings are from moving the two-engine water well drilling rigs into the Off-Road Regulation which does not have requirements until 2013 for medium fleets and 2015 for small fleets. Currently, there are only 80 of these engines registered in PERP, although some estimates put the total at over 400 throughout the State. The savings are due to the delay of the requirement to replace or retrofit older engines until either 2013 or 2015. There are no economic impacts to public agencies as a result of this amendment.

The Executive Officer has made an initial determination that the proposed regulatory action would not have a significant statewide adverse economic impact directly affecting businesses, including the ability of California businesses to compete with businesses in other states, or on representative private persons.

In accordance with Government Code section 11346.3, the Executive Officer has determined that the proposed regulatory action would not affect the creation or elimination of jobs within the State of California, the creation of new businesses or elimination of existing businesses within the State of California, or the expansion of businesses currently doing business within the State of California. A detailed assessment of economic impacts of the proposed regulatory action can be found in the ISOR.

The Executive Officer has also determined, pursuant to California Code of Regulations, title 1, section 4, that the proposed regulatory action would affect small businesses.

In accordance with Government Code sections 11346.3(c) and 11346.5(a)(11), the Executive Officer has found that the reporting requirements of the regulations which apply to businesses are necessary for the health, safety, and welfare of the people of the State of California.

Before taking final action on the proposed regulation, the Board must determine that no reasonable alternative considered by the Board or that has otherwise been identified and brought to the attention of the Board would be more effective in carrying out the purpose for which the amendment is proposed or would be as effective and less burdensome to affected private persons than the proposed action.

## SUBMITTAL OF COMMENTS

Interested members of the public may also present comments orally or in writing at the meeting and may be submitted by postal mail or by electronic submittal before the

meeting. To be considered by the Board, written comments, not physically submitted at the meeting, must be received **no later than 12:00 noon, January 27, 2010,** and addressed to the following:

Postal mail: Clerk of the Board, Air Resources Board
1001 I Street, Sacramento, California 95814

Electronic submittal: http://www.arb.ca.gov/lispub/comm/bclist.php

Please note that under the California Public Records Act (Gov. Code, § 6250 et seq.), your written and oral comments, attachments, and associated contact information (e.g., your address, phone, email, etc.) become part of the public record and can be released to the public upon request. Additionally, this information may become available via Google, Yahoo, and any other search engines.

The Board requests, but does not require, that 20 copies of any written statement be submitted and that all written statements be filed at least 10 days prior to the hearing so that ARB staff and Board members have time to fully consider each comment. The Board encourages members of the public to bring to the attention of staff in advance of the hearing any suggestions for modification of the proposed regulatory action.

## STATUTORY AUTHORITY AND REFERENCES

This regulatory action is proposed under that authority granted in Health and Safety Code sections 39600, 39601, 39650, 39658, 39659, 39665, 39666, 39667, 39674, 39675, 40000, 41511, 41752, 41753, 41754, 41755, 42400, 42400.1, 42400.2, 42402.2, 42410, 43000, 43000.5, 43013, 43016, 43018, 43023, and 43600. This action is proposed to implement, interpret, or make specific Health and Safety Code sections 39600, 39601, 39650, 39658, 39659, 39666, 39667, 39674, 39675, 40000, 41511, 41750, 41751, 41752, 41753, 41754, 41755, 42400, 42400.1, 42400.2, 42402.2, 42410, 43013, 43016, 43018, 43023, and 43600.

## HEARING PROCEDURES

The public hearing will be conducted in accordance with the California Administrative Procedure Act, Government Code, title 2, division 3, part 1, chapter 3.5 (commencing with section 11340).

Following the public hearing, the Board may adopt the regulatory language as originally proposed, or with non-substantial or grammatical modifications. The Board may also adopt the proposed regulatory language with other modifications if the text as modified is sufficiently related to the originally proposed text that the public was adequately placed on notice and that the regulatory language as modified could result from the proposed regulatory action; in such event, the full regulatory text, with the modifications clearly indicated, will be made available to the public, for written comment, at least 15 days before it is adopted.

The public may request a copy of the modified regulatory text from ARB's Public Information Office, Air Resources Board, 1001 I Street, Visitors and Environmental Services Center, First Floor, Sacramento, California, 95814, (916) 322-2990.

**SPECIAL ACCOMMODATION REQUEST**

**To request a special accommodation or language needs for any of the following:**

- An interpreter to be available at the hearing.
- Have documents available in an alternate format (i.e. Braille, large print) or another language.
- A disability-related reasonable accommodation.

Please contact the Clerk of the Board at (916) 322-5594 or by facsimile at (916) 322-3928 as soon as possible, but no later than 10 business days before the scheduled Board hearing. TTY/TDD/Speech to Speech users may dial 711 for the California Relay Service.

**Para solicitar alguna comodidade especial o si por su idioma necesita cualquiera de los siguientes:**

- Un intérprete que esté disponible en la audiencia.
- Documentos disponibles en un formato alternativo (es decir, sistema Braille, letra grande) u otro idioma.
- Una acomodación razonable relacionados con una incapacidad.

Porfavor llame a la officina del Consejo a (916) 322-5594 o envie un fax a (916) 322-3928 lo mas pronto possible, pero no menos de 10 dias de trabajo antes del el dia programado para la audencia del Consejo. TTY/TDD/ Personas que nesessitan este servicion pueden marcar el 711 para el Servicio de Retransmisión de Mensajes de California.

CALIFORNIA AIR RESOURCES BOARD

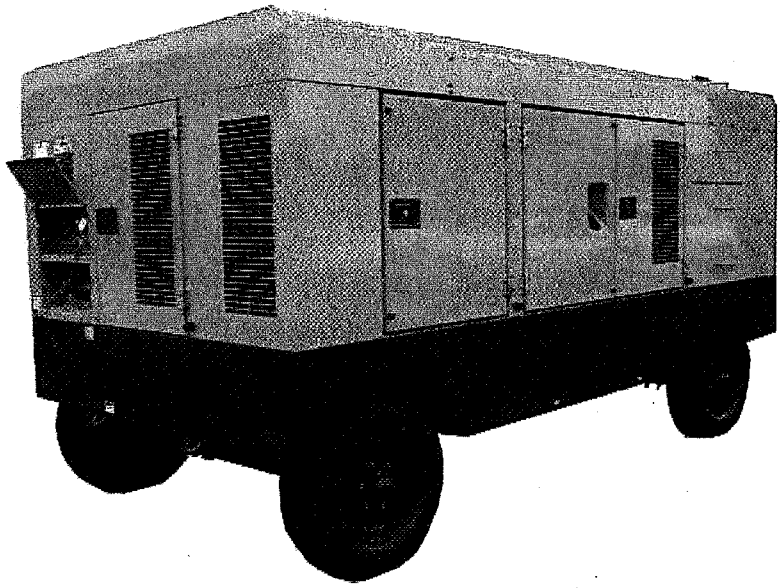
for James N. Goldstene
Executive Officer

Date: December 1, 2009

*The energy challenge facing California is real. Every Californian needs to take immediate action to reduce energy consumption. For a list of simple ways you can reduce demand and cut your energy costs, see our website at www.arb.ca.gov.*

California Environmental Protection Agency
AIR RESOURCES BOARD

# STAFF REPORT: INITIAL STATEMENT OF REASONS FOR THE PROPOSED AMENDMENTS TO THE REGULATIONS APPLICABLE TO PORTABLE DIESEL ENGINES AND DIESEL ENGINES USED IN OFF-ROAD AND ON-ROAD VEHICLES



**Stationary Source Division**
**Program Evaluation Branch**

**Release Date: December 10, 2009**

California Environmental Protection Agency
AIR RESOURCES BOARD

# STAFF REPORT: INITIAL STATEMENT OF REASONS FOR PROPOSED RULEMAKING

## Public Hearing to Consider

Proposed Amendments to the Regulations Applicable to Portable Diesel Engines and Diesel Engines Used in Off-Road and On-Road Vehicles

To be considered by the Air Resources Board on January 28, 2010 at:

California Environmental Protection Agency
Headquarters Building
1001 "I" Street
Byron Sher Auditorium
Sacramento, California

This report has been reviewed by the staff of the California Air Resources Board and approved for publication. Approval does not signify that the contents necessarily reflect the views and policies of the Air Resources Board, nor does mention of trade names or commercial products constitute endorsement or recommendation for use.

**California Environmental Protection Agency**
**AIR RESOURCES BOARD**

# PROPOSED AMENDMENTS TO THE REGULATIONS APPLICABLE TO PORTABLE DIESEL ENGINES AND DIESEL ENGINES USED IN OFF-ROAD AND ON-ROAD VEHICLES

**Primary Author**

Joseph Gormley

**Contributing Authors**

David Brown
Zuzana Vona
Cherie Rainforth
Rich Miller

**Legal Counsel**

George Poppic, Office of Legal Affairs

**Reviewed By:**

Robert D. Fletcher, Chief, Stationary Source Division
Jorge Fernandez, Chief, Program Evaluation Branch
Michael Guzzetta, Manager, Rule Evaluation Section

**Acknowledgements**

This report was prepared with the assistance and support from the other divisions and offices of the Air Resources Board. In addition, we would like to acknowledge the assistance and cooperation that we have received from many individuals and organizations.

# TABLE OF CONTENTS

Section — Page

Executive Summary.....i

I. Introduction.....I-1

II. Portable Equipment Use and Existing Regulatory Programs.....II-1

III. Summary of the Proposed Amendments.....III-1

IV. Environmental Impacts.....IV-1

V. Economic Impacts.....V-1

Appendices

Appendix A: Proposed Amendments to the Statewide Portable Equipment Registration Program Regulation

Appendix B: Proposed Amendments to the Airborne Toxic Control Measure For Diesel Particulate Matter From Portable Engines

Appendix C: Proposed Amendments to the Regulation for In-Use Off-Road Diesel-Fueled Fleets

Appendix D: Proposed Amendments to the Regulation for In-Use On-Road Heavy-Duty Diesel Vehicles

Appendix E: Discussion of the Emission Factor for Tier 1 Engines <175 bhp

Appendix F: List of Acronyms

# Executive Summary

## A. INTRODUCTION

This report comprises the Initial Statement of Reasons for the Air Resources Board's (ARB or Board) proposed amendments to the:

- Statewide Portable Equipment Registration Program Regulation (Statewide PERP Regulation or PERP);
- Airborne Toxic Control Measure for Diesel Particulate Matter from Portable Engines (Portable Engine ATCM);
- Regulation for In-Use Off-Road Diesel-Fueled Fleets (Off-Road Vehicle Regulation); and
- Regulation for In-Use On-Road Heavy-Duty Diesel-Fueled Vehicles (On-Road Vehicle Regulation)

The Initial Statement of Reasons is required pursuant to the Administrative Procedures Act (Government Code 11340 et seq.).

This Executive Summary provides an overview of the proposed amendments, a summary of staff recommendations, and a brief discussion of the environmental and economic impacts resulting from the proposal. The main report provides a more detailed presentation of the technical aspects of the proposed amendments.

## B. BACKGROUND

There are four regulations affected by this rulemaking as discussed below.

- The Statewide PERP Regulation: The ARB was mandated by California Health and Safety Code (HSC) sections 41750 through 41755 to adopt a regulation to establish a uniform statewide program for the voluntary registration and regulation of portable engines and equipment units in California. Once registered in this voluntary program, portable engines and equipment units may operate throughout the State without having to obtain permits from the local air pollution control and air quality management districts (districts or local air districts). Thus, the program provides industry with the flexibility to operate portable engines and equipment units under a uniform statewide registration program. The Board originally approved the Statewide PERP Regulation on March 27, 1997, and subsequently amended it on December 10, 1998, February 26, 2004, June 22, 2006, March 22, 2007, and December 11, 2008.

- The Portable Engine ATCM: The Board approved the Portable Engine ATCM on February 26, 2004 to reduce the emissions of diesel particulate matter (PM) from diesel-fueled portable engines, and was subsequently amended by the Board on March 22, 2007 and December 11, 2008. The Portable Engine ATCM is one element in the implementation of ARB's "Risk Reduction Plan to Reduce PM

Emissions from Diesel-Fueled Engines and Vehicles" (Diesel Risk Reduction Plan). It establishes requirements for diesel-fueled engines that are registered with ARB or permitted by, or registered with, the districts.

The Portable Engine ATCM contains a requirement that all diesel engines operating with a permit or registration in California must be certified to an off-road emission standard contained in 40 CFR Part 89 or stop operating by January 1, 2010, except for those engines designated as emergency use or low use. This requirement was first established in 1997 as part of the Statewide PERP Regulation, giving businesses up to 13 years to plan for the replacement or retirement of the older engines.

In 2004, this requirement was moved from the Statewide PERP Regulation to the Portable Engine ATCM so that it would apply to all diesel engines statewide, not just those registered in PERP. The Statewide PERP Regulation maintains a similar requirement for older spark-ignition engines to be put out of service by the same date. The owners of older spark-ignition engines have the option of seeking permits with the districts in lieu of complying with the January 1, 2010 deadline in PERP. Currently, there are over 4,300 companies and public agencies with about 29,000 engines registered in PERP. Of these, about 75 percent hold registrations for certified engines only, so they are already in full compliance with the January 1, 2010 requirement.

- Off-Road Vehicle Regulation: The Board approved the Off-Road Vehicle Regulation on July 26, 2007 to reduce the emissions of diesel particulate matter (PM) and nitrogen oxides (NOx) from diesel-fueled engines that drive off-road vehicles. The Board subsequently amended the regulation on December 11, 2008, January 22, 2009, and July 23, 2009. The Off-Road Vehicle Regulation is part of ARB's Diesel Risk Reduction Plan. It establishes requirements for the reporting of diesel vehicles to ARB, as well as the accelerated turnover of engines in these vehicles to cleaner engines and the installation of verified diesel emission control systems. The December 11, 2008 amendments also made both engines on all two-engine cranes subject to the requirements of the Off-Road Vehicle Regulation. Previously, the lower drive engine was subject to either the Off-Road or On-Road Vehicle Regulation and the upper auxiliary engine was subject to the Portable Engine ATCM.

- On-Road Vehicle Regulation: The Board approved the On-Road Vehicle Regulation on December 11, 2008 to reduce the emissions of PM from diesel-fueled engines that drive on-road trucks and buses. The On-Road Vehicle Regulation is another part of ARB's Diesel Risk Reduction Plan. It establishes requirements for the registration of on-road vehicle engines with the ARB and reduction of both NOx and PM from the engines on these vehicles.

In recent months, numerous owners of portable engines and some local air districts have expressed concerns about their ability to comply with the requirement to replace all uncertified portable engines by January 1, 2010. Many of these owners have

indicated that, in large part due to the slower economy, they lack the ongoing revenues to replace older engines with new, less polluting models. In response, ARB staff is proposing to allow smaller fleet owners the ability to phase-in compliance by deferring a limited number of uncertified engines until January 1, 2011. This phased-in approach is consistent with other ARB diesel rules and provides some relief in recognition of the economic climate and the difficulty in obtaining financing for replacement engines for smaller companies. The staff's proposal will provide some relief to over 90 percent of the companies that currently have uncertified engines, yet retains over 70 percent of the emissions benefits of the rule expected in 2010, and the full benefits by 2011.

In addition, members of the California Groundwater Association (CGA) expressed concern that the replacement of older deck engines on existing two-engine water well drilling rigs is either technologically infeasible or severely cost prohibitive, which would force these rigs out of service without replacement. Because engine replacement on these drilling rigs is often not possible, the only other option would be to purchase a new drilling rig, which can cost several hundred thousand dollars. This would significantly impact the water well drilling industry. There are currently no available assistance funds for the retrofitting of water well drilling rigs. The technical issues are very similar to the issues with two-engine cranes, which were addressed in previous amendments. CGA contends that, with the current drought conditions facing California, the need for these water well drilling rigs is crucial; therefore, their retirement could have a detrimental effect on water availability in the State.

To address the issues identified above, ARB staff, in consultation with affected industry and the local air districts, developed proposed amendments to the Statewide PERP Regulation, the Portable Engine ATCM, the Off-Road Vehicle Regulation and the On-Road Vehicle Regulation. The proposed amendments would provide a one year extension of the deadline for certain uncertified engines, provide for the eligibility of certain types of engines, and modify the PERP recordkeeping and reporting requirements. In addition, the amendments would make both engines on all two-engine water well drilling rigs subject to the requirements of the Off-Road Vehicle Regulation, whereas currently the lower drive engine is subject to the On-Road Vehicle Regulation and the auxiliary deck engine is subject to the Portable Engine ATCM. The proposed amendments would also provide additional clarity and enforceability to the Statewide PERP Regulation and Portable Engine ATCM, and ensure consistency between regulatory requirements and registration practices.

## C. PORTABLE EQUIPMENT AND CURRENT REGULATIONS

### 1. What is portable equipment?

Portable equipment is any piston-driven internal combustion engine and/or equipment unit that is designed and capable of being carried or moved from one location to another and would remain at a single location for less than 12 consecutive months. Unlike stationary engines and equipment, portable equipment may be moved to multiple locations throughout the State, where it may operate for several hours or several months. Portable engines and equipment units registered in the Portable Equipment

Registration Program are used for a variety of applications, such as: water pumps; military tactical support equipment (TSE); cranes; oil well drilling; servicing and work-over rigs; power generators; dredging equipment; rock crushing; and screening equipment; welding equipment; wood chippers; and compressors.

2. What types of businesses and public agencies use portable equipment?

Both private businesses and public agencies operate portable equipment. The types of businesses that own portable equipment include motion picture studios; amusement parks; utilities; telecommunications; construction services; crushing, screening, and recycling services; industrial cleaning services; marine construction and dredging services; oil and gas operations; and rental services. Public agencies include schools and universities, county landfills, municipal utilities, wastewater treatment facilities, defense, public works departments, and transportation agencies.

3. How is portable equipment regulated in California?

a. ARB/U.S. EPA Off-road Engines Standards

Since January 1, 1996, new diesel-fueled portable engines sold in California have been subject to ARB's Off-Road Compression Ignition emission standards. These standards are equivalent to the U.S. Environmental Protection Agency (U.S. EPA) emission standards for newly manufactured nonroad engines. In California statutes, nonroad engines are referred to as off-road engines; therefore, these engines will be referred to as "off-road" in this report. The standards are tiered (i.e. Tier 1, 2, 3, and 4) with each set of standards phased in over several years based on the power rating of the engine and becoming progressively more stringent with each tier introduced.

Since January 1, 2001, newly-manufactured large (greater than 25 bhp) spark-ignition (LSI) engines sold in California have been subject to ARB's off-road LSI standards. The U.S. EPA also adopted federal standards that were equivalent to ARB standards, but also included a more stringent standard. Beginning in 2007, new LSI engines must meet a combined standard for oxides of nitrogen (NOx) and hydrocarbons (HC) of 2.0 grams per brake horsepower-hour (g/bhp-hr).

b. Airborne Toxic Control Measure for Diesel-Fueled Portable Engines

The current Portable Engine ATCM requires portable diesel-fueled engines that have not been permitted or registered prior to January 1, 2006, to meet the most stringent of the federal or California emission standards for nonroad engines in effect at the time of registration or permitting, unless they meet certain California residency criteria. This requirement was also incorporated into the Statewide PERP Regulation.

c. Portable Equipment Unit Standards

Registered equipment units are required to meet emission limits (82 pounds per day and 10 tons per year per district of PM10 (particulate matter sized less than

10 microns)) as well as emission control requirements based on the type of equipment unit.

d. District Permit Programs

Permit requirements vary from district to district depending on the state of the air quality in the district. While some districts exempt portable engines altogether, other districts may require portable engines to meet emission limits that are equivalent to Best Available Control Technology (BACT). For some districts, BACT for portable engines means that the engine is certified to ARB/U.S. EPA off-road emissions standards. Districts may also restrict the operating hours of portable engines to reduce air quality impacts to acceptable levels. An owner that operates portable equipment in multiple districts would be required to obtain a permit from each district, pay fees, and adhere to different sets of regulations as they move equipment among different districts.

e. Statewide Portable Equipment Registration Program

In lieu of obtaining multiple permits from individual districts, a portable equipment owner can register in PERP. Currently, portable equipment owners have registered in PERP over 38,000 engines, equipment units, and military TSE. Of this amount, there are over 29,000 engines registered which represent about 75 percent of the estimated statewide inventory of portable engines. Most of the engines are diesel-fueled engines. The Statewide PERP Regulation was designed to promote the use of clean portable engines in California.

f. Portable Engines on Cranes and Street Sweepers

In December of 2008, the Board approved amendments that made the portable engine used on a two-engine crane subject to the Off-Road Vehicle Regulation and the portable engine used on a two-engine street sweeper subject to the On-Road Vehicle Regulation. Because these engines still meet the definition of portable, they may still be subject to district permitting requirements, and therefore have the option to register in PERP. If registered in PERP, the engines are then subject only to the inspection requirements and fees prescribed by the Statewide PERP Regulation.

## D. PUBLIC PROCESS

ARB staff held a public workshop on November 9, 2009 in Sacramento to solicit comments from the public on the proposed amendments. The Sacramento workshop was also broadcast on the internet for meeting participants that were unable to attend in person. Broadcast viewers were able to submit comments and questions by email during the workshop so that staff could address their concerns or answer their questions. Staff also used an e-mail list serve to notify interested parties of the workshop and the availability of information to be discussed at the workshop. In addition, a web site was developed where interested parties could download information such as the workshop agenda and staff proposal, as well as providing links to other-related ARB websites. The website address is located at *http://www.arb.ca.gov/portable/portable.htm*.

Staff also participated in individual meetings and conference calls with affected industries to address specific concerns. In addition, staff worked closely with the California Air Pollution Control Officers Association (CAPCOA) in drafting the proposed amendments. Staff revised the proposed amendments to the Statewide PERP Regulation and Portable Engine ATCM in consideration of the comments received during the public process. Staff made every effort to consider all comments and recommendations received.

## E. SUMMARY OF THE PROPOSED AMENDMENTS

The proposed amendments are summarized below:

1. Non-Certified Engine Extension

ARB staff proposes to allow owners of small fleets to designate certain engines to operate for one additional year beyond the current January 1, 2010 cessation of operations date. Under this proposal, owners of no more than 25 total portable engines would be able to choose either one engine of any size or up to five engines that collectively do not exceed 500 bhp to operate until December 31, 2010. These engines must have been previously registered in PERP or permitted by a district. Qualifying fleet owners will have to submit a written request to designate which engines they want to continue operating under this provision.

2. On-Highway and Marine Engines

ARB staff proposes to allow engines used in portable applications that are certified to the on-highway emission standards contained in 40 CFR Part 86 and used in portable applications to operate beyond January 1, 2010. These on-highway engines will become part of the portable fleet and will be subject to the fleet emission standards contained in the Portable Engine ATCM. ARB staff also proposes to allow on-highway engines and engines certified to marine emission standards in 40 CFR Part 94 or 40 CFR Part 1042 to be eligible for PERP.

3. Recordkeeping and Reporting

ARB staff proposes to reduce the amount of recordkeeping for certified engines registered in PERP which are not subject to any emission limitations. Staff believes that the Statewide PERP Regulation may be effectively implemented with reduced recordkeeping and reporting requirements. Staff also proposes to remove the annual reporting requirement for these certified engines. Engines and equipment units with emission limitations will continue to have daily recordkeeping and annual reporting requirements of the applicable operational data. Staff proposes to require that the specific location and date is recorded on a regular basis for certified engines and each time it is moved for non-certified engines and equipment units.

4. Vendor Sales Report

ARB staff proposes to remove the vendor sales report from the Statewide PERP Regulation.

5. Water Well Drilling Rigs

ARB staff proposes to add a definition for two-engine water well drilling rigs. Both of the engines on these rigs will be subject to the Off-Road Vehicle Regulation, and exempted from the On-Road Vehicle Regulation and Portable Engine ATCM. Because the auxiliary deck engine still meets the definition of portable, it may be subject to district permitting requirements and therefore has the option of being registered in PERP. If registered in PERP, the engines are then subject only to the inspection requirements and fees as prescribed by the Statewide PERP Regulation. The reporting date for water well drilling rigs in the Off-Road Vehicle Regulation will also be extended to allow time for the owners of drilling rigs that were previously not subject to this regulation to enter their rigs into ARB's reporting system.

6. Miscellaneous Amendments

ARB staff proposes to modify, add, and delete terms in the definitions section, delete outdated provisions, and make minor revisions where needed. These changes are generally non-substantive and are intended to provide additional clarity and expediency to the Statewide PERP Regulation and Portable Engine ATCM, and to ensure consistency between regulatory requirements and registration processing practices.

## F. ENVIRONMENTAL AND ECONOMIC IMPACTS OF THE PROPOSED AMENDMENTS

1. What are the expected environmental impacts of the proposed amendments?

It is expected that the proposed amendments to the Statewide PERP Regulation and Portable Engine ATCM would likely result in a one year delay of a portion of the reductions of NOx and diesel PM emissions anticipated by the current regulations. With the current requirement to remove uncertified engines, the expected emission reductions are approximately 9,200 tons per year of NOx and 700 tons per year of PM starting January 1, 2010. With the proposed amendments, certain older engines would be able to continue operating until December 31, 2010, resulting in an estimated loss of emission reductions of about 2,400 tons for NOx and 200 tons for PM. Thus, even with the proposed amendments, the regulations will retain over 70 percent of the benefits in 2010.

It is further expected that the proposed amendments to the Off-Road Vehicle Regulation and On-Road Vehicle Regulation will also result in a delay of the reductions of NOx and diesel PM emissions, although the actual amounts are difficult to precisely quantify due to lack of complete information regarding the number and size of affected engines. Currently in PERP, there are 80 uncertified engines on water well drilling rigs subject to the January 1, 2010 replacement requirement contained in the Portable Engine ATCM. These engines have a total cumulative size of 15,100 horsepower. Subjecting these

engines to the Off-Road regulation rather than the Portable Engine ATCM will result in an estimated delay of about 150 tons for NOx and 10 tons for PM per year until the requirements of the Off-Road Vehicle Regulation take effect.[1]

2. What are the economic impacts of the proposed amendments?

ARB staff estimates that the total economic impact of the proposed amendments to the Portable Engine ATCM to affected private businesses and public agencies would be a temporary savings of $66 million for one year ($55 million for private businesses and $11 million for public agencies). The economic impact is due to the extension of the deadline for the replacement of non-certified engines. ARB staff estimates a negligible economic impact from the other proposed amendments to the Statewide PERP Regulation. These impacts would be due to the change in recordkeeping and reporting requirements.

The cost to replace these non-certified engines is significant. The average cost of a new engine is approximately $175 per horsepower. An estimated 4,300 older engines, with a total of 1,035,000 horsepower, are subject to the current requirement to be replaced by January 1, 2010. The cost to replace all these engines would be about $180 million. With the current proposal, approximately 2,000 engines owned by about 1,130 companies and public agencies with a combined horsepower of approximately 375,000 will be eligible to operate for an additional year. With an expected cost of $66 million to replace these engines, these amendments will provide a maximum one year cost savings of that amount to the private businesses and public agencies.

The cost to replace an auxiliary deck engine on a two-engine water well drilling rig ranges from $30,000 to $300,000 based on data gathered by contacting drilling rig manufacturers and dealers. Based on this survey data, the average cost to replace a deck engine on a water well drilling rig is $165,000. There are currently only 80 of these engines registered in PERP. The estimated cost to replace these engines as required by the Portable Engine ATCM would be about $13 million. [2]By moving these deck engines into the Off-Road Vehicle Regulation, the cost of replacing or retrofitting the engines is delayed by either 3 or 5 years depending on whether the overall fleet size of each company qualifies at medium or small.

---

[1] Other estimates from the California Groundwater Association place the number of uncertified deck engines on two-engine water drilling rigs to be near 420, but these estimates are not verified and are not used for any analysis. Furthermore, the estimated 420 engines on these rigs are neither permitted nor registered. Some of the drilling rigs operate in local air districts where permits are not required. Using this estimate of 420 engines, the estimated cumulative size of these engines would be 79,200 bhp. Using the same assumptions, the estimated emissions from these engines would be 800 tons per year for NOx and 60 tons per year for PM.

[2] As discussed in Footnote 1, the California Groundwater Association place the number of uncertified deck engines on two-engine water drilling rigs to be near 420 but these estimates are not verified and are not used for any official analysis. Based on these numbers, the cost to replace these estimated 420 engines would be $69 million.

## G. NEXT STEPS

Upon approval by the Board, ARB staff will continue to implement the Statewide PERP Regulation and conduct outreach efforts with affected parties, industry associations, and governmental agencies. ARB staff will also continue to work with CAPCOA and affected parties to inform owners and operators of PERP registered equipment of the amendments to the Statewide PERP Regulation, Portable Engine ATCM, Off-Road Vehicle Regulation, and On-Road Vehicle Regulation. ARB staff is also contacting industry associations in an effort to inform owners and operators of the proposed amendments.

## H. RECOMMENDATION

The staff recommends that the Board approve the proposed amendments to the Statewide PERP Regulation, the Portable Engine ATCM, and the On-Road and Off-Road Vehicle Regulations. The proposed amendments would retain the flexibility of operating registered engines and equipment units throughout the State without having to obtain multiple district permits. In addition, the amendments would provide clarity, provide limited and temporary relief for small business and government agencies, and give the districts the ability to effectively enforce the Statewide PERP Regulation.

# I. INTRODUCTION

In this Chapter, the ARB staff provides an overview of this report, discusses the purpose of the proposed amendments, and discusses the regulatory authority ARB has to adopt the proposed amendments. Included in this Chapter are background information on the Statewide PERP Regulation, the Portable Engine ATCM, and the On-Road and Off-Road Vehicle Regulations, as well as a discussion of the outreach efforts of ARB staff in developing the proposed amendments.

## A. OVERVIEW

This staff report outlines ARB staff's proposed amendments to the Statewide PERP Regulation (contained in Appendix A), the Portable Engine ATCM (contained in Appendix B), the Off-Road Vehicle Regulation (contained in Appendix C), and the On-Road Vehicle Regulation (contained in Appendix D)

The Board originally approved the Statewide PERP Regulation on March 27, 1997, and subsequently amended it on December 10, 1998, February 26, 2004, June 22, 2006, March 22, 2007, and December 11, 2008. The Statewide PERP Regulation establishes a voluntary program for the registration and regulation of portable engines and equipment units operating in California. Once registered in this voluntary program, portable engines and equipment units can operate throughout the State without having to obtain permits from the districts. The districts, in conjunction with ARB, are responsible under State law for enforcing the requirements of the Statewide PERP Regulation.

The Board approved the Portable Engine ATCM on February 26, 2004, to reduce the emissions of diesel particulate matter (PM) from diesel-fueled portable engines. The Board amended the regulation on March 22, 2007 and December 11, 2008. The Portable Engine ATCM is part of ARB's Diesel Risk Reduction Plan. It establishes requirements for both the registration of diesel engines with the ARB and the permitting or registration of diesel engines by the districts.

The Statewide PERP Regulation was designed to promote the use of clean portable engines in California. By January 1, 2010, only diesel engines certified to ARB/U.S. EPA nonroad engine emission standards (Tier 1, 2, or 3) can continue to operate in PERP, unless designated as emergency or low use. This means that most diesel engines currently registered in the program that were not manufactured to meet an ARB/U.S. EPA nonroad engine certification standard must be replaced with certified engines by that date. The current Portable Engine ATCM clearly states that uncertified diesel engines must be put out of service by January 1, 2010, unless they are emergency use or low use. Therefore, engines must be so designated by that date or they must go out of service. Of the approximately 4,300 companies registered in PERP, about 75 percent hold registrations for certified engines only, so they are in full compliance with the January 1, 2010 requirement. After January 1, 2010, spark-ignition engines may continue to operate if they are certified to ARB/U.S. EPA LSI engine

standards, or if they can meet the emission standards listed in Table 1 of the Statewide PERP Regulation.

The Board approved the Off-Road Vehicle Regulation on July 26, 2007 to reduce the emissions of diesel particulate matter (PM) from diesel-fueled engines that drive off-road vehicles, and subsequently amended it on December 11, 2008, January 22, 2009, and July 23, 2009. The Off-Road Vehicle Regulation is also part of ARB's Diesel Risk Reduction Plan. It establishes requirements for the reporting of off-road vehicle engines with the ARB and reduction of both NOx and PM from the engines on these vehicles. The December 11, 2008 amendments made both engines on all two-engine cranes subject to the requirements of the Off-Road Vehicle Regulation. Previously, the lower drive engine was subject to either the Off-Road or On-Road Vehicle Regulation and the upper auxiliary engine was subject to the Portable Engine ATCM.

The Board approved the On-Road Vehicle Regulation on December 11, 2008 to reduce the emissions of diesel particulate matter (PM) from diesel-fueled engines that drive on-road trucks and buses. The On-Road Vehicle Regulation is another part of ARB's Diesel Risk Reduction Plan. It establishes requirements for the registration of on-road vehicle engines with the ARB and reduction of both NOx and PM from the engines on these vehicles.

Finally, the Board adopted the Airborne Toxic Control Measure for Diesel Engines on Commercial Harbor Craft to control in-use emissions from diesel engines on harbor craft such as ferries, excursion vessels, tugboats, and towboats. This measure also includes new engine requirements for all harbor craft including dredges and barges. Engines on new vessels and engines replacing in-use engines must meet the U.S. EPA marine engine standards in effect at the time of vessel or engine acquisition. The U.S. EPA marine engine standards are tiered standards (Tiers 1, 2, 3, or 4) that were promulgated in 40 CFR Part 94 (Tiers 1 and 2) and 40 CFR Part 1042 (Tiers 3 and 4). The definition of a portable engine definition includes dredge engines on a boat or barge and these engines have been historically required to obtain a permit by districts. These engines were eligible for registration in PERP, until that eligibility was removed in the previous amendments adopted on June 22, 2006.

In recent months, numerous owners of portable engines and some local air districts have expressed concerns about their ability to comply with the requirement to replace all uncertified portable engines by January 1, 2010. Many of these owners have indicated that, in large part due to the slower economy, they lack the ongoing revenues to replace older engines with new, less polluting models. In response, ARB staff is proposing to allow smaller fleet owners the ability to phase-in compliance by deferring a limited number of uncertified engines until January 1, 2011. This phased-in approach is consistent with other ARB diesel rules and provides some relief in recognition of the economic climate and the difficulty in obtaining financing for replacement engines for smaller companies. The staff's proposal will provide some relief to over 90 percent of the companies that currently have uncertified engines, yet retains over 70 percent of the emissions benefits of the rule expected in 2010, and the full benefits by 2011.

In addition, members of the California Groundwater Association (CGA) expressed concern that the replacement of older deck engines on existing two-engine water well drilling rigs is either technologically infeasible or severely cost prohibitive, which would force these rigs out of service without replacement. Because engine replacement on these drilling rigs is often not possible, the only other option would be to purchase a new drilling rig, which can cost several hundred thousand dollars. This would significantly impact the water well drilling industry. There are currently no available assistance funds for the retrofitting of water well drilling rigs. The technical issues are very similar to the issues with two-engine cranes, which were addressed in previous amendments. CGA contends that, with the current drought conditions facing California, the need for these water well drilling rigs is crucial; therefore, their retirement could have a detrimental effect on water availability in the State.

To address the issues identified above, ARB staff, in consultation with affected industry and the districts, developed proposed amendments to the Statewide PERP Regulation, the Portable Engine ATCM, the Off-Road Vehicle Regulation and the On-Road Vehicle Regulation. The proposed amendments will provide a one year extension of the deadline for certain uncertified engines, provide for the eligibility of certain types of engines, and modify the PERP eligibility, recordkeeping, and reporting requirements. In addition, the amendments make both engines on all two-engine water well drilling rigs subject to the requirements of the Off-Road Vehicle Regulation, whereas currently the lower drive engine is subject to the On-Road Vehicle Regulation and the auxiliary deck engine is subject to the Portable Engine ATCM. The proposed amendments will also provide additional clarity and enforceability to the Statewide PERP Regulation and Portable Engine ATCM, and ensure consistency between regulatory requirements and registration practices.

This report discusses portable equipment use and existing regulatory programs for portable equipment and summarizes the proposed amendments to the Statewide PERP Regulation, Portable Engine ATCM, Off-Road Vehicle Regulation, and On-Road Vehicle Regulation. Chapters IV and V discuss the environmental and economic impacts of the proposal.

## B. PURPOSE

The primary purpose of the proposed amendments to the Statewide PERP Regulation and Portable Engine ATCM is to address a number of concerns expressed by impacted businesses and to clarify that any registered auxiliary deck engine on a two-engine water well drilling rig is subject to the Off-Road Vehicle Regulation instead of the Portable Engine ATCM. In addition, staff is proposing minor changes to increase clarity and enforceability of the regulation.

The primary purpose of the amendments to the Off-Road Vehicle Regulation is to make both engines on two-engine water well drilling rigs subject to the regulation. The primary purpose of the amendments to the On-Road Vehicle Regulation is to exempt the drive engine on two-engine water well drilling rigs from the regulation.

## C. REGULATORY AUTHORITY

Statewide PERP Regulation

California Health and Safety Code (HSC) sections 41750 through 41755 mandate that the ARB adopt a regulation to establish a uniform statewide program for the registration and regulation of portable engines. In developing these regulations, ARB is required to evaluate emissions, identify emission control technologies, hold public hearings, establish emission limits and control requirements, and develop a fee schedule to cover the costs to adopt and administer the program, including the cost of district enforcement. HSC section 41752(e) specifies that the Board may periodically revise and update the registration regulations including, but not limited to, revising and updating a determination of best available control technology for portable engines. As stated earlier, the Board approved the Statewide PERP Regulation on March 27, 1997, and amended it on December 10, 1998, February 26, 2006, June 22, 2006, March 22, 2007, and December 11, 2008.

In addition, HSC sections 39600 (General Powers) and 39601 (Standards, Definitions, Rules, and Measures) confers on ARB the general authority and obligation to adopt rules and measures necessary to execute the Board's powers and duties imposed by State law. The California Clean Air Act of 1988 granted ARB authority to adopt standards and regulations for off-road vehicles and equipment. (HSC sections 43013(b) and 43018).

Portable Engine ATCM, Off-Road Vehicle Regulation, and On-Road Vehicle Regulation

Several sections of the HSC provide the ARB with authority to adopt the proposed Portable Engine ATCM. HSC sections 39600 (General Powers) and 39601 (Standards, Definitions, Rules, and Measures) confer to the ARB the general authority and obligation to adopt rules and measures necessary to execute the Board's powers and duties imposed by State law. In addition, HSC sections 43013 and 43018(a) provide broad authority to achieve the maximum feasible and cost-effective emission reductions from all mobile source categories, including both on-road and off-road diesel engines. Regarding in-use motor vehicles, HSC sections 43600 and 43701(b) respectively grant ARB authority to adopt emission standards and emission control equipment requirements.

More specifically, California's Air Toxics Program, established under California law by Assembly Bill (AB) 1807 (Stats. 1983, Ch. 1047), and set forth in HSC sections 39650 through 39675, mandates the identification and control of air toxics in California. The identification phase of the Air Toxics Program requires the ARB, with participation of other state agencies, such as the Office of Environmental Health Hazard Assessment (OEHHA), to evaluate the health impacts of and exposure to substances and to identify those substances that pose the greatest health threat as toxic air contaminants (TACs). The ARB's evaluation is made available to the public and is formally reviewed by the Scientific Review Panel (SRP), established under HSC section 39670. Following the ARB's evaluation and the SRP's review, the Board may formally identify a TAC at a public hearing. Following the identification of a substance as a TAC, HSC sections

39658 and 39665 require the ARB, with the participation of the districts, and in consultation with affected sources and interested parties, to prepare a report on the need and appropriate degree of regulation for that substance (risk management phase).

In August 1998, the Board identified diesel PM as a TAC, and in September 2000, the ARB adopted the Diesel Risk Reduction Plan. The Diesel Risk Reduction Plan was the first formal product of the risk management phase and serves as the needs assessment under the AB 1807 process. In the Diesel Risk Reduction Plan, the ARB identified the available options to reduce diesel PM and the recommended control measures to achieve reductions, including a measure to reduce diesel PM from diesel-fueled portable engines.

In 1999, California's Air Toxics Program was amended by Senate Bill 25 (Stats. 1999, Ch. 731) to provide additional requirements for further consideration of health impacts to infants and children. As part of these requirements, OEHHA was to identify up to five TACs as making children especially susceptible to illness. OEHHA published the "Prioritization of Toxic Air Contaminants under the Children's Environmental Health Protection Act" in October 2001, identifying diesel PM as one of the five TACs. Additional requirements established by Senate Bill 25 in Health and Safety Code section 39669.5 directs the ARB to adopt control measures, as appropriate, to protect public health, particularly infants and children, from these specially identified TACs.

This Portable Engine ATCM, the Off-Road Vehicle Regulation, and the On-Road Vehicle Regulation were established to fulfill the goals of the Diesel Risk Reduction Plan and to comply with the requirements of HSC section 39666 and 39669.5 to prevent an endangerment to public health.

## D. PUBLIC PROCESS

ARB staff held public a workshop on November 9, 2009 in Sacramento to solicit comments from the public on the proposed amendments. The Sacramento workshop was also broadcast on the internet for meeting participants that were unable to attend in person. Broadcast viewers were able to submit comments and questions by email during the workshop so that staff could address their concerns or answer their questions. Staff also used an e-mail list serve to notify interested parties of the workshop and the availability of information to be discussed at the workshop. In addition, a web site was developed where interested parties could download information such as the workshop agenda and staff proposal, as well as providing links to other-related ARB websites. The website address is located at *http://www.arb.ca.gov/portable/portable.htm*.

Staff also participated in individual meetings and conference calls with affected industries to address specific concerns. In addition, staff worked closely with the California Air Pollution Control Officers Association (CAPCOA) in drafting the proposed amendments. Staff revised the proposed amendments to the Statewide PERP Regulation and Portable Engine ATCM in consideration of the comments received

during the public process. Staff made every effort to consider all comments and recommendations received.

# II. PORTABLE EQUIPMENT USE AND EXISTING REGULATORY PROGRAMS

This chapter describes the uses of portable equipment (engines and equipment units) that are registered in PERP. In addition, this chapter describes the types of businesses that use portable equipment and the existing regulatory programs that currently impact portable engines used in California.

## A. SUMMARY OF PORTABLE EQUIPMENT USE AND ACTIVITIES

Portable equipment is any piston-driven internal combustion engine and/or equipment unit that is designed and capable of being carried or moved from one location to another and would remain at a single location for less than 12 consecutive months. Unlike stationary engines or equipment, portable equipment may be moved to several locations throughout the State, where it may operate for several hours or several months. Portable engines and equipment units registered in PERP are used for a variety of applications, such as: water pumps, military tactical support equipment, cranes, oil well drilling, servicing and work-over rigs, power generators, dredging equipment, rock crushing and screening equipment, welding equipment, wood chippers, and compressors.

Both private businesses and public agencies operate portable equipment in California. Examples of businesses that use portable engines in their activities include motion picture studios; amusement parks; utilities; construction services; crushing, screening, and recycling services; industrial cleaning services; marine construction and dredging services; oil and gas companies; and rental services. Examples of public agencies that use portable engines include public schools and universities, local governments, county landfills, municipal utilities, wastewater treatment facilities, military installations, and the California Department of Transportation.

There is significant variation in the size as well as the way that portable engines are used. The size of engines can range from about 50 horsepower to greater than 3,000 horsepower. The average annual operating hours for portable diesel-fueled engines is about 450 hours per year. Due to the mobile nature of portable engines, the emissions typically would not occur in one location, but would be spread out over many locations over the course of a year. In addition, the actual operation of a specific engine can vary significantly from the average. For example, engines used only for emergency applications may operate less than 20 hours per year. Conversely, some portable activities can operate more than 2,000 hours per year. Finally, the engine's load varies, depending upon the application. The average load is typically 50 percent of maximum load. Similar to the variability in the hours of operations, an engine's load can vary significantly from application to application, from 25 percent to 80 percent of maximum load.

## B. EXISTING REGULATORY PROGRAMS

This section describes the federal preemption that limits the authority of ARB and districts to regulate portable engines. This section also describes specific federal, State, and local programs that currently impact portable engines used in California,

including ARB/U.S. EPA emission standards for newly manufactured off-road engines, marine engines, PERP, and the district permitting programs. All of these programs play a role in the efforts of ARB and the districts to attain the State and federal ambient air quality standards, particularly the ozone and particulate matter standards. Consequently, the focus of the programs has been to reduce emissions of NOx and PM, and to a lesser extent emissions of carbon monoxide (CO) and hydrocarbons (HC).

1. Federal Preemption

The federal Clean Air Act (CAA) Amendments of 1990 authorized U.S. EPA to regulate new nonroad engines. The amendments created a federal preemption that prevents states from adopting emission standards or other requirements for nonroad engines (CAA, section 209(e)). Portable engines are a subset of off-road engines. However, recognizing the special circumstances confronting California, Congress provided that the State of California, upon receiving authorization from the U.S. EPA, can adopt and enforce standards for most classes and categories of off-road engines. In California statutes, nonroad engines are referred to as off-road engines; therefore, these engines will be referred to as "off-road" in this report.

The federal preemption prevents all states, including California, from setting standards for regulating new off-road engines less than 175 hp that are used in farm and construction operations. However, states do maintain the authority to establish in-use restrictions such as limiting the hours of operation.

2. State and Federal New Engine Emission Standards

a. Compression-Ignition Engine Standards

Since January 1, 1996, new diesel fueled portable engines sold in California have been subject to ARB's Off-Road Compression Ignition emission standards (title 13, California Code of Regulations (CCR), sections 2320 et seq.), which are equivalent to the U.S. EPA emission standards for newly manufactured nonroad (off-road) engines (40 CFR, Part 89). The standards are tiered (i.e. Tier 1, 2, 3, and 4), with each set of standards phased in over several years based on the power rating of the engine and becoming progressively more stringent with each Tier introduced.

b. Airborne Toxic Control Measure for Diesel-Fueled Portable Engines

The Portable Engine ATCM requires portable diesel-fueled engines that have been permitted or registered prior to January 1, 2006, to be retired or replaced with certified engines by January 1, 2010, with certain limited exceptions. The Portable Engine ATCM also imposes fleetwide emissions standards for PM10 which get progressively more stringent by 2013, 2017, and 2020.

c. Spark-Ignition Engine Standards

As mentioned above, the CAA Amendments provided for ARB to adopt and enforce its own standards and regulations for off-road engines. Since January 1, 2001, newly-manufactured large (greater than 25 bhp) spark-ignition (LSI) engines sold in California have been subject to ARB's off-road LSI engine standards (Title 13, CCR sections 2410 et seq.). The standards are also tiered. The U.S. EPA also adopted

federal standards (found in 40 CFR Part 1048 (Control of Emissions from New, Large Nonroad Spark-ignition Engines)) that were equivalent to ARB standards, but also included a more stringent standard. Beginning in 2007, new LSI standards must meet a combined standard for NOx and HC of 2.0 grams per brake horsepower-hour (g/bhp-hr).

d. Marine Engine Standards

The U.S. EPA finalized Tier 1 and Tier 2 engine standards for marine compression ignition engines with less than 30 liters per cylinder (40 CFR Part 94) in December 1999. Tier 3 and Tier 4 standards (40 CFR Part 1042) for these engines were finalized in May 2008. These standards apply to engines typically used in commercial harbor craft including dredges.

3. Statewide Portable Equipment Registration Program

In lieu of obtaining multiple permits from individual districts, a portable engine owner can register the engine in PERP. As of October 26, 2009, portable engine and equipment unit owners have registered an estimated 38,000 total engines, equipment units, and military TSE in PERP. Of this amount, there are over 29,000 engines registered which represent nearly half of the estimated statewide inventory of portable engines. Of the 29,000 engines, approximately 97 percent are diesel-fueled engines while the additional engines are gasoline, natural gas, kerosene, methanol, or liquid petroleum gas-fueled engines.

There are also approximately 3,700 equipment units registered in PERP. Of these equipment units, approximately 40 percent are used in rock crushing and screening units, 23 percent media blasting units, 14 percent wood chippers. The remaining units include tub grinders, rock drills, conveyors, and other miscellaneous units. In addition, there are over 5,000 military TSE registered in the program. Approximately 90 percent of military TSE utilize diesel or JP-8 fueled engines.

4. District Permit Programs

Portable engines not registered in PERP may be subject to district permitting requirements. District permit requirements will vary, depending on the attainment status in the district. Some districts have implemented registration programs specifically for portable engines and equipment units. Owners of portable engines in these districts can register engines with the district by demonstrating the engines meet specific emission rates. Some districts specifically exempt portable engines from permit requirements or have specific requirements for individual types of portable engines and/or equipment.

5. Portable engines on cranes and street sweepers

In December of 2008, the Board approved amendments that made the portable engine used on a two-engine crane subject to the Off-Road Vehicle Regulation and the portable engine used on a two-engine street sweeper subject to the On-Road Vehicle Regulation. These engines, which continue to meet the definition of portable, may still be subject to district permitting requirements and therefore have the option to register in

PERP. If registered in PERP, the engines are then subject only to the inspection requirements and fees as prescribed by the PERP Regulation.

## III. SUMMARY OF THE PROPOSED AMENDMENTS

This Chapter is intended to meet the requirements of Government Code section 11343.2 by providing to the public a "plain English" discussion of the proposed amendments to the Statewide PERP Regulation, Portable Engine ATCM, Off-Road Vehicle Regulation, and On-Road Vehicle Regulation.

### A. MODIFICATIONS TO THE STATEWIDE PERP REGULATION

The proposed amendments will provide a one year extension of the deadline for certain uncertified engines, provide for the eligibility of certain types of engines, specify that any water well deck engines registered in PERP are subject to the Off-Road Vehicle Regulation, and modify the PERP recordkeeping and reporting requirements. In addition, the proposed amendments will provide additional clarity and enforceability to the Statewide PERP Regulation, and ensure consistency between regulatory requirements and registration processing practices.

1. Non-Certified Engine Extension

ARB staff proposes to allow owners of small fleets to choose a limited number of registered spark-ignition engines to operate for one additional year beyond the current cessation of operation date of January 1, 2010. This extension for spark-ignition engines will be in conjunction with the extension offered to compression-ignition engines in the Portable Engine ATCM. Under this proposal, owners of 25 or fewer total portable engines would be able to choose either one registered spark-ignition engine of any size or up to five engines that collectively do not exceed 500 bhp to operate until December 31, 2010. These organizations will have to submit a written request to specifically select which registered engines they want to receive the extension. If a company or agency uses the one year extension for a single large spark-ignition engine or up to five registered spark-ignition engines, they will not also get an additional extension for compression-ignition engines that they may own. However, the five engines receiving the registration extension can be a mix of spark-ignition and compression-ignition.

2. Water Well Drilling Rigs

ARB staff proposes to add a definition for two-engine water well drilling rigs as being those only owned by companies with a current, valid C-57 water well drilling contractor's license issued by the Contractors State License Board of California. The auxiliary deck engine would still meet the definition of portable; therefore, it may still be subject to district permitting requirements and has the option to register in PERP. The owners of the drilling rigs would have to submit a copy of the C-57 license with the PERP application. The staff is proposing to amend the regulation to specify that registered engines on water well drilling rigs would be subject to the requirements of the Off-Road Vehicle Regulation. If registered in PERP, the engines would then be subject only to the inspection requirements and fees as prescribed by the PERP Regulation. This proposal is the identical approach taken in previous amendments for two-engine cranes which have similar issues.

3. Recordkeeping and Reporting

ARB staff proposes to reduce the amount of recordkeeping for certified engines registered in PERP which are not subject to any emission limitations. Staff also proposes to remove the annual reporting requirement for these certified engines. Engines and equipment units with emission limitations will continue to have daily recordkeeping and annual reporting requirements of the applicable operational data.

ARB staff also proposes to require that the owners or operators of all registered engines and equipment units record specific location and dates of movement for each unit. The current PERP regulation does not require the tracking of specific locations. Locations will be tracked by street address and city, or by county and parcel number, or other specific location indicator. Staff proposes to require that the specific location and date is recorded on a monthly basis for certified engines and each time it is moved for non-certified engines and equipment units. This amendment will provide for better enforcement of the requirement that a registered engine or equipment unit may not reside at a location for longer than 12 months.

4. On-Highway and Marine Engines

ARB staff proposes to allow engines certified to on-highway emission standards in 40 CFR Part 86 and engines certified to marine emission standards in 40 CFR Part 94 or 40 CFR Part 1042 to be eligible for PERP. This amendment will restore the eligibility that these engines previously enjoyed, which was removed with the amendments of June 22, 2006. ARB staff will also clarify that auxiliary marine engines located on vessels will be subject to the Commercial Harbor Craft ATCM instead of the Portable Engine ATCM.

5. Vendor Sales Report

ARB staff proposes to remove the vendor sales report from the Statewide PERP Regulation. The PERP regulation is intended to only contain requirements for portable equipment registered in the program. It is not intended to regulate the sales of new equipment. Because PERP is a voluntary program, it is not appropriate to have a mandatory notification requirement about a program that is not required. If a mechanism is desired to track the sales of equipment for which a permit may potentially be required, then this should be established in the rules and regulations that establish those mandatory permits.

6. Miscellaneous

ARB staff is proposing minor revisions which are discussed below.

- Clarify that a change in home district designation shall be based on the most recent annual report prior to the year the arranged inspection is due, instead of an average of all three annual reports since the last inspection. The most recent annual report will provide a better indication of where the registered engine or equipment unit has

been operating most of the time prior to the inspection. This will allow for a more accurate designation of the home district which is meant to perform the arranged inspection.

- Modify the definition of "Resident Engine" to remove the older engines that were operated in California between March 1 2004 and October 1, 2006. These engines were only intended to be eligible for PERP until the end of 2009, so this modification serves to remove obsolete language. The definition will also be modified to clarify that only certified engines that have a current district permit or lost their permit exemption due to a change in district rules will be considered resident, and therefore eligible for PERP. ARB does not want to allow any additional uncertified engines into PERP, and this modification will prevent any from registering.

- Modify the definition of "Providers of Essential Public Service (PEPS)" to clarify that the final determination whether a company or government agency is a PEPS provider shall be made by the Executive Officer. During the course of the implementation of the PERP Regulation, there has been some confusion on the part of registrants over whether their company qualifies as a PEPS. The definition currently lists several examples of possible PEPS activities. It would be impossible to make a complete list of every organization type that does or does not meet the definition of PEPS. Therefore, this modification will allow the Executive Officer to make a final determination in cases where there is some doubt.

- Modify, add, and delete terms in the definitions section, delete outdated provisions, and make minor clarifications where needed. These changes are considered to be non-substantive and are intended to provide additional clarity and expediency to the Statewide PERP Regulation, and ensure consistency between regulatory requirements and registration practices.

## B. MODIFICATIONS TO THE PORTABLE ENGINE ATCM

The Portable Engine ATCM was designed to promote the use of clean portable engines in California. By January 1, 2010, only diesel engines certified to ARB/U.S. EPA nonroad engine emission standards (Tier 1, 2, or 3) can continue to operate in California, unless they have been designated as emergency use or low use. This means that most diesel engines that do not meet at least Tier 1 standards must be replaced with certified engines by that date.

The proposed amendments include recommendations to allow certain non-certified engines to operate for one year beyond the current deadline of January 1, 2010, allow all on-highway engines to operate beyond January 1, 2010, exempt auxiliary deck engines used on two-engine water well drilling rigs, and allow certain types of engines to obtain district permits or register in PERP that would not otherwise qualify.

1. Non-certified Engine Extension

ARB staff proposes to allow owners of small fleets to choose a limited number of registered diesel engines for continued operation for one year beyond the current cessation of operation date. Under this proposal, owners of 25 or fewer total portable engines would be able to choose either one diesel engine of any size or up to five diesel engines that collectively do not exceed 500 bhp to operate until December 31, 2010. The engines selected for the extension would have to be previously registered in PERP or permitted by a district. These fleet owners will have to submit a written request to specifically select which engines they want to receive the extension. Although there is no proposed definition of "company", it is expected that for implementation purposes, any organization with a unique name and mailing address will qualify for this provision. As discussed in the section on modifications to the Statewide PERP Regulation, spark-ignited engines may be substituted for diesel engines, but in no case can the number of total engines exceed the allowable limits.

An analysis of the companies participating in PERP showed that for companies with more than 25 total engines registered, about 25 percent of the engines are uncertified. Looking at smaller companies that owned between six and 25 engines, 45 percent of these engines are uncertified. Companies with five or fewer engines registered had 65 percent uncertified engines.

In addition, most larger companies that own more than 25 engines have been registered in PERP since it started in 1997. Therefore, these companies had sufficient time to plan for the replacement of their Tier 0 engines by the January 1, 2010 deadline. In addition, these larger companies would not suffer the same level of financial burden from replacing these older engines as would smaller companies that have fewer resources.

2. On-Highway Engines

ARB staff proposes to allow engines used in portable applications that are certified to the on-highway emission standards contained in 40 CFR Part 86 engines to operate beyond January 1, 2010. These certified on-highway engines will become part of the portable fleet, and will be subject to the fleet emission standards contained in the Portable Engine ATCM.

Staff also proposes to allow on-highway certified engines that are used in portable applications to be eligible for district permit or registration in PERP. On-highway engines were previously eligible for registration in PERP, but that eligibility was removed with the June 22, 2006 amendments. This modification will restore the eligibility that these engines previously enjoyed.

3. Water Well Drilling Rigs

ARB staff proposes to specify that the auxiliary deck engine is subject to the Off-Road Vehicle Regulation, effectively exempting it from the Portable Engine ATCM.

4. Miscellaneous

ARB staff is proposing minor revisions which are discussed below.

- Modify the brake horsepower (bhp) range for the applicable fleet standards in the table in section 93116.3.1 to correctly match the certification categories for certified off-road engines. The fleet standard categories should be as follows: less than 175 bhp, 175 to 750 bhp, and greater than 750 bhp. This error was an oversight from the original adoption and subsequent amendments and this modification will correct that earlier error.

- Add an emission factor for Tier 1 engines less 175 bhp to be used to calculate compliance with the fleet emission standard. The current version states that an emission factor must be taken from the certification Executive Order. Because Tier 1 engines less than 175 bhp do not have a PM emission standard, there is no emission factor on the Executive Orders. This error was an oversight from the original adoption and subsequent amendments and this modification will correct that earlier error. ARB staff proposes to use the same emission factor that is used for Tier 1 engines in the In-Use Off-Road Vehicle Regulation, but without the deterioration factors. For full analysis of the emission factor used for Tier 1 engines less than 175 bhp, see Appendix E.

- Modify the definition of "in-use" from January 1, 2006 to January 1, 2010. This definition should have been changed with the March 22, 2007 amendments since new permit eligibility requirements for uncertified engines until January 1, 2010 were added at that time. This was an oversight from the March 22, 2007 amendments and this modification will correct that earlier error.

- Specify the emission factor to be used for certified engines that do not have a family name indicated on the engine label. These engines are those built to flexibility provisions for equipment and vehicle manufacturers and post-manufacture marinizers pursuant to 40 CFR Part 89 or Title 13 of the California Code of Regulations. In such cases, the PM emission standard for the tier level to which the engine was built shall be used.

- Specify that if the engines will be unable to continue operation until Tier 4 standards become effective due to mechanical breakdown or the function that the engine powers will be discontinued, then the owner shall notify the regulatory agency. These engines will either have to be retired without replacement, or replaced with an engine that meets the most stringent standard at that time.

- Allow for the eligibility of certified engines that lost their permit exemption due a change in district rules. It has been ARB policy to allow these engines to register in PERP, and the eligibility was added to the PERP Regulation in previous amendments, although it was never addressed in the Portable Engine ATCM. This modification will consistently establish ARB policy in both the PERP Regulation and the Portable Engine ATCM.

- Remove the eligibility of non-certified engines for initial permits or registration by a district. When this provision was added in previous amendments, it was intended for this eligibility to only last until December 31, 2009. The omission of the expiration date was an oversight from the previous amendments and this modification will correct that earlier error. The section allowing the permitting or registration of Tier 1 or Tier 2 engines had an expiration date of December 31, 2009, and will be removed since it will be obsolete when these amendments are adopted.

- Modify, add, and delete terms in the definitions section, delete outdated provisions, and make minor clarifications where needed. These changes are considered to be non-substantive and are intended to provide additional clarity and expediency to the Portable Engine ATCM, and ensure consistency between regulatory requirements and permit and/or registration practices.

## C. MODIFICATIONS TO THE OFF-ROAD AND ON-ROAD VEHICLE REGULATIONS

As discussed previously, staff is proposing to amend the regulations to change the way existing two-engine water well drilling rigs are addressed. The proposed amendments include recommendations to exempt the drive engine used on two-engine water well drilling rigs from the On-Road Vehicle Regulation, and to require both engines on two-engine water well drilling rigs to be subject to the Off-Road Vehicle Regulation.

### 1. Off-Road Vehicle Regulation

ARB staff proposes to add a definition of two-engine water well drilling rigs as being those only owned by companies with a current, valid C-57 water well drilling contractors license issued by the Contractors State License Board of California. ARB staff will also specify that both engines on a two-engine water well drilling rig are subject to the requirements of the Off-Road Vehicle Regulation. This proposal is the identical approach taken in previous amendments for two-engine cranes. The reporting date for water well drilling rigs will also be extended to August 1, 2010 to allow time for the owners of drilling rigs that were previously not subject to this regulation to enter their rigs into ARB's reporting system.

### 2. On-Road Vehicle Regulation

ARB staff proposes to specify that two-engine water well drilling rigs are exempt from the On-Road Vehicle Regulation. This proposal is the identical approach taken in previous amendments for two-engine cranes.

# IV. ENVIRONMENTAL IMPACTS

This Chapter describes the potential environmental impacts of the proposed amendments to the Statewide PERP Regulation, the Portable Engine ATCM, the Off-Road Vehicle Regulation, and the On-Road Vehicle Regulation. Based on staff's analysis, the proposed amendments would not result in any adverse impacts.

## A. LEGAL REQUIREMENTS APPLICABLE TO THE ENVIRONMENTAL IMPACT ANALYSIS

The California Environmental Quality Act (CEQA) and ARB policy require an analysis to determine the potential environmental impacts of proposed regulations. The Secretary of Resources, pursuant to Public Resources Code section 21080.5, has certified the ARB regulatory program. Consequently, the CEQA analysis requirements may be included in the Initial Statement of Reasons (ISOR) for this rulemaking. The ISOR serves as a functionally equivalent environmental analysis. In addition, staff will respond, in the Final Statement of Reasons, to all significant environmental issues raised by the public during the public review period or at the Board public hearing.

Public Resources Code section 21159 requires that the environmental impact analysis conducted by ARB include the following:

- An analysis of reasonably foreseeable environmental impacts of the methods of compliance;
- An analysis of reasonably foreseeable feasible mitigation measures; and
- An analysis of reasonably foreseeable alternative means of compliance with the amended Statewide PERP Regulation and Portable Engine ATCM.

Regarding mitigation measures, CEQA requires an agency to identify and adopt feasible mitigation measures that would minimize any significant adverse environmental impacts described in the environmental analysis.

## B. AIR QUALITY IMPACTS OF THE PROPOSED AMENDMENTS

1. Non-Certified Engines

The proposed amendments to the Statewide PERP Regulation and Portable Engine ATCM would not result in a change to the existing physical environment, but would result in a delay in obtaining reductions in NOx and diesel PM emissions for one year. The 2009 emission levels from all portable engines are about 42,000 tons per year (tpy) for NOx and 3,000 tpy of PM. These emission levels were calculated using data gathered from the districts and the engines registered in PERP. Based on these data, there was a total of about 6,500,000 bhp for portable certified engines under district permit or PERP registration in 2009. Emission factors of 5.4 g/bhp-hr for NOx and 0.39 g/bhp-hr for PM were used for these certified engines. The engine population was determined to be 50 percent Tier 1 engines, 25 percent Tier 2 engines, and 25 percent Tier 3 engines. A load factor of 0.75 and operation of 1,000 hours/year were also used in the calculations. This results in 2009 certified engine emission levels of 29,100 tpy of NOx and 2,100 tpy of PM.

There was a total of 1,300,000 bhp of uncertified diesel engines under district permit or registered in PERP for 2009, representing approximately 5,500 uncertified engines. About 4,300 of these are registered in PERP, with approximately 1,200 permitted or registered by the districts. Assuming about 20 percent of these engines would be designated as emergency use or low use, approximately 4,400 uncertified engines with a total bhp of 1,050,000 will be affected by the January 1, 2010 deadline. The emissions from the emergency use and low use engines are insignificant and not included in these emission estimates. The emission factors used for the emission calculation for the uncertified engines were 12 g/bhp-hr for NOx and 0.85 for PM. This results in a 2009 uncertified emission level of 13,000 tpy of NOx and 920 tpy of PM.

To estimate the expected reductions from the January 1, 2010 requirement, we assumed that the uncertified engine bhp would be replaced with certified engines as follows: 25 percent Tier 1, 25 percent Tier 2, and 50 percent Tier 3. This results in an average emission factor of 4.43 g/bhp-hr for NOx and 0.24 g/bhp-hr for PM for the remaining engines not receiving relief.

In developing the current proposal to extend the deadline for uncertified engines, ARB staff evaluated several options. The total emissions for each option were determined by adding the emissions from existing certified engines, uncertified engines receiving relief, and certified engine replacements. The expected minimum emission reductions for each option are determined by subtracting that amount from the 2009 levels. The emission reductions could be larger if full utilization of the relief offered does not occur. The owners of portable engines would have to submit written requests to either the district or the ARB to select specific engines to receive the relief, and potentially not every owner of portable engines will choose to do so. The options are discussed below and the resulting emissions reductions from each are summarized in the table.

Option 1 – No change

The requirement to have all engines be certified as of January 1, 2010 was first established in 1997 as part of PERP, giving businesses up to 13 years to plan for the replacement or retirement of the older engines. In 2004, this requirement was moved from the PERP regulation to the Portable Engine ATCM so that it would apply to all diesel engines statewide, not just those registered in PERP. The emission reductions expected from replacing 1,050,000 bhp of uncertified engines with certified engines are 3,800 tpy of NOx and 220 tpy of PM. Combined with the existing certified emission levels, this results in an overall reduction of 9,200 tpy for NOx and 700 tpy for PM.

Option 2 – Allow all companies 500 bhp of Tier 0 engines

If we allow all organizations to operate 500 bhp of uncertified engines, this will result in a potential total of 323,600 bhp to operate. The emissions expected from these uncertified engines are 3,200 tpy of NOx and 230 tpy of PM. The emissions from the replacement of the remaining engines with certified engines (726,400 bhp) are 2,700 tpy of NOx and 140 tpy of PM. Combined with the existing certified emission levels, the total overall emissions from this option are 35,000 tpy of NOx and 2,470 tpy of PM. This will result in emission reductions of 7,100 tpy of NOx and 520 tpy of PM from 2009 levels, resulting in a loss of 2,100 tpy for NOx and 180 tpy for PM compared to no change. Under this

option, small fleet owners that only have engines rated over 500 bhp would not receive any benefit. This option retains about 80 percent of the original emission reductions.

Option 3 – Allow companies with small fleets to operate all Tier 0 engines
This option would apply only to small fleet owners that own a total of 25 portable engines, including uncertified engines. In this option, the small fleet owners would be allowed to operate all of their uncertified engines for one year. This option would allow a total of 690,000 bhp of uncertified engines to operate. The emissions expected from these uncertified engines are 6,900 tpy of NOx and 480 tpy of PM. The emissions from the replacement of the remaining engines with certified engines (360,000 bhp) are 1,300 tpy of NOx and 70 tpy of PM. Combined with the existing certified emission levels, the total emissions from this option are 37,300 tpy of NOx and 2,650 tpy of PM. This will result in emission reductions of 4,800 tpy of NOx and 370 tpy of PM from 2009 levels, resulting in a loss of 4,400 tpy for NOx and 330 tpy for PM compared to no change. This option provided the most extensive relief, but also resulted in the greatest loss of emission reductions. This option only retains about 50 percent of the original emission reductions.

Current Proposal
Under the current proposal, owners with no more than 25 engines total will be able to choose either one uncertified engine of any size, or up to five uncertified engines that collectively do not exceed 500 bhp. This proposal is a hybrid of other options. It gives relief to the small fleet owners by allowing them to operate up to 500 bhp as in option 2, as well as owners with a single large engine as in option 3. Under this proposal, there would be a maximum of about 390,000 bhp eligible for relief, with the remaining 660,000 bhp being replaced with certified engines. The expected emission reductions in 2010 with this proposal would be 6,700 tons for NOx and 500 tons for PM. This proposal retains over 70 percent of the original emission reductions.

Comparison Chart

| | Option 1 (no change) | Option 2 (500 bhp cap) | Option 3 (small fleets) | Current proposal |
|---|---|---|---|---|
| NOx reductions | 9,200 | 7,100 | 4,800 | 6,700 |
| PM reductions | 700 | 520 | 370 | 500 |
| Allowed uncertified bhp in 2010 | 0 | 323,600 | 690,000 | 390,000 |

Note: all emissions are listed in tons per year.

2. Water Well Drilling Rigs

The emission impacts from the amendments to water well drilling rigs come largely from moving the auxiliary deck engines from the Portable Engine ATCM and into the Off-Road Vehicle Regulation. With the proposed amendments, these engines would not have to be replaced or retrofitted until 2013 or 2015 depending on the overall fleet size of each company. It is expected that the majority of water well drilling companies will fall into the small fleet category with some falling into the medium fleet size category.

Currently, there are 80 uncertified engines on water well drilling rigs registered in PERP that are subject to the Portable Engine ATCM. These engines have a total cumulative size of 15,100 horsepower. Subjecting these engines to the Off-Road Vehicle Regulation rather than the Portable Engine ATCM and using the same assumptions as identified above, would result in emissions of 150 tons per year for NOx and 10 tons per year for PM.[3]

## C. IMPACTS OF THE PROPOSED AMENDMENTS ON MEETING AMBIENT AIR QUALITY STANDARDS

HSC section 41754 requires that emissions from engines and equipment units registered in PERP shall not, in aggregate, interfere with the attainment or maintenance of the State and federal ambient air quality standards. PERP requires that engines meet an offroad emission standard and requires that any existing engine registered after 2010 must be certified. In addition, after 2010, engines seeking initial permitting or registration must meet the most stringent emission standard in effect at the time of application, except those on cranes, street sweepers, and water well drilling rigs. The engines on these machines will have to meet the requirements of either the Off-Road Vehicle Regulation or On-Road Vehicle Regulation. The Portable Engine ATCM has PM emission standards that will affect all registered or permitted engines in 2013, 2017 and 2020. The implementation of the Statewide PERP Regulation, Portable Engine ATCM, Off-Road Vehicle Regulation, and On-Road Vehicle Regulation therefore will result in greater reductions of NOx, HC, and diesel PM emissions from diesel engines now and in future years.

## D. ANALYSIS OF REASONABLY FORESEEABLE ENVIRONMENTAL IMPACTS OF THE METHODS OF COMPLIANCE

As specified in HSC section 41755, the districts have an important role in enforcing the requirements of the Statewide PERP Regulation. The districts will continue to implement the Portable Engine ATCM in their local permitting and compliance programs. The ARB staff will enforce the requirements of the Off-Road Vehicle Regulation and On-Road Vehicle Regulation.

## E. REASONABLY FORESEEABLE MITIGATION MEASURES

CEQA requires an agency to identify and adopt feasible mitigation measures that would minimize any significant adverse environmental impacts described in the environmental analysis other than the slight delay in emissions reductions. Neither ARB staff's own investigation nor comments from the affected regulatory community has identified any additional adverse impacts; therefore, ARB staff has concluded that no significant

[3] Other estimates from the California Groundwater Association place the number of uncertified deck engines on two-engine water drilling rigs to be near 420, but these estimates are not verified and are not used for any analysis. Furthermore, these estimated 420 engines on these rigs are neither permitted nor registered. Some of the drilling rigs operate in local air districts where permits are not required. Using this estimate of 420 engines, the estimated cumulative size of these engines would be 79,200 bhp. Using the same assumptions, the estimated emissions from these engines would be 800 tons per year for NOx and 60 tons per year for PM..

adverse environmental impact would occur from adoption of, and compliance with, the proposed amendments to the Statewide PERP Regulation, Portable Engine ATCM, Off-Road Vehicle Regulation, and On-Road Vehicle Regulation. Therefore, no mitigation measures would be necessary.

## F. REASONABLY FORESEEABLE ALTERNATIVE MEANS OF COMPLIANCE WITH THE PROPOSED AMENDMENTS

ARB, in consultation with CAPCOA and a number of affected industries, developed proposed amendments to the Statewide PERP Regulation, Portable Engine ATCM, Off-Road Vehicle Regulation, and On-Road Vehicle Regulation. ARB staff has concluded that the proposed amendments provide the most effective and least burdensome approach to ensuring air quality continues to be protected, that ARB and the districts can continue to implement these regulations effectively.

## G. ENVIRONMENTAL JUSTICE

ARB is committed to evaluating community impacts of proposed regulations including environmental justice concerns. Because some communities experience higher exposure to air pollutants, it is a priority of ARB to ensure that full protection is afforded to all Californians. The proposed amendments to the Statewide PERP Regulation, Portable Engine ATCM, Off-Road Vehicle Regulation, and On-Road Vehicle Regulation are not expected to result in significant negative impacts in any community. The proposed amendments to these four regulations would not result in an increase of emissions of NOx and diesel PM from current levels.

# V. ECONOMIC IMPACTS

This Chapter discusses legal requirements that must be satisfied in analyzing the economic impacts of the proposed amendments to the Statewide PERP Regulation, Portable Engine ATCM, Off-Road Vehicle Regulation, and On-Road Vehicle Regulation, and the methodology used to estimate cost impacts, and presents estimates of the economic impacts for the proposed amendments.

## A. SUMMARY OF THE ECONOMIC IMPACTS

Staff has not identified any adverse economic impacts as a result of this proposal. Staff estimates the impact of the proposed amendments on affected businesses and governmental agencies would be a temporary cost savings of approximately $79 million. The total economic impact is attributable to allowing additional time to replace a subset of uncertified engines under this proposal.

Approximately 4,400 older engines with a total of 1,050,000 horsepower are subject to the current requirement to be replaced by January 1, 2010. When you remove the 80 engines on two-engine water well drilling rigs, the revised total is about 4,300 engines with a total of 1,035,000 horsepower. The cost to replace these engines with new units would be about $180 million. With the current proposal, approximately 2,000 engines owned by about 1,130 companies and public agencies with a combined horsepower of approximately 375,000 could be operated for an additional year before replacement or retirement. The cost to replace these engines would be approximately $66 million, therefore resulting in a savings for small business and public agencies of that amount for one year. The true cost savings will be less, however, because it is not expected that all the eligible engines will utilize the extension in this proposal.

Staff is not proposing any fee for selection of engines registered in PERP to receive the extension; therefore, there is no economic impact from the selection process for engines registered in PERP. The districts may or may not choose a fee to process the extension request for permitted engines, but an analysis of the economic impact is impossible due to the lack of information regarding any fees the districts may charge. Due to the effort required to assess and collect a fee, it is expected that most districts will charge either no fee or a very nominal simple fee for the one time transaction.

The cost to replace an auxiliary deck engine on a two-engine water well drilling rig ranges from $30,000 to $300,000 based on data gathered by contacting drilling rig manufacturers and dealers. Based on this survey data, the average cost to replace a deck engine on a water well drilling rig is $165,000. There are currently only 80 of these engines registered in PERP owned by 25 companies. The estimated cost to replace these engines as required by the Portable Engine ATCM would be about $13 million.[4]

[4] Other estimates from the California Groundwater Association place the number of uncertified deck engines on two-engine water drilling rigs to be near 420 but these estimates are not verified and are not used for any official analysis. The cost to replace these estimated 420 engines would be $69 million. By moving these deck engines into the Off-Road Vehicle Regulation, the cost of replacing or retrofitting the engines is delayed by either 3 or 5 years depending on the overall fleet size of each company.

## B. LEGAL REQUIREMENTS

Section 11346.3 of the Government Code requires State agencies to assess the potential for adverse economic impacts on California business enterprises and individuals when proposing to adopt or amend any administrative regulation. The assessment shall include a consideration of the impact of the proposed regulation on California jobs, business expansion, elimination or creation, and the ability of California business to compete with businesses in other states.

Also, State agencies are required to estimate the cost or savings to any state or local agency and school district in accordance with instructions adopted by the Department of Finance. The estimate shall include any non-discretionary cost or savings to local agencies and the cost or savings in federal funding to the State.

Finally, HSC section 57005 requires ARB to perform an economic impact analysis of submitted alternatives to a proposed regulation before adopting any major regulation. A major regulation is defined as a regulation that will have a potential cost to California business enterprises in an amount exceeding ten million dollars in any single year. Because the estimated cost of the amendments does not exceed ten million dollars in a single year, the proposed amendments do not constitute a major regulation.

## C. METHODOLOGY FOR ESTIMATING COSTS

This section provides the general methodology and assumptions used to estimate the costs associated with the amendments to the Statewide PERP Regulation. ARB staff describes the method used to estimate the number and types of engines that may be able to utilize to the extended deadline. The basic methodology is also used to analyze the costs to private companies and governmental agencies.

### 1. Analysis of the PERP Database and District Permitting Programs

ARB staff conducted an analysis of the PERP database that existed on October 26, 2009 in order to evaluate the cost impacts from the proposed amendments to the Statewide PERP Regulation for federal, state, local agencies and small businesses. Based on the analysis, staff determined that there are over 4,000 organizations with about 29,000 engines registered in PERP. In addition, there are about 1,600 engines permitted by the districts. Of these, about 1,130 total organizations with about 2,000 uncertified engines will potentially receive relief under these amendments. Of these organizations, staff estimates there are:

- 3 state agencies with about 5 engines consisting of 1,300 horsepower,;
- 210 local agencies with about 230 engines consisting of 58,600 horsepower;
- 9 federal agencies with about 15 engines consisting of 2,900 horsepower; and
- 910 private businesses with 1,700 engines consisting of 312,700 horsepower.

Military TSE is not affected by these proposed amendments and therefore was not included in this fiscal impact analysis.

ARB staff used these totals to determine the cost of the proposed amendments to the various organizations. Using an average cost of $175 per horsepower, the staff estimated that approximately $66 million in replacement costs will be delayed by one year due to the amendments to the Statewide PERP Regulation and Portable Engine ATCM.

ARB staff used the totals in the existing PERP database of engines on water well drilling rigs. Using an average replacement cost of $165,000 per engine, It is estimated that approximately $13 million in replacement costs will be delayed by either three or five years due to these amendments affecting water well drilling rigs.

2. Initial and Recurring Costs

The cost evaluation considers both initial costs and ongoing annual costs. Initial costs were calculated for the estimated number of uncertified engines that would potentially receive relief under the proposed amendments. There are no ongoing annual costs from the proposed amendments to the Statewide PERP Regulation, Portable Engine ATCM, Off-Road Vehicle Regulation, or On-Road Vehicle Regulation.

## D. BUSINESSES AFFECTED

Any business that owns or operates portable internal combustion engines and/or equipment units currently registered in PERP is affected by the proposed amendments. The affected businesses fall into different industry classifications. A list of the industries that may be impacted is provided in Table V-1.

**Table V-1**

**Industries Affected by Statewide Registration Program and Portable Engine ATCM**

| SIC Code | Industry |
|---|---|
| 1311 | Crude petroleum and natural gas |
| 1321 | Natural gas liquids |
| 1381 | Drilling oil and gas wells |
| 1382 | Oil and gas exploration services |
| 1389 | Oil and gas field services, not elsewhere classified |
| 1521 | Single-family housing construction |
| 1522 | Residential construction, not elsewhere classified |
| 1531 | Operative builders |
| 1541 | Industrial buildings and warehouses |
| 1542 | Nonresidential construction, not elsewhere classified |
| 1611 | Highway and street construction |
| 1622 | Bridge, tunnel, and elevated highway |
| 1623 | Water, sewer, and utility lines |
| 1629 | Heavy construction, not elsewhere classified |
| 1711 | Plumbing, heating, air-conditioning |
| 1771 | Concrete work |
| 1781 | Water well drilling |
| 1791 | Structural steel erection |
| 1794 | Excavation work |
| 1795 | Wrecking and demolition work |
| 4925 | Gas production and/or distribution |
| 4941 | Water supply |
| 4952 | Sewerage systems |
| 4953 | Refuse systems |
| 4959 | Sanitary services, not elsewhere classified |
| 4961 | Steam and air-conditioning supply |
| 4971 | Irrigation systems |
| 7349 | Building maintenance services, not elsewhere classified |
| 7353 | Heavy construction engines and equipment units rental |
| 7359 | Equipment rental and leasing, not elsewhere classified |
| 7519 | Utility trailer rental |
| 7812 | Motion picture and video production |
| 7819 | Services allied to motion pictures |
| 7996 | Amusement parks |
| 9711 | National security |

## E. COST ESTIMATES

The proposed amendments to the Statewide PERP Regulation, Portable Engine ATCM, Off-Road Vehicle Regulation, and On-Road Vehicle Regulation will not result in a cost increase to the regulated community. They will serve to delay replacement cost for certain engines with a maximum cost delay of $79 million for one year. The actual cost savings may be less if full utilization of the relief offered does not occur.

## F. POTENTIAL IMPACTS ON EMPLOYMENT

The proposed amendments are not expected to cause a noticeable change in California employment because most businesses will find that the requirements will not require significant additional staffing.

## G. POTENTIAL IMPACTS ON BUSINESS CREATION, ELIMINATION, OR EXPANSION

The proposed amendments results in a cost savings for certain businesses. Therefore, the proposed amendments are likely to have no adverse impacts on business creation, elimination, or expansion.

## H. POTENTIAL IMPACTS ON SMALL BUSINESSES

The total potential economic impact to small business is a cost savings of approximately $55 million dollars for one year. The cost savings are due the proposed delay of uncertified engine replacement until December 31, 2010. Although it is difficult to quantify, it is expected that any company that owns no more than 25 portable engines falls into the category of a small business.

## I. POTENTIAL IMPACTS ON PUBLIC AGENCIES

The total potential economic impact to state agencies is a cost savings of approximately $11 million for one year. The cost savings are due the proposed delay of uncertified engine replacement until December 31, 2010.

# Appendix A

## Proposed Regulation Order

## Amendments to the Statewide Portable Equipment Registration Program Regulation

**California Air Resources Board**
**Title 17, California Code of Regulations**

Article 5 and sections 2450, 2451, 2452, 2453, 2454, 2455, 2456, 2457, 2458, 2459, 2460, 2461, 2462, 2463, 2464, and 2465 of Title 13, California Code of Regulations

(Note: Proposed amendments to the regulation are identified below. Underline is used to indicate the proposed additions. ~~Strikeout~~ is used to indicate proposed deletions from the regulation text.)

# PROPOSED REGULATION ORDER

**Amend sections 2451, 2452, 2453, 2456, 2458, 2460, 2461, and 2462 title 13, California Code of Regulations. Sections 2450, 2451, 2454, 2455, 2457, 2459, 2463, 2464, and 2465 are not being amended but are included for clarity.**

**Article 5. Portable Engine and Equipment Registration**

**§ 2450. Purpose.**

These regulations establish a statewide program for the registration and regulation of portable engines and engine-associated equipment (portable engines and equipment units) as defined herein. Portable engines and equipment units registered under the Air Resources Board program may operate throughout the State of California without authorization (except as specified herein) or permits from air quality management or air pollution control districts (districts). These regulations preempt districts from permitting, registering, or regulating portable engines and equipment units, including equipment necessary for the operation of a portable engine (e.g. fuel tanks), registered with the Executive Officer of the Air Resources Board except in the circumstances specified in the regulations.

NOTE: Authority cited: Section 39600, 39601, 41752, 41753, 41754, 41755, 43013(b), and 43018, Health and Safety Code. Reference: Sections 41750, 41751, 41752, 41753, 41754, and 41755, Health and Safety Code.

**§ 2451. Applicability.**

(a) Registration under this regulation is voluntary for owners of portable engines or equipment units.

(b) This regulation applies to portable engines and equipment units as defined in section 2452. Except as provided in paragraph (c) of this section, any portable engine or equipment unit may register under this regulation. Examples include, but are not limited to:

(1) portable equipment units driven solely by portable engines including confined and unconfined abrasive blasting, Portland concrete batch plants, sand and gravel screening, rock crushing, and unheated pavement recycling and crushing operations;

(2) consistent with section 209 (e) of the federal Clean Air Act, engines and associated equipment used in conjunction with the following types of portable operations: well drilling, service or work-over rigs; power generation, excluding cogeneration; pumps; compressors; diesel pile-driving hammers; welding; cranes; wood chippers; dredges; equipment necessary for the operation of portable engines and equipment units; and military tactical support equipment.

(c) The following are not eligible for registration under this program:

(1) any engine used to propel mobile equipment or a motor vehicle of any kind as defined in section 2452 (aa)(1)(A);
(2) any engine or equipment unit not meeting the definition of portable as defined in section 2452 (dd) of this regulation;
(3) engines, equipment units, and associated engines determined by the Executive Officer to qualify as part of a stationary source permitted by a district;
(4) any engine or equipment unit subject to an applicable federal Maximum Achievable Control Technology standard, or National Emissions Standard for Hazardous Air Pollutants, or federal New Source Performance Standard, except for equipment units subject to the requirements of 40 CFR Part 60 Subpart OOO (Standards of Performance for Nonmetallic Mineral Processing Plants) as they relate to portable plants as defined in 40 CFR section 60.671;
(5) any engine or equipment unit operating within the boundaries of the California Outer Continental Shelf (OCS). [Note: This shall not prevent statewide registration of portable engines and equipment units already permitted by a district for operation in the OCS. Such statewide registration shall only be valid for operation onshore and in State Territorial Waters (STW).];
(6) any dredging operation in the Santa Barbara Harbor;
(7) any dredging unit owned by a single port authority, harbor district, or similar agency in control of a harbor, and operated only within the same harbor;
(8) generators used for power production into the grid, except to maintain grid stability during an emergency event or other unforeseen event that affects grid stability; and
(9) generators used to provide primary or supplemental power to a building, facility, stationary source, or stationary equipment, except during unforeseen interruptions of electrical power from the serving utility, maintenance and repair operations, electrical upgrade operations including startup, shutdown, and testing that do not exceed 60 calendar days, operations where the voltage, frequency, or electrical current requirements can only be supplied by a portable generator, or remote operations where grid power is unavailable.

(d) In the event that the owner of an engine or equipment unit elects not to register under this program, the engine or equipment unit shall be subject to district permitting requirements pursuant to district regulations.

NOTE: Authority cited: Sections 39600, 39601, 41752, 41753, 41754, 41755, 43013(b) and 43018, Health and Safety Code. Reference: Sections 41750, 41751, 41752, 41753, 41754, and 41755, Health and Safety Code.

**§ 2452. Definitions.**

(a) "**Air Contaminant**" shall have the same meaning as set out in section 39013 of the Health and Safety Code.

(b) "**ARB**" means the California Air Resources Board.

(c) "**Certified Compression-Ignition Engine**" means an engine meeting the ~~nonroad engine~~ emission standards for compression-ignition engines, as set forth in ~~Title 13 of the California Code of Regulations or~~ 40 CFR Part 86, 40 CFR Part 89, 40 CFR Part 1039, 40 CFR Part 94, 40 CFR Part 1042, or as set forth in the equivalent categories in title 13 of the California Code of Regulations ~~in effect at the time of application~~.

(d) "**Certified Spark-Ignition Engine**" means an engine meeting the ~~nonroad engine~~ emission standards for spark-ignition engines, as set forth in title 13, ~~CCR~~ Cal. Code Regs. or 40 CFR Part 1048 ~~in effect at the time of application~~.

(e) "**Compression-Ignition (CI) Engine**" means an internal combustion engine with operating characteristics significantly similar to the theoretical diesel combustion cycle. Compression-ignition engines usually control fuel supply instead of using a throttle to regulate power.

(f) "**Corresponding Onshore District**" means the district which has jurisdiction for the onshore area that is geographically closest to the engine or equipment unit.

(g) "**Crane**" means the same as "Two-Engine Crane" defined in title 13, ~~CCR~~ Cal. Code Regs., section 2449(c)(5~~6~~9).

(h) "**District**" means an air pollution control district or air quality management district created or continued in existence pursuant to provisions of Part 3 (commencing with section 40000) of the California Health and Safety Code.

(i) "**Electrical Upgrade**" means replacement or addition of electrical equipment and systems resulting in increased generation, transmission and/or distribution capacity.

(j) "**Emergency Event**" means any situation arising from sudden and reasonably unforeseen natural disaster such as earthquake, flood, fire, or other ~~acts of God~~ natural disasters, or other unforeseen events beyond the control of the portable engine or equipment unit operator, its officers, employees, and contractors that threatens public health and safety and that requires the immediate temporary operation of portable engines or equipment units to help alleviate the threat to public health and safety.

(k) "**Engine**" means any piston driven internal combustion engine.

(l) "**Equipment Unit**" means equipment that emits $PM_{10}$ over and above that emitted from an associated engine.

(m) "**Executive Officer**" means the Executive Officer of the California Air Resources Board or his/her designee.

(n) "**Hazardous Air Pollutant (HAP)**" means any air contaminant that is listed pursuant to section 112(b) of the federal Clean Air Act.

(o) "**Home District**" means the district designated by the responsible official as the district in which the registered engine or equipment unit resides most of the time. For registered engines or equipment units based out of California, the responsible official shall designate the home district based on where the registered engine or equipment unit is likely to be operated a majority of the time the registered engine or equipment unit is in California.

(p) "**Identical Replacement**" means a substitution due to mechanical breakdown of a registered portable engine or equipment unit with another portable engine or equipment unit that has the same manufacturer, type, model number, manufacturer's maximum rated capacity, and rated brake horsepower; and is intended to perform the same or similar function as the original portable engine or equipment unit; and has equal or lower emissions expressed as mass per unit time; and meets the emission requirements of sections 2455 through 2457 of this article.

(q) "**In-field Inspection**" means an inspection that is conducted at the location that the portable engine or equipment unit is operated under normal load and conditions.

(r) "**Location**" means any single site at a building, structure, facility, or installation.

(s) "**Maximum Achievable Control Technology (MACT)**" means any federal requirement promulgated as part of 40 CFR Parts 61 and 63.

(t) "**Maximum Rated Capacity**" is the maximum throughput rating or volume capacity listed on the nameplate of the registered equipment unit as specified by the manufacturer.

(u) "**Maximum Rated Horsepower (brake horsepower (bhp)**" is the maximum brake horsepower rating specified by the registered engine manufacturer and listed on the nameplate of the registered engine.

(v) "**Mechanical Breakdown**" means any failure of an engine's electrical system or mechanical parts that necessitates the removal of the registered engine from service.

(w) "**Modification**" means any physical change to, change in method of operation of, or an addition to a registered engine or equipment unit, which may cause or

result in an increase in the amount of any air contaminant emitted or the issuance of air contaminants not previously emitted. Routine maintenance and/or repair shall not be considered a physical change. Unless previously limited by an enforceable registration condition, a change in the method of operation shall not include:

(1) an increase in the production rate, unless such increase will cause the maximum design capacity of the registered equipment unit to be exceeded;
(2) an increase in the hours of operation;
(3) a change of ownership; and
(4) the movement of a registered engine or equipment unit from one location to another.

(x) "**New Nonroad Engine**" means a nonroad engine, the equitable or legal title to which has never been transferred to an ultimate purchaser. If the equitable or legal title to an engine is not transferred to an ultimate purchaser until after the engine is placed into service, then the engine will no longer be new after it is placed into service. A nonroad engine is placed into service when it is used for its functional purposes. The term "ultimate purchaser" means, with respect to a new nonroad engine, the first person who purchases a new nonroad engine for purposes other than resale.

(y) "**New Source Performance Standard (NSPS)**" means any federal requirement promulgated as part of 40 CFR Part 60.

(z) "**Non-field Inspection**" means an inspection that is either conducted at a location that is mutually acceptable to the district and the owner or operator or where the engine or equipment unit is stored and does not require operation of the engine or equipment unit for purposes of the inspection.

(aa) "**Nonroad Engine**" means:

(1) Except as discussed in paragraph (2) of this definition, a nonroad engine is any engine:

(A) in or on a piece of equipment that is self-propelled or serves a dual purpose by both propelling itself and performing another function (such as garden tractors, off-highway mobile cranes and bulldozers); or
(B) in or on a piece of equipment that is intended to be propelled while performing its function (such as lawnmowers and string trimmers); or
(C) that, by itself or in or on a piece of equipment, is portable or transportable, meaning designed to be and capable of being carried or moved from one location to another. Indicia of transportability include, but are not limited to, wheels, skids, carrying handles, dolly, trailer, or platform.

(2) An engine is not a nonroad engine if:

(A) the engine is used to propel a motor vehicle or a vehicle used solely for competition, or is subject to standards promulgated under section 202 of the federal Clean Air Act; or

(B) the engine is regulated by a federal New Source Performance Standard promulgated under section 111 of the federal Clean Air Act; or

(C) the engine otherwise included in paragraph (1)(C) of this definition remains or will remain at a location for more than 12 consecutive months or a shorter period of time for an engine located at a seasonal source. Any engine (or engines) that replaces an engine at a location and that is intended to perform the same or similar function as the engine replaced will be included in calculating the consecutive time period. An engine located at a seasonal source is an engine that remains at a seasonal source during the full annual operating period of the seasonal source. A seasonal source is a stationary source that remains in a single location on a permanent basis (at least two years) and that operates at that single location approximately three (or more) months each year.

(bb) "**Outer Continental Shelf (OCS)**" shall have the meaning provided by section 2 of the Outer Continental Shelf Lands Act (43 U.S.C. Section 1331 et seq.).

(cc) "**Placard**" means a visible indicator supplied by the Air Resources Board to indicate that an engine or equipment has been registered in the Portable Equipment Registration Program and is in addition to the registration identification device.

(dd) "**Portable**" means designed and capable of being carried or moved from one location to another. Indicia of portability include, but are not limited to, wheels, skids, carrying handles, dolly, trailer, or platform. For the purposes of this regulation, dredge engines on a boat or barge are considered portable. The engine or equipment unit is not portable if any of the following are true:

(1) the engine or equipment unit or its replacement is attached to a foundation, or if not so attached, will reside at the same location for more than 12 consecutive months. The period during which the engine or equipment unit is maintained at a storage facility shall be excluded from the residency time determination. Any engine or equipment unit such as back-up or stand-by engines or equipment units, that replace engine(s) or equipment unit(s) at a location, and is intended to perform the same or similar function as the engine(s) or equipment unit(s) being replaced, will be included in calculating the consecutive time period. In that case, the cumulative time of all engine(s) or equipment unit(s), including the time

between the removal of the original engine(s) or equipment unit(s) and installation of the replacement engine(s) or equipment unit(s), will be counted toward the consecutive time period; or

(2) the engine or equipment unit remains or will reside at a location for less than 12 consecutive months if the engine or equipment unit is located at a seasonal source and operates during the full annual operating period of the seasonal source, where a seasonal source is a stationary source that remains in a single location on a permanent basis (at least two years) and that operates at that single location at least three months each year; or

(3) the engine or equipment unit is moved from one location to another in an attempt to circumvent the portable residence time requirements.

(ee) "**Prevention of Significant Deterioration (PSD)**" means any federal requirements contained in or promulgated pursuant to Part C of the federal Clean Air Act.

(ff) "**Process**" means any air-contaminant-emitting activity associated with the operation of a registered engine or equipment unit.

(gg) "**Project, for the purposes of onshore operation,**" means the use of one or more registered engines or equipment units operated under the same or common ownership or control to perform a single activity.

(hh) "**Project, for the purposes of State Territorial Waters (STW),**" means the use of one or more registered engines and equipment units operating under the same or common ownership or control to perform any and all activities needed to fulfill specified contract work that is performed in STW. For the purposes of this definition, a contract means verbal or written commitments covering all operations necessary to complete construction, exploration, maintenance, or other work. Multiple or consecutive contracts may be considered one project if they are intended to perform activities in the same general area, the same parties are involved in the contracts, or the time period specified in the contracts is determined by the Executive Officer to be sequential.

(ii) "**Provider of Essential Public Service (PEPS)**" means any privately-owned corporation or public agency whose primary purpose is to own, operate, control, or manage an essential public service. An essential public service may be a line, plant, or system for the transportation of people or property, the transmission of telephone or telegraph messages, or the production, generation, transmission or furnishing of heat, light, water, power, or sanitation directly or indirectly to the public. The final determination that a corporation or public agency is providing an essential public service is with the Executive Officer.

(jj) "**Registration**" means issuance of a certificate by the Executive Officer acknowledging expected compliance with the applicable requirements of this article, and the intent by the owner or operator to operate the engine or equipment unit within the requirements established by this article.

(kk) "**Rental Business**" means a business which rents or leases registered engines or equipment units.

(ll) "**Renter**" means a person who rents and/or operates registered engines or equipment units not owned by that person.

(mm) "**Resident Engine**" means ~~either of the following:~~

~~(1)~~ a ~~portable~~certified engine that at the time of applying for registration, has a current, valid district permit or district registration ~~that was issued prior to January 1, 2006~~, or a~~n~~ certified engine that lost a permit to operate exemption through a formal district action. Moving an engine from a district that provides a permit to operate exemption to a district that requires a permit to operate or registration does not qualify for consideration as a resident engine. ~~; or~~

~~(2) a certified compression-ignition engine that operated in California at any time between March 1, 2004 and October 1, 2006. The responsible official shall provide sufficient documentation to prove the engine's residency to the satisfaction of the Executive Officer. Examples of adequate documentation include but are not limited to: tax records, purchase records, maintenance records, or usage records.~~

~~An engine permitted or registered by a district pursuant to title 17, CCR,section 93116.3(b)(6) is not a resident engine.~~

(nn) "**Responsible Official**" refers to an individual employed by the company or public agency with the authority to certify that the registered engines or equipment units under his/her jurisdiction comply with applicable requirements of this regulation. A company or public agency may have more than one Responsible Official.

(oo) "**Spark-Ignition (SI) Engine**" means an internal combustion engine with a spark plug (or other sparking device) with operating characteristics significantly similar to the theoretical Otto combustion cycle. Spark-ignition engines usually use a throttle instead of using fuel supply to control intake air flow to regulate power.

(pp) "**State Territorial Waters (STW)**" includes all of the following: an expanse of water that extends from the California coastline to 3 miles off-shore; a 3 mile wide belt around islands; and estuaries, rivers, and other inland waterways.

(qq) "**Statewide Registration Program**" means the program for registration of portable engines and equipment units set out in this article.

(rr) "**Stationary Source**" means any building, structure, facility or installation which emits any air contaminant directly or as a fugitive emission. "Building," "structure," "facility," or "installation" includes all pollutant emitting activities which:

(1) are under the same ownership or operation, or which are owned or operated by entities which are under common control;

(2) belong to the same industrial grouping either by virtue of falling within the same two-digit standard industrial classification code or by virtue of being part of a common industrial process, manufacturing process, or connected process involving a common raw material; and

(3) are located on one or more contiguous or adjacent properties.

[Note: For the purposes of this regulation a stationary source and nonroad engine are mutually exclusive.]

(ss) "**Storage**" means a warehouse, enclosed yard, or other area established for the primary purpose of maintaining registered engines or equipment units when not in operation.

(tt) "**Street Sweeper**" means the same as "Dual-engine Street Sweeper" defined in title 13, ~~CCR~~ Cal. Code Regs., section 2022(b)(2).

(uu) "**Tactical Support Equipment (TSE)**" means equipment using a portable engine, including turbines, that meets military specifications, owned by the U.S. Department of Defense, the U.S. military services, or its allies, and used in combat, combat support, combat service support, tactical or relief operations, or training for such operations. Examples include, but are not limited to, internal combustion engines associated with portable generators, aircraft start carts, heaters and lighting carts.

(vv) "**Third-party Rental**" means a non-rental business renting or leasing registered engines and/or equipment units to another party by written agreement.

~~(ww) "**Tier 1 Engine**" means a certified compression-ignition nonroad engine according to the horsepower and model year as follows:~~

~~≥50 bhp and <100 bhp; 1998 through 2003~~
~~≥100 bhp and <175 bhp; 1997 through 2002~~
~~≥175 bhp and <300 bhp; 1996 through 2002~~
~~≥300 bhp and <600 bhp; 1996 through 2000~~
~~≥600 bhp and ≤750 bhp; 1996 through 2001~~
~~>750 bhp; 2000 through 2005.~~

~~(xx) "**Tier 2 Engine**" means a certified compression-ignition nonroad engine according to the horsepower and model year as follows:~~

~~≥50 bhp and <100 bhp; 2004 through 2007~~
~~≥100 bhp and <175 bhp; 2003 through 2006~~
~~≥175 bhp and <300 bhp; 2003 through 2005~~
~~≥300 bhp and <600 bhp; 2001 through 2005~~
~~≥600 bhp and ≤750 bhp; 2002 through 2005~~
~~>750 bhp; 2006 through 2010.~~

(~~yy~~ww) "**Transportable**" means the same as portable.

(~~zz~~xx) "**U.S. EPA**" means the United States Environmental Protection Agency.

~~(aaa) "Vendor" means a seller or supplier of portable engines or equipment units for use in California.~~

(~~bbb~~yy) "**Volatile Organic Compound (VOC)**" means any compound containing at least one atom of carbon except for the following exempt compounds: acetone, ethane, parachlorobenzotrifluoride (1-chloro-4-trifluoromethyl benzene), methane, carbon monoxide, carbon dioxide, carbonic acid, metallic carbides or carbonates, ammonium carbonates, methylene chloride (dichloromethane), methyl chloroform (1,1,1-trichloroethane), CFC-113 (trichlorotrifluoroethane), CFC-11 (trichlorofluoromethane), CFC-12 (dichlorodifluoromethane), CFC-22 (chlorodifluoromethane), CFC-23 (trifluoromethane), CFC-114 (dichlorotetrafluoroethane), CFC-115 (chloropentafluoroethane), HCFC-123 (dichlorotrifluoroethane), HFC-134a (tetrafluoroethane), HCFC-141b (dichlorofluoroethane), HCFC-142b (chlorodifluoroethane), HCFC-124 (chlorotetrafluoroethane), HFC-23 (trifluoromethane), HFC-134 (tetrafluoroethane), HFC-125 (pentafluoroethane), HFC-143a (trifluoroethane), HFC-152a (difluoroethane), cyclic, branched, or linear completely methylated siloxanes, the following classes of perfluorocarbons:

(1) cyclic, branched, or linear, completely fluorinated alkanes;
(2) cyclic, branched, or linear, completely fluorinated ethers with no unsaturations;
(3) cyclic, branched, or linear, completely fluorinated tertiary amines with no unsaturations; and
(4) sulfur-containing perfluorocarbons with no unsaturations and with the sulfur bonds to carbon and fluorine, acetone, ethane, and parachlorobenzotrifluoride (1-chloro-4-trifluoromethyl benzene).

(zz) "**Water Well Drilling Rig**" means the same as "Two-Engine Water Well Drilling Rig" defined in title 13, Cal. Code Regs., section 2449(c)(60).

NOTE: Authority cited: Sections 39600, 39601, 41752, 41753, 41754, 41755, 43013(b) and 43018, Health and Safety Code. Reference: Sections 41750, 41751, 41752, 41753, 41754, and 41755, Health and Safety Code.

## § 2453. Application Process.

(a) In order for an engine or equipment unit to be considered for registration by the Executive Officer, the engine or equipment unit must be portable as defined in section 2452 (dd) and meet all applicable requirements established in this article.

(b) For purposes of registration under this article, an engine and the equipment unit it serves are considered to be separate emissions units and require separate applications.

(c) For an identical replacement, an owner or operator of a registered portable engine or equipment unit is not required to complete a new application and may immediately operate the identical replacement. Except for TSE, the owner or operator shall notify the Executive Officer in writing within five calendar days of replacing the registered engine or equipment unit with an identical replacement. Notification shall include company name, responsible official, phone number, registration certificate number of the engine or equipment unit to be replaced; and make, model, rated brake horsepower, serial number of the identical replacement, description of the mechanical breakdown; and applicable fees as required in section 2461. Misrepresentation of engine or equipment unit information or the failure to meet the requirements of this regulation shall be deemed a violation of this article.

(d) The Executive Officer shall inform the applicant, in writing, if the application is complete or deficient, within 30 days of receipt of an application. If deemed deficient, the Executive Officer shall identify the specific information required to make the application complete.

(e) The Executive Officer shall issue or deny registration within 90 days of receipt of a complete application.

(f) Upon finding that an engine or equipment unit meets the requirements of this article, the Executive Officer shall issue a registration for the engine or equipment unit. The Executive Officer shall notify the applicant in writing or electronic notification that the engine or equipment unit has been registered. The written or electronic notification shall include a registration certificate~~,~~ and any conditions to ensure compliance with State and federal requirements~~,~~. For electronic notification, the applicant shall submit an agreement with the application to accept electronic notification in lieu of written notification. In addition, ~~and~~ a registration identification device shall be mailed by the Executive Officer for each engine or equipment unit registered pursuant to this regulation. Except for TSE, the registration identification device shall be affixed on the engine or equipment unit at all times, and the registration certificate including operating conditions shall be kept on the immediate premises with the engine or equipment at all times and made accessible to the Executive Officer or district upon request. Failure to properly maintain the registration identification device shall be deemed a violation of this article.

(g) Except for TSE, each application for registration and the appropriate fee(s) as specified in section 2461, shall be submitted in a format approved by the Executive Officer and include, at a minimum, the following information:

(1) indication of general nature of business (e.g., rental business, etc.);
(2) the name of applicant, including mailing address, email address, and telephone number;
(3) a brief description of typical engine or equipment~~-~~ unit use;

(4) detailed description, including engine or equipment~~-~~ unit make, model, manufacture year (for portable engines only), rated brake horsepower, throughput, capacity, emission control equipment, and serial number;
(5) necessary engineering data, emissions test data, or manufacturer's emissions data to demonstrate compliance with the requirements as specified in sections 2455, 2456, and 2457;
(6) for owners of water well drilling rigs, a copy of a current, valid C-57 water well drilling contractors license;
(~~6~~7) for resident engines, a copy of either a current permit to operate that was granted by a district, or documentation as described in section 2452 (mm); and
(~~7~~8) the printed name and written or electronic signature of the responsible official and date of the signature.

(h) For TSE, application for registration and the appropriate fee(s) as specified in section 2461, shall be submitted in a format approved by the Executive Officer and include, at a minimum, the following information:
(1) the name of applicant, including mailing address, email address, and telephone number;
(2) a brief description of typical engine ~~or equipment unit~~ use;
(3) engine or equipment~~-~~ unit description, including type and rated brake horsepower; and
(4) the printed name and written or electronic signature of the responsible official and date of the signature.

(i) All registered engines and equipment units shall have a designated home district as defined in section 2452 (o) according to the following:

(1) ~~O~~owners holding valid registration(s) prior to the effective date shall designate in writing to the Executive Officer a home district within 90 days of the effective date of this regulation. The Executive Officer shall designate the home district for any and all registered engines and equipment units for existing registration program participants that fail to designate a home district;
(2) a home district shall be designated on each application for initial registration of an engine or equipment unit; and
(3) except for registered engines or equipment units owned by a rental business or involved in a third party rental, if the engine or equipment unit, based ~~on averaging of annual operation in each district from the three annual reports submitted during the 3 year registration cycle~~ operational and/or location records as required by 2458(a) or the annual report as required 2458(g) for the calendar year prior to renewal, operated the largest percentage of the time in a district other than the designated home district, the owner shall change the home district designation at the time of renewal. The change is not required if the difference between the home district operation percentage and the district with the largest operating percentage is 5 percent or less.

(j) Engines or equipment units owned and operated for the primary purpose of rental by a rental business shall be identified as rental at the time of application for registration and shall be issued a registration specific to the rental business requirements of this article. Misrepresentation of portable engine or equipment unit use in an attempt to qualify under the rental business definition shall be deemed a violation of this article.

(k) New applications for non-operational engines or equipment units will not be accepted by the Executive Officer.

(l) Once registration is issued by the Executive Officer, district permits or district registrations for engines or equipment units registered in the Statewide Registration Program are preempted by the statewide registration and are, therefore, considered null and void, except for the following circumstances where a district permit shall be required:

(1) engines or equipment units used in a project(s) operating in the OCS. The requirements of the district permit or registration apply to the registered engine or equipment unit while operating at the project(s) in the OCS; or
(2) engines or equipment units used in a project(s) operating in both the OCS and STW. The requirements of the district permit or registration apply to the registered engine or equipment unit while operating at the project(s) in the OCS and STW; or
(3) at STW project(s) that trigger district emission offset thresholds; or
(4) at any specific location where statewide registration is not valid. The owner of the engine or equipment unit shall obtain a district permit or registration for the location(s) where the statewide registration is not valid; or
(5) at any location where an engine or equipment unit that has been determined to cause a public nuisance as defined in Health and Safety Code Section 41700.

Under no circumstances shall a portable engine or equipment unit be operated under both statewide registration and a district permit at any specific location. Where both a district permit for operation at a specific location and statewide registration have been issued for an engine or equipment unit, the terms of the district permit shall take precedence at that location.

(m) When ownership of a registered engine or equipment unit changes, the new owner shall submit a change of ownership application. This application shall be filed within 30 days of the change of ownership. During the 30 day period the new owner is authorized to operate the registered engine or equipment unit. If an application is not received within 30 days, the engine or equipment unit may not operate and the existing registration is not valid for the new owner until the application has been filed and all applicable fees have been paid. Registration will be reissued to the new owner after a complete application has been approved by the Executive Officer.

(n) Except for TSE, a placard shall be required for every engine or equipment unit registered in the Statewide Registration Program. The placard shall be affixed on the registered engine or equipment unit at all times so that it may be easily viewed from a distance. Placards shall be purchased at the time of the first renewal or at the time of initial registration, which ever occurs first. Failure to properly maintain the placard shall be deemed a violation of this article.

NOTE: Authority cited: Sections 39600, 39601, 41752, 41753, 41754, 41755, 43013(b) and 43018, Health and Safety Code. Reference: Sections 41750, 41751, 41752, 41753, 41754, and 41755, Health and Safety Code.

**§ 2454. Registration Process.**

(a) The Executive Officer shall make registration data available to the districts via the Internet.

(b) The Executive Officer may conduct an inspection of an engine or equipment unit and/or require a source test in order to verify compliance with the requirements of this article prior to issuance of registration.

(c) After obtaining registration in accordance with this article, an owner or operator of the registered engines or equipment units:

(1) shall comply with all conditions set forth in the issued registration. Failure to comply with such conditions shall be deemed a violation of this article; and

(2) may operate within the boundaries of the State of California so long as such registered engines or equipment units comply with all applicable requirements of this article and any other applicable federal or State law.

(d) Districts shall provide the Executive Officer with written reports or electronic submittals via the Internet, describing any inspections and the nature and outcome of any violation of local, State or federal laws by the owner or operator of registered engines or equipment units. The Executive Officer shall make available to all districts such information via the Internet.

NOTE: Authority cited: Sections 39600, 39601, 41752, 41753, 41754, 41755, 43013(b) and 43018, Health and Safety Code. Reference: Sections 41750, 41751, 41752, 41753, 41754, and 41755, Health and Safety Code.

**§ 2455. General Requirements.**

(a) The emissions from engines or equipment units registered under this article shall not, in the aggregate, interfere with the attainment or maintenance of any California or federal ambient air quality standard. The emissions from one or more registered engines or equipment units, exclusive of background concentration, shall not cause an exceedance of any ambient air quality standard. This paragraph shall not be construed as requiring operators of

registered engines or equipment units to provide emission offsets for engines or equipment units registered under this article.

(b) Engines or equipment units registered under this article shall comply with article 1, chapter 3, part 4, division 26 of the California Health and Safety Code, commencing with section 41700.

(c) Except for engines or equipment units permitted or registered by a district in which an emergency event occurs, an engine or equipment unit operated during an emergency event as defined in section 2452 (j) of this article, is considered registered under the requirements of this article for the duration of the emergency event and is exempt from sections 2455, 2456, 2457, 2458, and 2459 of this article for the duration of the emergency event provided the owner or operator notifies the Executive Officer within 24 hours of commencing operation. The Executive Officer may for good cause refute that an emergency event under this provision exists. If the Executive Officer deems that an emergency event does not exist, all operation of engines and equipment units covered by this provision shall cease operation immediately upon notification by the Executive Officer. Misrepresentation of an emergency event and failure to cease operation under notice of the Executive Officer shall be deemed a violation of this article.

(d) For the purposes of registration under this article, the owner or operator of a registered equipment unit must notify the U.S. EPA and comply with 40 CFR 52.21 if:

(1) the registered equipment unit operates at a major stationary source under 40 CFR 51.166 or 52.21, and

(A) the major stationary source is located within 10 kilometers of a Class I area; or

(B) the registered equipment unit, operating in conjunction with other registered equipment units, operates at the major stationary source and its operation would be defined as a major modification to the stationary source under 40 CFR 51.166 or 52.21; or

(2) the registered equipment unit, operating in conjunction with other registered equipment units, would be defined as a major stationary source, as defined under 40 CFR 51.166 or 52.21.

NOTE: Authority cited: Sections 39600, 39601, 41752, 41753, 41754, 41755, 43013(b) and 43018, Health and Safety Code. Reference: Sections 41750, 41751, 41752, 41753, 41754, and 41755, Health and Safety Code.

**§ 2456. Engine Requirements.**

(a) For TSE, no air contaminant shall be discharged into the atmosphere, other than uncombined water vapor, for a period or periods aggregating more than three minutes in any one hour which is as dark or darker in shade as that designated as No. 2 on the Ringelmann Chart, as published by the United States Bureau of

Mines, or of such opacity as to obscure an observer's view to a degree equal to or greater than does smoke designated as No. 2 on the Ringelmann Chart. No other requirements of this section are applicable to TSE.

(b) Registered diesel pile-driving hammers shall comply with the applicable provisions of section 41701.5 of the California Health and Safety Code and are otherwise exempt from further requirements of this section.

(c) Registered diesel engines used on a crane shall comply with the applicable requirements in title 13, ~~CCR~~ Cal. Code Regs., section 2449 and are otherwise exempt from further requirements of this section, except for subsection (f)(5).

(d) Registered diesel engines used on a street sweeper that are not subject to the requirements of title 13, ~~CCR~~ Cal. Code Regs., section 2022 shall comply with the applicable requirements in title 13, ~~CCR~~ Cal. Code Regs., section 2025 and are otherwise exempt from further requirements of this section, except for subsection (f)(5).

(e) To be registered in the Statewide Registration Program, a registered engine rated less than 50 brake horsepower shall be a certified compression-ignition engine or a certified spark-ignition engine, unless no emission standards exist for that brake horsepower and year of manufacture. In that event, the engine shall comply with the applicable daily and annual emission limits contained in section 2456 (f)(6) of this article. No other requirements of this section are applicable to portable engines rated less than 50 brake horsepower.

(f) ~~After January 1, 2006, e~~Engines rated equal to, or greater than 50 bhp registered under this article shall:

(1) be certified compression-ignition engines or certified spark-ignition engines that meet the most stringent emissions standard in effect for the applicable horsepower range at the time the application for initial registration is submitted by the responsible official. Spark-ignition engines that are not certified spark-ignition engines may be registered if they meet the emission standards in Table 1. Subsection (f)(1) does not apply to certified compression-ignition engines built under the flexibility provisions listed in 40 CFR Part 89.102, engines that are resident engines, changes of ownership, or engines that meet the requirements of title 17, ~~CCR~~ Cal. Code Regs., sections 93116.3(b)(~~7~~5) or 93116.3.1.

(2) meet all applicable requirements in title 17, ~~CCR~~ Cal. Code Regs., sections 93116 through 93116.5, except that engines used on vessels as defined in title 17 Cal. Code Regs. section 93118.5(d)(84) shall meet the applicable requirements of title 17 Cal. Code Regs., section 93118.5;

(3) use only fuels meeting the standards for California motor vehicle fuels as set forth in chapter 5, division 3, title 13, ~~CCR~~ Cal. Code Regs., commencing with section 2250, or other fuels and/or additives that have been verified through the Verification Procedure for In-Use Strategies to Control Emissions from Diesel Engines;

(4) not exceed particulate matter emissions concentration of 0.1 grain per standard dry cubic feet corrected to 12 percent $CO_2$. This provision does not apply to certified compression-ignition engines, certified spark-ignition engines, or any spark-ignition engine meeting Table 1 requirements;

(5) not discharge air contaminants into the atmosphere for a period or periods aggregating more than three minutes in any one hour which is as dark as or darker than Ringelmann 1 or equivalent 20 percent opacity; and

(6) not exceed the following emission limits:

(A) 550 pounds per day per engine of carbon monoxide (CO);

(B) 150 pounds per day per engine of particulate matter less than 10 microns ($PM_{10}$);

(C) for registered engines operating onshore, 10 tons for each-pollutant per district per year per engine for NOx, SOx, VOC, $PM_{10}$, and CO in nonattainment areas; and

(D) for registered engines operating within STW:

(1) the offset requirements of the corresponding onshore district apply. Authorization from the corresponding onshore district is required prior to operating within STW. If authorization is in the form of a current district permit, the terms and conditions of the district permit supersede the requirements of the statewide registration for the project, except that the most stringent of the technology and emission concentration limits required by the district permit or statewide registration are applicable. If the registered engine does not have a current district permit, the terms and conditions of the statewide registration apply, and the corresponding onshore district may require offsets pursuant to district rules and regulations. The requirement for district offsets shall not apply to the owner or operator of an engine(s) registered in the statewide registration program when the engine(s) is operated at a stationary source permitted by the district; and

(2) the corresponding onshore district may perform an ambient air quality impact analysis (AQIA) for the proposed project prior to granting authorization. The owner or operator of engine(s) registered in the statewide registration program shall be required, at the request of the district, to submit any information deemed by the district to be necessary for performing the AQIA. Statewide registration shall not be valid at any location where the AQIA demonstrates a potential violation of an ambient air quality standard.

(E) for registered engines operating in the South Coast Air Quality Management District (SCAQMD), 100 pounds nitrogen oxides (NOx) per project per day [An owner may substitute SCAQMD permit or registration limits in effect on or before September 17, 1997 (optional)];

(F) 100 pounds NOx per registered engine per day, except in SCAQMD where the limit is 100 pounds NOx per project per day.

(7) In lieu of (6)(E) and (6)(F) above, operation of a registered new nonroad engine rated at 750 brake horsepower or greater for which a federal or California standard pursuant to 40 CFR Part 89 or title 13, ~~CCR~~ Cal. Code Regs. has not yet become effective, shall not exceed 12 hours per day.

(8) For registered engines that operate in both STW and onshore, the 10 tons per district per year per engine limit in (6)(C) above shall only apply onshore.

(9) For certified compression-ignition engines, certified spark-ignition engines, or any spark-ignition engine meeting Table 1 requirements, the daily and annual emission limitations in section 6 above shall not apply.

(10) Effective January 1, 2010, all registered spark-ignition engines rated at 50 brake horsepower or greater shall be certified spark-ignition engines or shall meet Table 1 requirements. ~~For those spark-ignition engines that are not certified spark-ignition engines or do not meet Table 1 requirements, the registration shall expire on December 31, 2009 and the engine will not be allowed to operate under the authority of this regulation.~~

(11) Notwithstanding the requirements of 2456(f)(10), any company, public agency, or military base with no more than 25 total portable engines may choose to select specific registered spark-ignition engines to operate until December 31, 2010. The selections shall be submitted to the Executive Officer no later than May 31, 2010, and are subject to the requirements below:

(A) one spark-ignition engine shall be selected with no restriction for maximum rated horsepower; or

(B) no more than five spark-ignition engines shall be selected not to exceed 500 cumulative brake horsepower for the selected engines.

(C) If an owner has selected one uncertified compression-ignition engines per title 17 Cal. Code Regs. section 93116.3(b)(1)(C)(2), then subsection 2456(f)(11)(A) shall not be used.

(D) If an owner has selected less than five uncertified compression-ignition engines per title 17 Cal. Code Regs. section 93116.3(b)(1)(C)(3), then the combined total of selected spark-ignition engines and compression-ignition engines shall not exceed five engines with a cumulative size of 500 brake horsepower.

(g) All registered engines shall be equipped with a functioning non-resettable hour meter, fuel meter or other operation tracking device approved by the Executive Officer. ~~Engines registered prior to the effective date of this regulation, that are not equipped with a functional non-resettable hour meter, fuel meter or other operation tracking device shall install one and notify ARB in writing within 6 months of the effective date of this regulation.~~

(h) Registered TSE is exempt from district New Source Review and Title V programs, including any offset requirements. Further, emissions from registered TSE shall not be included in Title V or New Source Review applicability determinations.

(i) Registered diesel engines used on a water well drilling rig shall comply with the applicable requirements in title 13, Cal. Code Regs., section 2449 and are otherwise exempt from further requirements of this section, except for subsection (f)(5).

NOTE: Authority cited: Sections 39600, 39601, 41752, 41753, 41754, 41755, 43013(b) and 43018, Health and Safety Code. Reference: Sections 41750, 41751, 41752, 41753, 41754, and 41755, Health and Safety Code.

Table 1 Spark-ignition Engine Requirements*

| *Pollutant Emission Limits* | | |
|---|---|---|
| ***NOx*** | ***VOC*** | ***CO*** |
| 80 ppmdv NOx<br>(1.5 g/bhp-hr) | 240 ppmdv VOC<br>(1.5 g/bhp-hr) | 176 ppmdv CO<br>(2.0 g/bhp-hr) |

* These requirements are in addition to requirements of section 2455 and 2456.

** For the purpose of compliance with this article, ppmdv is parts per million @ 15 percent oxygen averaged over 15 consecutive minutes. Limits of ppmdv are the approximate equivalent to the stated grams per brake horsepower hour limit based on assuming the engine is 24.2 percent efficient.

**§ 2457. Requirements for Registered Equipment Units.**

(a) Emissions from a registered equipment unit, exclusive of emissions emitted directly from the associated portable engine, shall not exceed:

(1) 10 tons per year per district of $PM_{10}$; and
(2) 82 pounds per project per day of $PM_{10}$.
(3) For registered equipment units that operate within STW and onshore, emissions released while operating both in STW and onshore shall be included toward the 10 tons per year limit.

(b) Registered equipment units shall also meet the following applicable requirements:

(1) Confined abrasive blasting operations:

(A) no air contaminant shall be discharged into the atmosphere for a period or periods aggregating more than three minutes in any one hour which is as dark as or darker than Ringelmann 1 or equivalent 20 percent opacity;
(B) the particulate matter emissions shall be controlled using a fabric or cartridge filter dust collector;

(C) as a part of application for registration, the applicant shall provide manufacturer's specifications or engineering data to demonstrate a minimum particulate matter control of 99 percent for the dust collection equipment;
(D) except for vent filters, each fabric dust collector shall be equipped with an operational pressure differential gauge to measure the pressure drop across the filters; and
(E) there shall be no visible emissions beyond the property line on which the equipment is being operated.

(2) Concrete batch plants:

(A) all dry material transfer points shall be ducted through a fabric or cartridge type filter dust collector, unless there are no visible emissions from the transfer point;
(B) all cement storage silos shall be equipped with fabric or cartridge type vent filters;
(C) the silo vent filters shall be maintained in proper operating condition;
(D) no air contaminant shall be discharged into the atmosphere for a period or periods aggregating more than three minutes in any one hour which is as dark as or darker than Ringelmann 1 or equivalent 20 percent opacity;
(E) open areas and all roads subject to vehicular traffic shall be paved, watered, or chemical palliatives applied to prevent fugitive emissions in excess of 20 percent opacity or Ringelmann 1;
(F) silo service hatches shall be dust-tight;
(G) as a part of application for registration, the applicant shall provide manufacturer's specifications or engineering data to demonstrate a minimum particulate matter control of 99 percent for the fabric dust collection equipment;
(H) except for vent filters, each fabric dust collector shall be equipped with an operational pressure differential gauge to measure the pressure drop across the filters;
(I) all aggregate transfer points shall be equipped with a wet suppression system to control fugitive particulate emissions unless there are no visible emissions;
(J) all conveyors shall be covered, unless the material being transferred results in no visible emissions;
(K) wet suppression shall be used on all stockpiled material to control fugitive particulate emissions, unless the stockpiled material results in no visible emissions; and
(L) there shall be no visible emissions beyond the property line on which the equipment is being operated.

(3) Sand and gravel screening, rock crushing, and pavement crushing and recycling operations:

(A) no air contaminant shall be discharged into the atmosphere for a period or periods aggregating more than three minutes in any one hour which is as dark as or darker than Ringelmann 1 or equivalent 20 percent opacity;

(B) there shall be no visible emissions beyond the property line on which the equipment is being operated;

(C) all transfer points shall be ducted through a fabric or cartridge type filter dust collector, or shall be equipped with a wet suppression system maintaining a minimum moisture content unless there are no visible emissions;

(D) particulate matter emissions from each crusher shall be ducted through a fabric dust collector, or shall be equipped with a wet suppression system which maintains a minimum moisture content to ensure there are no visible emissions;

(E) all conveyors shall be covered, unless the material being transferred results in no visible emissions;

(F) all stockpiled material shall be maintained at a minimum moisture content unless the stockpiled material results in no visible emissions;

(G) as a part of application for registration, the applicant shall provide manufacturer's specifications or engineering data to demonstrate a minimum particulate matter control of 99 percent for the fabric dust collection equipment;

(H) except for vent filters, each fabric dust collector shall be equipped with an operational pressure differential gauge to measure the pressure drop across the filters;

(I) open areas and all roads subject to vehicular traffic shall be paved, watered, or chemical palliatives applied to prevent fugitive emissions in excess of 20 percent opacity or Ringelmann 1; and

(J) if applicable, the operation shall comply with the requirements of 40 CFR Part 60 Subpart OOO.

(4) Unconfined abrasive blasting operations:

(A) no air contaminant shall be discharged into the atmosphere for a period or periods aggregating more than three minutes in any one hour which is as dark as or darker than Ringelmann 2 or equivalent 40 percent opacity;

(B) only California Air Resources Board-certified abrasive blasting material shall be used [Note: see title 17, ~~CCR~~ Cal. Code Regs., section 92530 for certified abrasives.];

(C) the abrasive material shall not be reused;

(D) no air contaminant shall be released into the atmosphere which causes a public nuisance;

(E) all applicable requirements of title 17, ~~CCR~~ Cal. Code Regs. shall also apply; and

(F) there shall be no visible emissions beyond the property line on which the equipment is being operated.

(5) Tub grinders and trommel screens:

(A) there shall be no visible emissions beyond the property line on which the equipment is being operated;
(B) no air contaminant shall be discharged into the atmosphere for a period or periods aggregating more than three minutes in any one hour which is as dark or darker than Ringelmann 1 or equivalent 20 percent opacity; and
(C) water suppression or chemical palliatives shall be used to control fugitive particulate emissions from the tub grinder whenever the tub grinder is in operation, unless there are no visible emissions.

(c) Registered equipment units not described in section 2457(b) above, shall be subject to the most stringent district Best Available Control Technology (BACT) requirements in effect for that category of source at the time of application for registration.

(d) No change in equipment unit configuration, operating scenario, or number of transfer points from that set out in the registration for the equipment unit shall be made unless a complete application for modification has been filed and approved by the Executive Officer prior to operation.

(e) Registration is not valid for any equipment unit operating at a location if by virtue of the activity to be performed hazardous air pollutants will be emitted (e.g., rock crushing plant operating in a serpentine quarry). [Note: The equipment unit would be subject to the requirements of the district in which the equipment unit is operated.]

NOTE: Authority cited: Sections 39600, 39601, 41752, 41753, 41754, 41755, 43013(b) and 43018, Health and Safety Code. Reference: Sections 41750, 41751, 41752, 41753, 41754, and 41755, Health and Safety Code.

**§ 2458. Recordkeeping and Reporting.**

(a) Except for registered engines owned by a rental business, used in a third-party rental, <u>certified compression-ignition engines and certified spark-ignition engines</u> operated by a PEPS, used on a crane, used on a street sweeper, <u>used on a water well drilling rig,</u> or TSE, the owner <u>or operator</u> of registered engines <u>or equipment units</u>, including engines otherwise preempted under section 209 (e) of the federal Clean Air Act, ~~or registered equipment units~~ shall maintain records of operation of each registered engine and equipment unit. ~~Recordkeeping for engines not previously required to maintain records shall begin upon the effective date of the regulation or January 1, 2007, which ever is later. For engines not previously required to have an hour meter, fuel meter or other device approved by the Executive Officer, the owner or operator shall record hours of operation until the hour meter, fuel meter or other device approved by the Executive Officer has been installed.~~ The records shall be maintained at a central place of

business for five years, and made accessible to the Executive Officer or districts upon request. Records shall ~~be maintained in a format approved by the Executive Officer and~~ include, at a minimum, all of the following:

(1) engine or equipment unit registration number;

~~(2) recordings from an hour meter, fuel meter, or other device approved by the Executive Officer, and the corresponding dates of the recordings for each registered engine or equipment unit based on the following:~~

~~(A) for each project as defined in 2452 (gg) or (hh), readings shall be recorded prior to the commencement of operation and at the completion of the project; or~~

~~(B) for ongoing operation of a registered engine or equipment unit at multiple locations within a stationary source, readings shall be recorded at the beginning and end of each calendar week; or~~

~~(C) for each location, readings shall be recorded prior to commencement of operation and upon completion of operation at that location.~~

(3~~2~~) For registered engines and equipment units subject to a daily and/or annual operational limitation, daily or annual records as appropriate of either hours of operation, fuel usage, or process throughput as applicable.

(4~~3~~) For equipment units subject to the requirements of section 2457(b)(3), daily throughput shall be the sum of measurements of material introduced into the equipment unit by weight. These measurements shall be taken at the initial loading point(s) of the equipment unit.

~~(5) recordings from an hour meter, fuel meter, or other device approved by the Executive Officer and the corresponding dates of the recordings any time an engine or equipment unit is undergoing service, repair, or maintenance; and~~

~~(6) for each start and stop reading specified in (2) and (3) above, the location where the registered engine or equipment is located identified by district, county, or other indicator (i.e., street address, UTM coordinates, etc.)~~

(4) Except for certified engines, the specific location where the registered engine or equipment unit is located (i.e. street address and city, county and UTM coordinates, or other location indicator) shall be recorded each time the engine or equipment unit is brought to a new location. The date the engine or equipment unit was placed at the new location shall also be recorded.

(5) For certified engines, the specific location where the registered engine is located (i.e. street address and city, county and UTM coordinates, or other location indicator) shall be recorded no less than once a month.

(b) A rental business or the owner of a registered engine or equipment unit involved in a third party rental~~,~~ shall maintain records for each rental or lease transaction. The written rental or lease agreement, or other equivalent document as approved by the Executive Officer shall be kept onsite with the registered engine or equipment unit at all times. ~~Recordkeeping for registered engines not previously required to maintain records shall begin upon the effective date of the regulation~~

~~or January 1, 2007, which ever is later. For registered engines not previously required to have an hour meter, fuel meter or other device approved by the Executive Officer, the owner or operator shall record hours of operation until the hour meter, fuel meter or other device approved by the Executive Officer has been installed.~~ The owner shall provide each person who rents a registered engine or equipment unit with a written copy of applicable requirements of this article, including recordkeeping and notification requirements, as a part of the agreement. The records, including written acknowledgment by each renter of the registered engine or equipment unit of having received the above information, shall be maintained by the rental business or the owner of the registered engine or equipment unit involved in a third-party rental at a central location for five years, and made accessible to the Executive Officer or districts upon request. Records for each rental equipment unit shall be kept according to section 2458(a). Records shall ~~be maintained in a format approved by the Executive Officer and~~ include, at a minimum, for each rental engine all of the following:

(1) registered engine registration number;
(2) dates for the start and end of the rental transaction;
(3) For registered engines, hours of operation for each rental period including the hour meter reading at the start of the rental transaction and the hour meter reading at the end of the rental transaction; and
~~(4) location of use (by district, county or other indicator (i.e., street address, UTM coordinates, etc.)).~~
(4) The specific location where the registered engine is located while out on rent identified by street address and city, county and UTM coordinates, or other location indicator shall be recorded no less than once a month

(c) For TSE, each military installation shall provide the Executive Officer an annual report, in a format approved by the Executive Officer, within 60 days after the end of each calendar year. The report shall include the number, type, and rating of registered TSE at each installation as of December 31 of that calendar year, and be accompanied by the applicable fees pursuant to section 2461. Any variation of registered TSE to actual TSE shall be accounted for in this annual report, and the Executive Officer shall issue an updated TSE list accordingly. A renewal registration will be issued with the updated TSE list every three years according to expiration date.

(d) For each registered engine subject to the requirements of title 17, Cal. Code Regs., section 93116, the owner shall keep records and submit reports in accordance with title 17, ~~CCR~~ Cal. Code Regs., section 93116.4.

(e) Except for registered certified compression-ignition and certified spark-ignition engines, engines used on a crane, engines used on a street sweeper, engines used on a water well drilling rig, or TSE, the owner of a registered engine or equipment unit shall provide the Executive Officer an annual report signed by the responsible official, in a format approved by the Executive Officer, by March 1 of each calendar year containing all of the following information:

(1) the reporting year;

(2) the registration number of each registered engine and/or equipment unit;
(3) for registered engines, quarterly summaries for each district or county the total fuel usage in gallons per quarter, or total hours of operation per quarter, for each registered engine; and
(4) for registered equipment units, quarterly summaries for each district or county in which the registered equipment unit was operated and the total process weight or throughput.

(f) The owner of a registered engine ~~or equipment unit~~ owned by a rental business or used in a third-party rental transaction shall provide the Executive Officer an annual report signed by the responsible official, in a format approved by the Executive Officer, by March 1 of each calendar year containing all of the following information:

(1) the reporting year;
(2) the registration number of each registered engine ~~and/or equipment unit~~;
(3) total hours of operation for the reporting year for each registered engine based on, and including, beginning and ending annual hour meter readings and dates upon which the total hours of annual operation calculation is based;
~~(4) list of all counties in which the registered engine operated in during the reporting year as reported by the entity(ies) that operated the registered engine;~~
~~(5) estimate of the percentage of total hours for each engine operated in each of the counties identified in (4) above; and~~
~~(6) for registered equipment units, quarterly and annual summaries for each district or county in which the registered equipment unit was operated and the total process weight or throughput.~~

(g) the owner or operator of a registered engine or equipment unit used by a PEPS shall provide the Executive Officer an annual report, in a format approved by the Executive Officer, by March 1st of each calendar year containing all of the following information:

(1) the reporting year;
(2) the registration number of each registered engine and/or equipment unit;
(3) for registered engines, the total annual hours of operation; and
(4) for registered equipment units, the total annual process throughput. ~~estimate of the percentage of hours or fuel usage for the three counties in which the registered engine or equipment unit operated the most.~~
(5) an estimate of the percentage of time spent in the three counties in which the registered engine or equipment unit operated the most.

(h) Records requests made by a district or Executive Officer shall be made to the responsible official. The responsible official shall provide the requested records within 30 days from receipt of the request. Failure to provide the records by the specified date shall be deemed a violation of this article.

(i) Each district shall provide the Executive Officer with an annual report, in a format approved by the Executive Officer, by March 31 following the year in which the information was collected containing all of the following information:

(1) the number of portable engines and equipment units inspected;
(2) the number of portable engines and/or equipment units found operating without valid district permits or statewide registrations;
(3) the number of registered engines and equipment units inspected; and
(4) summary of results of inspections.

~~(j) Vendors selling new portable engines and/or equipment units in California shall:~~

~~(1) notify the buyer about this regulation; and~~
~~(2) on a monthly basis submit to the Executive Officer the number of portable engines and/or portable equipment units sold by the vendor for use in California including: the name, address, and contact information of the purchaser, and description of the engine and/or equipment unit including make, model, and engine family name.~~

(k~~j~~) Registered diesel engines used on a crane shall comply with the applicable requirements in title 13, ~~CCR~~ Cal. Code Regs., section 2449 and are otherwise exempt from the requirements of this section.

(l~~k~~) Registered diesel engines used on a street sweeper ~~sweeper~~ that are not subject to the requirements of title 13, ~~CCR~~ Cal. Code Regs., section 2022 shall comply with the applicable requirements in title 13, ~~CCR~~ Cal. Code Regs., section 2025 and are otherwise exempt from the requirements of this section.

(l) Registered diesel engines used on a water well drilling rig shall comply with the applicable requirements in title 13, Cal. Code Regs., section 2449 and are otherwise exempt from the requirements of this section.

NOTE: Authority cited: Sections 39600, 39601, 41752, 41753, 41754, 41755, 43013(b) and 43018, Health and Safety Code. Reference: Sections 41750, 41751, 41752, 41753, 41754, and 41755, Health and Safety Code.

**§ 2459. Notification.**

(a) Except as listed in subsection (d) of this section, if a registered equipment unit will be at a location for more than five days, the owner or operator of that registered equipment unit, shall notify the district in writing in a format approved by the Executive Officer, within two working days of commencing operations in that district. If the registered equipment unit is to be moved to different locations within the same district, the owner or operator shall be subject to the notification requirements above, unless the owner or operator and the district, by mutual agreement, arrange alternative notification requirements on a case-by-case basis. The notification shall include all of the following:

(1) the registration number of the registered equipment unit;
(2) the name and phone number of the responsible official or renter with information concerning the locations where the registered equipment unit will be operated within the district; and
(3) estimated time the registered equipment unit will be located in the district.

(b) If the district has not been notified as required in section 2459(a) above, because the owner or operator did not reasonably expect the duration of operation to trigger the notification requirement in section 2459(a) above, the owner or operator shall notify the district, in a format approved by the Executive Officer, within 12 hours of determining the registered equipment unit will be operating at a location more than five days.

(c) Owners and operators of TSE are not subject to the notification requirements of this section 2459.

(d) For STW projects, the owner or operator of a registered engine or registered equipment unit shall notify the corresponding onshore district in writing, in a format approved by the Executive Officer at least 14 days in advance of commencing operations in that district. The notification shall include all of the following:

(1) the registration number of the registered engine or equipment unit;
(2) the name and phone number of the responsible official with information concerning the locations where the registered engine or equipment unit will be operated within the district;
(3) estimated time the registered engine(s) or equipment unit(s) will be located in the district; and
(4) calculations showing the estimation of actual emissions expected for the project.

(e) Except as listed in section 2459(d) above, owners and operators of registered engines are not subject to notification requirements.

(f) The Executive Officer shall make available via the Internet a list of approved notification methods for each district.

(g) Failure to provide the required notifications within the timelines specified in this section shall be deemed a violation of this regulation.

NOTE: Authority cited: Sections 39600, 39601, 41752, 41753, 41754, 41755, 43013(b) and 43018, Health and Safety Code. Reference: Sections 41750, 41751, 41752, 41753, 41754, and 41755, Health and Safety Code.

**§ 2460. Inspections and Testing.**

(a) In determining if a portable engine or equipment unit is eligible for registration, the Executive Officer may inspect the portable engine or equipment unit and/or require a source test, at the owner's expense.

(b) Each district shall inspect all registered engines and equipment units for which the district has been designated as the home district pursuant to section 2453(i) above, as specified below:

(1) Within 45 days after the date of initial issuance or renewal of a registration, the owner or operator shall contact the home district to arrange for inspection of the registered engine or equipment unit to be completed within one year of the initial registration or renewal date. An arranged inspection shall not be required for engines selected for registration extension per 2456(f)(11) or title 17 Cal. Code Regs., section 93116.3(b)(1)(C). If the registered engine or equipment unit shall be operating in a district, other than the home district, the owner or operator may request the home district to arrange for an inspection by that other district.

(2) For portable engines, each home district should conduct no more than 20 percent of the arranged inspections for that district as in-field inspections. All arranged inspections not conducted as in-field inspections shall be conducted as non-field inspections. If a portable engine is found in violation during an in-field inspection, the next arranged inspection for that engine shall be an in-field inspection. This section does not limit the authority of a district to conduct any number of non-arranged in-field or non-field inspections for which no fee is charged.

(3) For registered equipment units operating with registered engines, the owner or operator may not request that the registered engine be inspected at the hourly rate specified in Table ~~3~~2 for equipment unit inspections. Inspection fees for registered engines are to be paid as listed in item 14 in Table ~~3~~2.

(4) Arranged inspections for PEPS engines and registered equipment units shall be non-field inspections unless an in-field inspection is requested by the holder of the registration and a reasonable in-field inspection location is arranged with the appropriate district.

(5) The time for an arranged inspection shall be agreed upon in advance with the district and company preferences regarding time of day shall be accommodated within reason. To the extent that an arranged inspection does not fall within the district's normal workday, the district may charge for the off-hour time based on a fee as specified in Table ~~3~~2.

(6) If an arranged inspection of a registered engine or registered equipment unit does not occur due to unforeseen circumstances, the owner or operator and the home district shall reschedule the arranged inspection no

later than 90 days of the initially scheduled inspection. Any unreasonable actions on the part of the owner or operator that prevents the inspection to occur within the specified time frame shall be deemed a violation of this article. Actions taken by the owner or operator that could be deemed "unreasonable" include, but are not limited to:

(A) failing to respond to the district correspondences or other contracts made to schedule the inspection;
(B) failing to ensure that the registered engine or equipment unit is in operation for arranged "in-field inspections" or where the district has provided advance notification to the owner or operator that the registered engine or equipment unit is required to be observed in operation.

(7) The owner or operator may request the scheduling of one or more arranged inspections for multiple engines in order to qualify for an inspection fee discount as specified in section 2461 (d). Within 45 days of date of initial issuance of registration or by January 30 of each year for renewals, the owner or operator shall submit a letter of intent including an equipment list and registration numbers to the district to arrange for inspection of multiple engines. The inspections shall be completed within one year after the registration renewal date for each engine inspected.

(8) If a registered engine or equipment unit is out of California for one year or more following initial registration or renewal, the engine or equipment unit shall be excused from having the arranged inspection within that period if:

(A) within 45 days after the date of initial issuance or renewal of the registration, the owner or operator submitted a letter to the district noting the registration number of the registered engine or equipment unit and that the engine or unit is out of California for the one-year period; and
(B) upon the return of the registered engine or equipment unit to the State, the owner or operator shall arrange to have the registered engine or equipment unit inspected within 30 days.

(c) After issuance of registration, the Executive Officer or district may at any time conduct an inspection of any registered engine or equipment unit in order to verify compliance with the requirements of this article. The district shall not charge the owner or operator an additional inspection fee for that inspection. Source testing of engines for compliance purposes shall not be required more frequently than once every three years (including testing at the time of registration), except as provided in section 2460 (e), unless evidence of engine tampering, lack of proper engine maintenance, or other problems or operating conditions that could affect engine emissions are identified. In no event shall the Executive Officer or district require source testing of a registered engine for which there is no applicable emission standard, emission limit or other emission related requirement contained in this regulation.

(d) Testing shall be conducted in accordance with the following methods or other methods approved by the Executive Officer:

| | |
|---|---|
| Particulate Matter: | ARB Test Method 5 with probe catch and filter catch only |
| VOC: | ARB Test Method 100 or U.S. EPA Test Method 25A |
| NOx: | ARB Test Method 100 or U.S. EPA Test Method 7E |
| Carbon Monoxide: | ARB Test Method 100 or U.S. EPA Test Method 10 |
| Oxygen: | ARB Test Method 100 or U.S. EPA Test Method 3A |
| Gas Velocity and Flow Rate: | ARB Test Method 1 & 2 or U.S. EPA Test Method 1 & 2 |

(e) Initial or follow-up source testing of engines to verify compliance with the requirements of this regulation shall not be required for certified compression-ignition engines and spark-ignition engines.

(f) The exemption provided in section 2460 (e) shall not apply to source testing of engines for compliance purposes where evidence of engine tampering, lack of proper engine maintenance, or other problems or operating conditions that could affect engine emissions are identified.

NOTE: Authority cited: Sections 39600, 39601, 41752, 41753, 41754, 41755, 43013(b) and 43018, Health and Safety Code. Reference: Sections 41750, 41751, 41752, 41753, 41754, and 41755, Health and Safety Code.

**§ 2461. Fees.**

(a) Except as otherwise set out herein, the Executive Officer shall assess and collect reasonable fees for registration, renewal, and associated administrative tasks, to recover the estimated costs to the Executive Officer for evaluating registration applications, and issuing registration documentation.

(b) Fees shall be due and payable to the Executive Officer at the time an application is filed or as part of any request requiring a fee. Fees are nonrefundable except in circumstances as determined by the Executive Officer.

(c) ~~Except as provided in (k) below, t~~The owner or operator of a registered engine or equipment unit shall submit fees to the Executive Officer and to districts in accordance with Table ~~3~~2.

(d) The Executive Officer shall collect an inspection fee as listed in Table ~~3~~2 one time per every three calendar years for each registered engine to be paid upon initial application and renewal. Except for TSE, when multiple registered engines are inspected at a given source or location, the owner shall receive a discount if the owner or operator intends to arrange multiple engines inspections with the district and complies with the requirements specified in section 2460(b)(7). The discounts shall be applied as follows:

(1) no discount for 1 to 3 engines
(2) 25 percent discount for 4 to 9 engines
(3) 35 percent discount for 10 or more engines

(e) Failure to pay renewal fees when due may result in penalties. If a fee payment is not received or postmarked by the specified due date, fee penalties may be assessed per unit in accordance with Table ~~3~~2. Failure to pay renewal fees prior to expiration may result in cancellation of the registration. If a registration has expired for an engine or equipment unit that is eligible for reactivation, a canceled registration may be reactivated after payment of all renewal and penalty fees. Registration may be reissued under the original registration number and expiration date. A portable engine or equipment unit without valid registration is subject to the rules and regulations of the district in which it operates.

(f) Fees shall be periodically revised by the Executive Officer in accordance with the consumer price index, as published by the United States Bureau of Labor Statistics.

(g) A district may collect a fee for the inspection of a registered equipment unit pursuant to section 2460(b)(3). The district shall bill the owner of the equipment unit at a rate as specified in Table ~~3~~2 of the regulation for actual staff time taken to perform the inspection, not to exceed the amount specified in Table ~~3~~2. Upon receipt of the invoice for the inspection fee, the owner shall have the right to appeal the district's fee determination to the district Air Pollution Control Officer pursuant to the provisions of the district's rules and regulations that govern appeals of fee determinations.

(h) The Executive Officer shall annually distribute district inspection fees collected for that year. General inspection fees will be distributed equally among the districts. Home district inspection fees will be distributed to the corresponding home district.

(i) TSE fees are due at the time of the report pursuant to section 2458(c). Failure to submit the annual report and applicable fees within six calendar months after the end of the year will result in cancellation of the registration. For TSE, if registration is cancelled or allowed to expire, the applicant shall reapply and pay initial registration fees.

(j) The district may collect an inspection fee as listed in Table ~~3~~2 one time per calendar year for each registered TSE inspected. When multiple registered TSE units are inspected at a given source or location, the inspection fee shall be equal to the lesser of the actual cost, including staff time, for conducting the inspection or the fee as listed in Table ~~3~~2 per registered portable engine or equipment unit inspected. If the district performs an inspection leading to determination of non-compliance with this article, or any applicable state or federal requirements, the district may charge a fee as listed in Table ~~3~~2 per portable engine or equipment unit for each inspection necessary for the determination and ultimate resolution of the violation. In no event shall the total fees exceed the actual costs, including staff time, to the district of conducting the investigations and resolving any violations.

(k) Portable engines qualifying for initial registration as resident engines per section 2452(mm)(2) shall use the Table 2 fee schedule. The fees collected subject to this section shall be distributed to the districts, except that $270 dollars per engine for initial registration, and an additional $80 dollars per engine shall be retained by the Air Resources Board to provide for administrative costs. The fees shall be determined as follows:

(1) For tier 1 engines, as defined in section 2452(ww), registration fees will be based on the year listed in Table 2, as determined below:

(A) Where date of purchase can be verified by the Executive Officer, the earlier of:
(1) for engines ≥50 bhp and <100 bhp: year of purchase or 2004;
(2) for engines ≥100 bhp and <300 bhp: year of purchase or 2003;
(3) for engines≥300 bhp and <600 bhp: year of purchase or 2001;
(4) for engines ≥600 bhp and ≤750 bhp: year of purchase or 2002;
(5) for engines >750 bhp: year of purchase or 2006.

(B) Where the date of purchase can not be verified, the model year shall be used.

(2) For tier 2 engines, as defined in section 2452(xx), registration fees as listed in Table 2 will be based on the year the engine was purchased (as verified by the Executive Officer) or the model year of the engine (if purchase date is not available).

Table 2 Registration Fees For Resident Engines Per Section 2452(llmm)(2)

| *Portable Engine Date** | *Application Submitted on or Before 12/31/07* | *Application Submitted in 2008* | *Application Submitted in 2009* |
|---|---|---|---|
| 1996 | $2,353 | $3,130 | $5,000 |
| 1997 | $2,195 | $2,920 | $4,685 |
| 1998 | $2,038 | $2,710 | $4,370 |
| 1999 | $1,880 | $2,500 | $4,055 |
| 2000 | $1,723 | $2,290 | $3,740 |
| 2001 | $1,565 | $2,080 | $3,425 |
| 2002 | $1,408 | $1,870 | $3,110 |
| 2003 | $1,250 | $1,660 | $2,795 |
| 2004 | $1,093 | $1,450 | $2,480 |
| 2005 | $935 | $1,240 | $2,165 |
| 2006 | $778 | $1,030 | $1,850 |

*As determined in section 2461(k)

## Table ~~3~~2 Fees for Statewide Registration Program
## (Fees are per registered unit except where noted otherwise)

| | | |
|---|---|---|
| 1 | Initial Registration | $270.00 |
| 2 | TSE, initial registration | |
| A | Registration of first 25 units (or portion thereof) | $750.00 |
| B | Registration of every additional 50 units (or portion thereof) | $750.00 |
| 3 | Change of status from non-operational to operational | |
| A | Where initial evaluation has not been previously completed | $180.00 |
| B | Where initial evaluation has been previously completed | $90.00 |
| 4 | Identical replacement | $75.00 |
| 5 | Renewal, non-TSE | $225.00 |
| 6 | Penalty fee for late renewal payments, non-TSE | |
| A | Postmarked within 2 calendar months prior to registration expiration date | $45.00 |
| B | Postmarked within the calendar month prior to registration expiration date | $90.00 |
| C | Postmarked after the registration expiration date | $250.00 |
| 7 | Annual TSE inventory fee | |
| A | first 25 units (or portion thereof) | $375.00 |
| B | every additional 50 units (or portion thereof) | $375.00 |
| 8 | Modification to registered portable engine or equipment unit | $75.00 |
| 9 | Change of ownership | $75.00 |
| 10 | Replacement of registration identification device or placard | $30.00 |
| 11 | Correction to an engine or equipment unit description | $45.00 |
| 12 | Update company information, copy of registration documents | $45.00 |
| 13 | Copy of registration documents | $45.00 |
| 14 | Total district inspection fee per registered portable engine, paid once every 3 years | $345.00 |
| A | General district inspection fee | $30.00 |
| B | Home district inspection fee | $315.00 |
| 15 | District off-hour service fee per hour | $50.00 |
| 16 | District inspection fees for equipment units: | |
| A | General district inspection fee, paid once every 3 years | $75.00 |
| B | District inspection fee per equipment unit, per hour | $98.00 (not to exceed $500.00) |
| 17 | TSE inspection fees: | |
| A | General district inspection fee per TSE unit, paid annually | $10.00 |
| B | District inspection fee per TSE unit per inspection | $75.00 |
| 18 | Placard | $5.00 |

NOTE: Authority cited: Sections 39600, 39601, 41752, 41753, 41754, 41755, 43013(b) and 43018, Health and Safety Code. Reference: Sections 41750, 41751, 41752, 41753, 41754, and 41755, Health and Safety Code.

**§ 2462. Duration of registration.**

(a) Except for registrations that will expire on December 31, 2009 pursuant to sections 2456(f)(10) and title 17 ~~CCR~~ Cal. Code Regs. section 93116.3(b)(1)(A), and except for registrations that expire on December 31, 2010 per sections 2456(f)(11) and title 17 Cal. Code Regs. section 93116.3(b)(1)(C), registrations and renewals will be valid for three years from date of issuance. For change of ownership, the registration shall retain the original expiration date, except where the registration has expired.

(b) The Executive Officer shall mail to the owner of a registered engine or equipment unit a renewal invoice at least 60 days prior to the registration expiration. Failure to send or receive a renewal invoice does not relieve the responsible official from paying all applicable fees when due.

NOTE: Authority cited: Sections 39600, 39601, 41752, 41753, 41754, 41755, 43013(b) and 43018, Health and Safety Code. Reference: Sections 41750, 41751, 41752, 41753, 41754, and 41755, Health and Safety Code.

**§ 2463. Suspension or Revocation of Registration.**

(a) The Executive Officer for just cause may suspend or revoke registration in any of the following circumstances:

(1) the holder of registration has violated one or more terms and conditions of registration or has refused to comply with any of the requirements of this article;
(2) the holder of registration has materially misrepresented the meaning, findings, effect or any other material aspect of the registration application, including submitting false or incomplete information in its application for registration regardless of the holder's personal knowledge of the falsity or incompleteness of the information;
(3) the test data submitted by the holder of registration to show compliance with this regulation have been found to be inaccurate or invalid;
(4) enforcement officers of the ARB or the districts, after presentation of proper credentials, have been denied access, during normal business hours or hours of operation, to any facility or location where registered engines and equipment units are operated or stored and are prevented from inspecting such engines or equipment units as provided for in this article (the duty to provide access applies whether or not the holder of registration owns or controls the facility or location in question);

(5) enforcement officers of the ARB or the districts, after presentation of proper credentials, have been denied access to any records required by this regulation for the purpose of inspection and duplication;

(6) the registered engine or equipment unit has failed in-use to comply with the findings set forth in the registration. For the purposes of this section, noncompliance with the registration may include, but is not limited to:

(A) a repeated failure to perform to the standards set forth in this article; or

(B) modification of the engine or equipment unit that results in an increase in emissions or changes the efficiency or operating conditions of such engine or equipment unit, without prior notice to and approval by the Executive Officer; or

(7) the holder of registration has failed to take requested corrective action as set forth in a Notice of Violation or Notice to Comply within the time period set forth in such notice or as otherwise specified in writing by the issuing district.

(8) the holder of the registration has failed to pay fees assessed by either the Executive Officer or district within 120 after the specified due date and there is no pending appeal.

(b) A holder of registration may be subject to a suspension or revocation action pursuant to this section based upon the actions of an agent, employee, licensee, or other authorized representative.

(c) The Executive Officer shall notify each holder of registration by certified mail of any action taken by the Executive Officer to suspend or revoke any registration granted under this article. The notice shall set forth the reasons for and evidence supporting the action(s) taken. A suspension or revocation is effective upon receipt of the notification.

(d) A holder of registration having received a notice to revoke or suspend registration may request that the action be stayed pending a hearing under section 2464. In determining whether to grant the stay, the Executive Officer shall consider the reasonable likelihood that the registration holder will prevail on the merits of the appeal and the harm the holder of registration will likely suffer if the stay is not granted. The Executive Officer shall deny the stay if the adverse effects of the stay on the public health, safety, and welfare outweigh the harm to the holder of registration if the stay is not granted.

(e) Once a registration has been suspended pursuant to (a) above, the holder of registration shall satisfy and correct all noted reasons for the suspension and submit a written report to the Executive Officer advising him or her of all such steps taken by the holder before the Executive Officer will consider reinstating the registration.

(f) After the Executive Officer suspends or revokes a registration pursuant to this section and prior to commencement of a hearing under section 2464, if the holder of registration demonstrates to the Executive Officer's satisfaction that the decision to suspend or revoke the registration was based on erroneous information, the Executive Officer will reinstate the registration.

(g) Nothing in this section shall prohibit the Executive Officer from taking any other action provided for by law for violations of the Health and Safety Code.

NOTE: Authority cited: Sections 39600, 39601, 41752, 41753, 41754, 41755, 43013(b) and 43018, Health and Safety Code. Reference: Sections 41750, 41751, 41752, 41753, 41754, and 41755, Health and Safety Code.

**§ 2464. Appeals.**

(a) Hearing Procedures.

(1) Any applicant for registration whose application has been denied or a holder of registration whose registration has been, suspended, or revoked may request a hearing to review the action taken by sending a request in writing to the Executive Officer. A request for hearing shall include, at a minimum, the following:

(A) name of applicant or holder of registration;
(B) registration number;
(C) copy of the Executive Order revoking or suspending registration or the written notification of denial;
(D) a concise statement of the issues to be raised, with supporting facts, setting forth the basis for challenging the denial, suspension, or revocation (mere conclusory allegations will not suffice);
(E) a brief summary of evidence in support of the statement of facts required in (D) above; and
(F) the signature of an authorized person requesting the hearing.

(2) A request for a hearing shall be filed within 20 days from the date of issuance of the notice of the denial, suspension, or revocation.

(3) A hearing requested pursuant to this section shall be heard by a qualified and impartial hearing officer appointed by the Executive Officer. The hearing officer may be an employee of the ARB, but may not be any employee who was involved with the registration at issue. In a request for a hearing of a denial of registration, after reviewing the request for a hearing and supporting documentation provided under subsection (1) above, the hearing officer shall grant the request for a hearing if he or she finds that the request raises a genuine and substantial question of law or fact.

(4) Except as provided in (3) above, the hearing officer shall schedule and hold, as soon as practicable, a hearing at a time and place determined by the hearing officer.

(5) Upon appointment, the hearing officer shall establish a hearing file. The file shall consist of the following:

(A) the determination issued by the Executive Officer which is the subject of the request for hearing;
(B) the request for hearing and the supporting documents that are submitted with it;
(C) all documents relating to and relied upon in making the determination to deny registration or to suspend or revoke registration; and
(D) correspondence and other documents material to the hearing.

(6) The hearing file shall be available for inspection by the applicant at the office of the hearing officer.

(7) An applicant may appear in person or may be represented by counsel or by any other duly-authorized representative.

(8) The ARB may be represented by staff or counsel familiar with the registration program and may present rebuttal evidence.

(9) Technical rules of evidence shall not apply to the hearing, except that relevant evidence may be admitted and given probative effect only if it is the kind of evidence upon which reasonable persons are accustomed to relying in the conduct of serious affairs. No action shall be overturned based solely on hearsay evidence, unless the hearsay evidence would be admissible in a court of law under a legally recognized exception to the hearsay rule.

(10) The hearing shall be recorded either electronically or by a certified shorthand reporter.

(11) The hearing officer shall consider the totality of the circumstances of the denial, suspension, or revocation, including but not limited to, credibility of witnesses, authenticity and reliability of documents, and qualifications of experts. The hearing officer may also consider relevant past conduct of the applicant including any prior incidents involving other ARB programs.

(12) The hearing officer's written decision shall set forth findings of fact and conclusions of law as necessary.

(13) Within 30 days of the conclusion of a hearing, the hearing officer shall submit a written proposed decision, including proposed finding as well as a copy of any material submitted by the hearing participants as part of that hearing and relied on by the hearing officer, to the Executive Officer. The hearing officer may recommend to the Executive Officer any of the following:

(A) uphold the denial, suspension, or revocation action as issued;
(B) reduce a revocation to a suspension;
(C) increase a suspension to a revocation if the registration holder's conduct so warrants; or

(D) overturn a denial, suspension, or revocation in its entirety.

(14) The Executive Officer shall render a final written decision within 60 working days of the last day of hearing. The Executive Officer may do any of the following:

(A) adopt the hearing officer's proposed decision;
(B) modify the hearing officer's proposed decision; or
(C) render a decision without regard to the hearing officer's proposed decision.

(b) Hearing conducted by written submission.

(1) In lieu of the hearing procedure set forth in (a) above, an applicant may request that the hearing be conducted solely by written submission.
(2) In such case the requestor must submit a written explanation of the basis for the appeal and provide supporting documents within 20 days of making the request. Subsequent to such a submission the following shall transpire:

(A) ARB staff shall submit a written response to the requestor's submission and documents in support of the Executive Officer's action no later than 10 days after receipt of requestor's submission;
(B) The registration holder may submit one rebuttal statement which may include supporting information, as attachment(s), but limited to the issues previously raised;
(C) If the registration holder submits a rebuttal, ARB staff may submit one rebuttal statement which may include supporting information, as attachment(s), but limited to the issues previously raised; and
(D) the hearing officer shall be designated in the same manner as set forth in (a)(3) above. The hearing officer shall receive all statements and documents and submit a proposed written decision and such other documents as described in (a) 13 above to the Executive Officer no later than 30 working days after the final deadline for submission of papers. The Executive Officer's final decision shall be mailed to the holder of registration no later than 60 days after the final deadline for submission of papers.
(E) The Executive Officer shall render a final written decision within 60 working days of the last day of hearing. The Executive Officer may do any of the following:

(1) adopt the hearing officer's proposed decision;
(2) modify the hearing officer's proposed decision; or
(3) render a decision without regard to the hearing officer's proposed decision.

NOTE: Authority cited: Sections 39600, 39601, 41752, 41753, 41754, 41755, 43013(b) and 43018, Health and Safety Code. Reference: Sections 41750, 41751, 41752, 41753, 41754, and 41755, Health and Safety Code.

**§ 2465. Penalties.**

Violation of the provisions of this article may result in civil, and/or criminal penalties pursuant to the California Health and Safety Code. Each day during any portion of which a violation occurs is a separate violation.

NOTE: Authority cited: Sections 39600, 39601, 41752, 41753, 41754, 41755, 43013(b) and 43018, Health and Safety Code. Reference: Sections 41750, 41751, 41752, 41753, 41754, and 41755, Health and Safety Code.

# Appendix B

## Proposed Regulation Order

## Amendments to the Airborne Toxic Control Measure For Diesel Particulate Matter From Portable Engines

**California Air Resources Board**

Sections 93116, 93116.1, 93116.2, 93116.3, 93116.4, and 93116.5, title 17, California Code of Regulations.

(Note: Proposed amendments to the regulation are identified below. Underline is used to indicate the proposed additions. ~~Strikeout~~ is used to indicate proposed deletions from the regulation text.)

# PROPOSED REGULATION ORDER

**Amend sections 93116.1, 93116.2 and 93116.3 title 17, California Code of Regulations. Sections 93116, 93116.4, and 93116.5 are not being amended, but are included for clarity.**

## 93116 Purpose.

The purpose of this airborne toxic control measure (ATCM) is to reduce diesel particulate matter (PM) emissions from portable diesel-fueled engines having a rated brake horsepower of 50 and greater ($\geq$ 50 bhp).

Authority cited: Sections 39600, 39601, 39650, 39658, 39659, 39666, 41752, 43013 and 43018 Health and Safety Code. Reference: Sections 39650, 39666, 41752 Health and Safety Code.

## § 93116.1 Applicability.

(a) Except as provided below, all portable engines having a maximum rated horsepower of 50 bhp and greater and fueled with diesel are subject to this regulation.

(b) The following portable engines are not subject to this regulation:

(1) Any engine used to propel mobile equipment or a motor vehicle of any kind;

(2) Any portable engine using an alternative fuel;

(3) Dual-fuel diesel pilot engines that use an alternative fuel or an alternative diesel fuel;

(4) Tactical support equipment;

(5) Portable diesel-fueled engines operated on either San Clemente or San Nicolas Island;

(6) Engines preempted from State regulation under 42 USC §7543(e)(1);

(7) Portable diesel-fueled engines operated at airports that satisfy the following requirements:

(A) the equipment is subject to the South Coast Ground Service Equipment Memorandum of Understanding (MOU); and

(B) the participating airlines have demonstrated to the satisfaction of the Executive Officer that the diesel PM reductions achieved by satisfying the requirements of the MOU are equivalent to the reductions achieved by this control measure.

(8) Engines used exclusively on cranes shall meet all applicable requirements in Title 13 of the California Code of Regulations commencing with section 2449; ~~and~~

(9) Engines used exclusively on street sweepers that are not subject to Title 13 ~~CCR~~ Cal. Code Regs. section 2022 shall meet all applicable requirements in Title 13 of the California Code of Regulations commencing with section 2025.~~;~~ and

(10) Engines used exclusively on two-engine water well drilling rigs as defined in Title 13, Cal. Code Regs., section 2449(c)(60) shall meet all applicable requirements in Title 13 of the California Code of Regulations commencing with section 2449.

Authority cited: Sections 39600, 39601, 39650, 39658, 39659, 39666, 41752, 43013 and 43018 Health and Safety Code. Reference: Sections 39650, 39666, 41752 Health and Safety Code.

**§ 93116.2 Definitions.**

(a) For the purposes of these regulations, the following definitions apply:

(1) "*Air Pollution Control Officer or APCO*" means the air pollution control officer of a district, or his/her designee.

(2) "*Alternative Fuel*" means gasoline, natural gas, propane, liquid petroleum gas (LPG), hydrogen, ethanol, or methanol.

(3) "*Alternative Diesel Fuel*" means any fuel used in a compression ignition (CI) engine that is not, commonly or commercially known, sold or represented by the supplier as diesel fuel No. 1-D or No. 2-D, pursuant to the specifications in ASTM Standard Specification for Diesel Fuel Oils D975-81, or an alternative fuel, and does not require engine or fuel system modifications for the engine to operate, although minor modifications (e.g., recalibration of the engine fuel control) may enhance performance. An emission control strategy using a fuel additive will be treated as an alternative diesel fuel based strategy unless:

(A) the additive is supplied to the engine fuel by an on-board dosing mechanism, or

(B) the additive is directly mixed into the base fuel inside the fuel tank of the engine, or

(C) the additive and base fuel are not mixed until engine fueling commences, and no more additive plus base fuel combination is mixed than required for a single fueling of a single engine.

(4) "*CARB Diesel Fuel*" means any diesel fuel that is commonly or commercially known, sold, or represented by the supplier as diesel fuel No. 1-D or No. 2-D, pursuant to the specification for Diesel Fuel Oils D975-81, and that meets the specifications defined in Title 13 ~~CCR~~ Cal. Code Regs., sections 2281, 2282, and 2284.

(5) "*Certified ~~Nonroad~~ Engine*" refers to an engine meeting an applicable ~~nonroad~~ engine emission standard as set forth in ~~Title 13 of the California Code of Regulations or~~ 40 CFR ~~40~~ Part 89, Part 86, or set forth in the equivalent categories in Title 13 of the California Code of Regulations.

(6) "*Crane*" means the same as "Two-Engine Crane" defined in Title 13, ~~CCR~~ Cal. Code Regs., section 2449(c)(5~~6~~9)

(7) "*Diesel Fuel*" means any fuel that is commonly or commercially known, sold, or represented by the supplier as diesel fuel, including any mixture of primarily liquid hydrocarbons—organic compounds consisting exclusively of the elements carbon and hydrogen—that is sold or represented as suitable for use in an engine.

(8) "*Diesel-Fueled*" means fueled by diesel fuel, or CARB diesel fuel, in whole or part.

(9) "*Diesel Particulate Matter (PM)*" means the particles found in the exhaust of diesel-fueled engines which may agglomerate and adsorb other species to form structures of complex physical and chemical properties.

(10) "*District*" means a District as defined in Health and Safety Code section 39025.

(11) "*Dual-fuel Diesel Pilot Engine*" means a dual-fueled engine that uses diesel fuel as a pilot ignition source at an annual average ratio of less than 5 parts diesel fuel to 100 parts total fuel on an energy equivalent basis.

(12) "*Emergency*" means providing electrical power or mechanical work during any of the following events and subject to the following conditions:

(A) the failure or loss of all or part of normal electrical power service or normal natural gas supply to the facility:

1. which is caused by any reason other than the enforcement of a contractual obligation the owner or operator has with a third party or any other party; and

2. which is demonstrated by the owner or operator to the district APCO's satisfaction to have been beyond the reasonable control of the owner or operator;

(B) the failure of a facility's internal power distribution system:
1. which is caused by any reason other than the enforcement of a contractual obligation the owner or operator has with a third party or any other party; and
2. which is demonstrated by the owner or operator to the district APCO's satisfaction to have been beyond the reasonable control of the owner or operator;

(C) the pumping of water or sewage to prevent or mitigate a flood or sewage overflow;

(D) the pumping of water for fire suppression or protection;

(E) the pumping of water to maintain pressure in the water distribution system for the following reasons:

1. pipe break; or
2. high demand on water supply system due to high use of water for fire suppression;

(F) the breakdown of electric-powered pumping equipment at sewage treatment facilities or water delivery facilities;

(G) the training of personnel in the use of portable equipment for emergency purposes.

(13) "*Emergency Event*" refers to a situation arising from a sudden and reasonably unforeseen natural disaster such as an earthquake, flood, fire, or other acts of God, or other unforeseen event that requires the use of portable engines to help alleviate the threat to public health and safety.

(14) "*Engine*" means any piston-driven internal combustion engine.

(15) "*Engines Used Exclusively in Emergency Applications*" refer to engines that are used only during an emergency or emergency event, and includes appropriate maintenance and testing.

(16) "*Executive Officer*" means the Executive Officer of the California Air Resources Board (CARB) or his/her designee.

(17) "*Fleet*" refers to a portable engine or group of portable engines that are owned and managed by an individual operational entity, such as a business, business unit within a corporation, or individual city or state department under the control of a Responsible Official. Engines that are owned by different

business entities that are under the common control of only one Responsible Official shall be treated as a single fleet.

(18) "*Fuel Additive*" means any substance designed to be added to fuel or fuel systems or other engine-related systems such that it is present in-cylinder during combustion and has any of the following effects: decreased emissions, improved fuel economy, increased performance of the engine; or assists diesel emission control strategies in decreasing emissions, or improving fuel economy or increasing performance of the engine. Fuel additives used in conjunction with diesel fuel may be treated as an alternative diesel fuel.

(19) "*In-Use Engines*" refers to portable diesel-fueled engines operating under valid permits or registrations as of December 31, 2005~~09~~.

(20) "*Level-3 Verified Technology*" means a technology that has satisfied the requirements of the "Verification Procedure for In-Use Strategies to Control Emissions from Diesel Engines" in Title 13, California Code of Regulations, commencing with section 2700, and has demonstrated an reduction in diesel particulate matter of 85 percent or greater.

(21) "*Location*" means any single site at a building, structure, facility, or installation.

(22) "*Low-Use Engines*" refers to portable diesel-fueled engines that operate 80 hours or less in a calendar year.

(23) "*Maximum Rated Horsepower (brake horsepower (bhp))*" is the maximum brake horsepower rating specified by the portable engine manufacturer and listed on the nameplate of the portable engine.

(24) "*Nonroad Engine*" means:

(A) Except as discussed in paragraph (2) of this definition, a nonroad engine is any engine:

1. in or on a piece of equipment that is self-propelled or serves a dual purpose by both propelling itself and performing another function (such as garden tractors, off-highway mobile cranes and bulldozers); or

2. in or on a piece of equipment that is intended to be propelled while performing its function (such as lawnmowers and string trimmers); or

3. that, by itself or in or on a piece of equipment, is portable or transportable, meaning designed to be and capable of being carried or moved from one location to another. Indicia of transportability include, but are not limited to, wheels, skids, carrying handles, dolly, trailer, or platform.

(B) An engine is not a nonroad engine if:

1. the engine is used to propel a motor vehicle or a vehicle used solely for competition, or is subject to standards promulgated under section 202 of the federal Clean Air Act; or

2. the engine is regulated by a federal New Source Performance Standard promulgated under section 111 of the federal Clean Air Act; or

3. the engine otherwise included in paragraph (1)(C) of this definition remains or will remain at a location for more than 12 consecutive months or a shorter period of time for an engine located at a seasonal source. Any engine(s) that replace(s) an engine at a location and that is intended to perform the same or similar function as the engine replaced will be included in calculating the consecutive time period. An engine located at a seasonal source is an engine that remains at a seasonal source during the full annual operating period of the seasonal source. A seasonal source is a stationary source that remains in a single location on a permanent basis (at least two years) and that operates at that single location approximately three (or more) months each year.

(25) "*Off-Road Engine*" means the same as nonroad engine.

(26) "*Outer Continental Shelf (OCS)*" shall have the meaning provided by section 2 of the Outer Continental Shelf Lands Act (43 USC Section 1331 et seq.).

(27) "*Participating Airlines*" means the collective group of Individual Participating Airlines under the MOU, which currently is as follows: ABX Air, Inc. (formerly Airborne Express), Alaska Airlines, America West Airlines, American Airlines, ATA Airlines (formerly American Trans Air), Continental Airlines, Delta Air Lines, Astar Air Cargo (formerly DHL Airways), Federal Express, Hawaiian Airlines, Jet Blue Airways Corp., Midwest Airlines (formerly Midwest Express Airlines), Northwest Airlines, Southwest Airlines, United Airlines, United Parcel Service, and US Airways. Participating Airlines does not mean the Air Transportation Association of America, Inc.

(28) "*Permit*" refers to a certificate issued by the Air Pollution Control Officer acknowledging expected compliance with the applicable requirements of the district's rules and regulations.

(29) "*Portable*" means designed and capable of being carried or moved from one location to another. Indicia of portability include, but are not limited to, wheels, skids, carrying handles, dolly, trailer, or platform. For the purposes of this regulation, dredge engines on a boat or barge are considered portable. The engine is not portable if:

(A) the engine or its replacement is attached to a foundation, or if not so attached, will reside at the same location for more than 12 consecutive months. The period during which the engine is maintained at a storage facility shall be excluded from the residency time determination. Any engine, such as a back-up or stand-by engine, that replace engine(s) at a location, and is intended to perform the same or similar function as the engine(s) being replaced, will be included in calculating the consecutive time period. In that case, the cumulative time of all engine(s), including the time between the removal of the original engine(s) and installation of the replacement engine(s), will be counted toward the consecutive time period; or

(B) the engine remains or will reside at a location for less than 12 consecutive months if the engine is located at a seasonal source and operates during the full annual operating period of the seasonal source, where a seasonal source is a stationary source that remains in a single location on a permanent basis (at least two years) and that operates at that single location at least three months each year; or

(C) the engine is moved from one location to another in an attempt to circumvent the portable residence time requirements.

(30) "*Project*" means the use of one or more registered or permitted portable engines or equipment units operated under the same or common ownership or control to perform a single activity.

(31) "*Registration*" refers to either:

(A) a certificate issued by the Executive Officer acknowledging expected compliance with the applicable requirements of the Statewide Portable Equipment Registration Program; or

(B) a certificate issued by the Air Pollution Control Officer acknowledging expected compliance with the applicable requirements of the district's Portable Equipment Registration Program.

(32) "*Responsible Official*" refers to an individual employed by the company or public agency with the authority to certify that the portable engines under his/her jurisdiction comply with applicable requirements of this regulation. A company or public agency may have more than one Responsible Official.

(33) "*Selective Catalytic Reduction (SCR) System*" refers to an air pollution emissions control system that reduces oxides of nitrogen (NOx) emissions through the catalytic reduction of NOx by injecting nitrogen-containing compounds into the exhaust stream, such as ammonia or urea.

(34) "*Stationary Source*" means any building, structure, facility or installation that emits any air contaminant directly or as a fugitive emission. Building, structure, facility, or installation includes all pollutant emitting activities which:

(A) are under the same ownership or operation, or which are owned or operated by entities which are under common control; and

(B) belong to the same industrial grouping either by virtue of falling within the same two-digit standard industrial classification code or by virtue of being part of a common industrial process, manufacturing process, or connected process involving a common raw material; and

(C) are located on one or more contiguous or adjacent properties.

[Note: For the purposes of this regulation a stationary source and nonroad engine are mutually exclusive.]

(35) "*Stock Engine*" means a certified diesel-fueled engine that has never been placed in service and is part of a supply of engines offered for sale, rent, or lease by a person or company who offers for sale, rent, or lease engines and related equipment for profit.

(36) "*Storage*" means a warehouse, enclosed yard, or other area established for the primary purpose of maintaining portable engines when not in operation.

(37) "*Street Sweeper*" means the same as "Dual-engine Street Sweeper" defined in Title 13, ~~CCR~~ Cal. Code Regs., section 2022(b)(2).

(38) "*Tactical Support Equipment (TSE)*" means equipment using a portable engine, including turbines, that meets military specifications, owned by the U.S. Department of Defense and/or the U.S. military services or its allies, and used in combat, combat support, combat service support, tactical or relief operations, or training for such operations. Examples include, but are not limited to, engines associated with portable generators, aircraft start carts, heaters and lighting carts.

(39) "*Tier 4 Emission Standards*" refers to the final emission standards adopted by the U.S. EPA for newly manufactured nonroad engines.

(40) "*Transportable*" means the same as portable.

(41) "*Verified Emission Control Strategy*" refers to an emission control strategy, designed primarily for the reduction of diesel PM emissions which has been verified pursuant to the "Verification Procedure for In-Use Strategies to Control Emissions from Diesel Engines" in Title 13, California Code of Regulations, commencing with section 2700, and incorporated by reference.

(42) "*U.S. EPA*" refers to the United States Environmental Protection Agency.

Authority cited: Sections 39600, 39601, 39650, 39658, 39659, 39666, 41752, 43013 and 43018 Health and Safety Code. Reference: Sections 39650, 39666, 41752 Health and Safety Code.

**§ 93116.3 Requirements.**

(a) Diesel-fueled portable engines shall only use one of the following fuels:

(1) CARB diesel fuel; or

(2) alternative diesel fuel that has been verified through the Verification Procedure for In-Use Strategies to Control Emissions from Diesel Engines; or

(3) CARB diesel fuel utilizing fuel additives that have been verified through the Verification Procedure for In-Use Strategies to Control Emissions from Diesel Engines.

[Note that credit for diesel PM reductions for diesel fuel or CARB diesel fuel blends that use an alternative diesel fuel such as biodiesel, Fischer-Tropsch fuels, or emulsions of water in diesel fuel is available only for fuel blends that been verified through the Verification Procedure for In-Use Strategies to Control Emissions from Diesel Engines. The credit granted is based upon the verified level approved by the Executive Officer within the Executive Order for the fuel blend.]

(b) Diesel PM Standards

(1) Requirements for in-use portable diesel-fueled engines:

(A) Except as provided in sections 93116.3(b)(1)(B) and 93116.3(b)(1)(C), starting January 1, 2010, all portable diesel-fueled engines shall be certified to meet a federal or California standard for newly manufactured ~~nonroad~~ engines pursuant to 40 CFR Part 89, Part 86, or the equivalent categories in Title 13 of the California Code of Regulations. ~~(that is, certified to Tier 1, 2 or 3 nonroad engine standards).~~[5]

(B) In lieu of complying with section 93116.3(b)(1)(A), owners of portable diesel-fueled engines used exclusively in emergency applications or portable diesel-fueled engines that qualify as low-use engines may commit to replacing these engines with Tier 4 engines, subject to the requirements below:

---

[5] ~~Tier 1, 2, 3, and 4 refer to nonroad engine emission standards promulgated by ARB and U.S. EPA for newly manufactured engines pursuant to 40 CFR Part 89 or Title 13 of the California Code of Regulation. Each successive Tier represents more stringent emission standards and the requirements are phased-in over time with the Tier 1 engine standards becoming effective for some engines manufactured in 1996 and becoming effective for all engines by 2000. Tier 2 engine standards are phased in for engines manufactured beginning in 2001 and becomes effective for all engines by 2006. Similarly, Tier 3 engines are phased in for engines manufactured beginning in 2006, and Tier 4 engines are phased in for engines manufactured beginning in 2011.~~

1. the Responsible Official shall submit written notification identifying the specific portable diesel-fueled engines intended to be replaced with portable diesel-fueled engines certified to the Tier 4 emission standards; ~~and~~

2. for engines that power functions that will continue after the Tier 4 emission standards take effect, ~~each class and category of nonroad engine,~~ replace each portable diesel-fueled engine so identified within two years of the first engine being offered for sale that satisfies the Tier 4 emission standards~~.~~;

3. for engines that will not continue operating until the Tier 4 emission standards take effect, the owner of the engine shall submit written notification to the applicable regulatory agency within 30 days of the engine ceasing operation, and is subject to the requirements below:

   a. for functions that will not continue for business or economic reasons, the owner shall retire the engine without replacement; and
   b. for engines that irreparably break down, the replacement engine shall be subject to the requirements of section 93116.3(b)(2)

(C) Notwithstanding the requirements of section 93116.3(b)(1)(A), any company, public agency, or military base with no more than 25 total permitted or registered portable engines as of December 31, 2009 may select specific engines to continue to operate until December 31, 2010. The selections shall be submitted to the appropriate regulatory agency no later than May 31, 2010, and are subject to the requirements below:

1. The engine(s) selected shall have current, valid permits or registrations as of December 31, 2009; and
2. one engine with no restriction for maximum rated horsepower; or
3. no more than five engines not to exceed 500 cumulative brake horsepower for the selected engines.
4. If an owner has selected one spark ignition engine per title 17 Cal. Code Regs. subsection 2456(f)(11)(A), then section 93116.3(b)(1)(C)(2) shall not be used.
5. If an owner has selected less than five spark ignition engines per title 17 Cal. Code Regs. subsection 2456(f)(11)(B) then the combined total of selected spark-ignition engines and compression-ignition engines shall not exceed five engines with a cumulative size of 500 brake horsepower.

(2) Portable diesel-fueled engines that have not been permitted or registered prior to January 1, 2006<u>10</u>, ~~are subject to the following requirements:~~ <u>shall be certified to the most stringent of the federal or California emission standard for nonroad engines, with the following exceptions:</u>

~~(A) except as specified in 93116.3(b)(4), 93116.3(b)(5), and 93116.3(b)(6), and except as allowed under flexibility provisions for equipment and vehicle manufacturers and post-manufacture marinizers pursuant to 40 CFR Part 89 or Title 13 of the California Code of Regulations, the portable diesel-fueled engine shall meet the most stringent of the federal or California emission standard for nonroad engines; or,~~

~~(B) upon approval by the air pollution control officer, a diesel-fueled portable engine not certified to an emission standard pursuant to 40 CFR Part 89 or Title 13 of the California Code of Regulations used exclusively in emergency applications or qualifying as a low-use engine designation may only be permitted or registered by a district. Any engine used exclusively in emergency applications or qualifying as a low-use engine designation is subject to the requirements of section 93116.3(b)(3).~~

<u>(A) engines that qualify under section 93116.3(b)(4);</u>

<u>(B) engines that qualify under section 93116.3(b)(5);</u>

<u>(C) engines built under flexibility provisions for equipment and vehicle manufacturers and post-manufacture marinizers pursuant to 40 CFR Part 89 or Title 13 of the California Code of Regulations; or</u>

<u>(D) certified engines that lost permit exemption due to a change in district rules.</u>

(3) Except as provided in section 93116.3(b)(1)(B), ~~portable~~ <u>certified</u> diesel-fueled engines used exclusively in emergency applications or qualifying as low-use engines shall satisfy one of the following requirements by January 1, 2020:

(A) the portable diesel-fueled engine is certified to Tier 4 emission standards for newly manufactured nonroad engines; or

(B) the portable diesel-fueled engine is equipped with a properly functioning level-3 verified technology; or

(C) the portable diesel-fueled engine is equipped with a combination of verified emission control strategies that have been verified together to achieve at least 85 percent reduction in diesel PM emissions.

~~(4) Engines operated in California between March 1, 2004 and October 1, 2006 may be permitted or registered by a district or registered in the Statewide Portable Equipment Registration Program until 12/31/09 if they meet an emission standard pursuant to 40 CFR Part 89 or Title 13 of the California Code of Regulations.~~

(~~5~~4) ~~Upon approval by the air pollution control officer, a district may permit or register engines operated in California between March 1, 2004 and October 1, 2006 that are not certified to an emission standard pursuant to 40 CFR Part 89 or Title 13 of the California Code of Regulations.~~ Engines that have never been permitted or registered may be permitted or registered by a district or registered in the Statewide Portable Equipment Registration Program if they are certified to the on-road emission standards pursuant to 40 CFR Part 86, or the equivalent category in Title 13 of the California Code of Regulations.

(~~6~~5) An engine owner, operator, dealer, or distributor may permit or register an engine not meeting the most stringent emission standard providing the following are met:

(A) The engine met the most stringent emission standard in effect prior to the change for that horsepower range; and

(B) The application for permit or registration of the engine is submitted within six months of the effective date of the change in emission standards.

(c) Fleet Requirements

(1) Each fleet is subject to and shall comply with the following weighted PM emission fleet averages expressed as grams per brake horsepower-hour (g/bhp-hr) by the listed compliance dates:

| *Fleet Standard Compliance Date* | *Engines <175 hp (g/bhp-hr)* | *Engines ≥175 to 74950 hp (g/bhp-hr)* | *Engines >750 hp (g/bhp-hr)* |
|---|---|---|---|
| 1/1/13 | 0.3 | 0.15 | 0.25 |
| 1/1/17 | 0.18 | 0.08 | 0.08 |
| 1/1/20 | 0.04 | 0.02 | 0.02 |

(2) For the purposes of this regulation, the portable diesel-fueled engines affected by the fleet provisions of this regulation include all portable diesel-fueled engines operated in California, including portable diesel-fueled engines registered with the Statewide Portable Equipment Registration Program or permitted by or registered with a district.

(3) The following portable diesel-fueled engines shall be excluded from the fleet requirements:

(A) portable diesel-fueled engines operated exclusively outside of California or operated only within the OCS.

(B) portable diesel-fueled engines used exclusively in emergency applications.

(C) portable diesel-fueled engines that qualify as low-use engines.

(4) Portable diesel-fueled engines that qualify as low-use engines and subsequently exceed the allowed hours of operation in a calendar year, or portable diesel-fueled engines that are identified to be used exclusively in emergency applications but subsequently are used in non-emergency applications, become immediately subject to the requirements of section 93116.3(c) in the year such exceedence or use occurs. For low-use engines, the hours of operation used for an emergency event shall not be counted toward the allowed hours of operation.

(5) Portable alternative-fueled engines may be included in a fleet if the engine satisfies the requirements in section 93116.3(d)(2)(B).

(6) Portable diesel-fueled portable engines equipped with SCR systems.

(A) The diesel PM fleet emission standards in section 93116.3(c)(1) do not apply to:

1. portable diesel-fueled engines equipped with properly operating SCR systems as of January 1, 2004; and

2. with the approval of the Executive Officer, portable diesel-fueled engines equipped with properly operating SCR systems after January 1, 2004.

(B) At the request of the Responsible Official, portable diesel-fueled engine(s) equipped with a SCR system(s) may be included in the company's fleet for the purpose of complying with an applicable fleet emission standard. Once the engine(s) is included in a fleet, compliance with applicable fleet emission standards shall always include these diesel-fueled portable engine(s).

(C) For all diesel-fueled portable engines equipped with SCR systems, the following information shall be submitted to the Executive Officer to demonstrate that the SCR system is operating properly:

1. Tests results for NOx, PM, and ammonia slip

a. the following tests methods shall be used to demonstrate compliance:

i. NOX shall be measured with CARB test method 100 dated July 1997, or equivalent district-approved test method; and

ii. diesel PM shall be measured with CARB test method 5 dated July 1997 or equivalent district-approved test method. For the purposes of this requirement, only the probe catch and filter catch ("front half") is used to determine the emission rate, g/bhp-hr, and shall not include PM captured in the impinger catch or solvent extract; and

iii. ammonia slip shall be measured with Bay Area Air Quality Management District Source Test Procedure ST-1B, Ammonia Integrated Sampling, dated January 1982, or other equivalent district approved test method.

b. the duration of the emission test shall be sufficient to document the typical operation of the portable diesel-fueled engine(s); and

c. testing shall be performed at the frequency required by the permit or registration. In no event shall the time between emission tests exceed three years.

(7) Beginning on January 1, 2013, the weighted average PM emission rate for the fleet cannot exceed the fleet standard that is in effect. Changes in the fleet, including portable engine additions and deletions, shall not result in noncompliance with this standard.

(d) Fleet Average Calculations

(1) General Provisions

(A) The average PM emission factor for the fleet is determined by the following formula:

$$\frac{\sum \text{Summation for each portable engine in the fleet (bhp x emission factor)}}{\sum \text{Summation for each portable engine in the fleet (bhp)}}$$

where:

bhp = maximum rated horsepower.

emission = diesel PM emission rate, as determined below:

factor

(B) The following diesel PM emission rates shall be used with the above formula to determine the weighted average fleet emission rate:

1. for portable diesel-fueled engines certified to a nonroad engine standard, the results of emission measurements submitted to either the U.S. EPA or CARB for the purposes of satisfying the appropriate emission standard; or

2. for Tier 1 engines less than 175 bhp for which no particulate matter emission standard exists, an emission rate of 0.87 g/bhp-hr shall be used for engines less than 120 bhp and 0.46 shall be used for engines 120 to 174 bhp; or

3. for engines built under the flexibility provisions for equipment and vehicle manufacturers and post-manufacture marinizers pursuant to 40 CFR Part 89 or Title 13 of the California Code of Regulations that do not have a family name indicated on the engine, the emission standard of the tier level to which the engine was built shall be used; or

~~2~~4. results from emission measurements from a verified emission control strategy may be used in conjunction with engine emission information; or

~~3~~5. for portable diesel-fueled engine(s) equipped with SCR system(s), results from valid emission tests.

(2) The following incentives may be used to revise the fleet average, as outlined below:

(A) Where equipment uses grid power for more than 200 hours in lieu of operating a portable diesel-fueled engine for a given project, the time period grid power is used may be used to reduce each affected engine's emission factor. The emission factor for each affected portable engine will be reduced proportionally by the percentage of time the equipment uses grid power. To receive credit for grid power in the fleet calculation, the recordkeeping and reporting requirements in section 93116.4(c)(3) shall be satisfied.

(B) Alternative-fueled portable engines

1. Alternative-fueled portable engines operating 100 or more hours may be included toward determining compliance with the applicable fleet emission standards. A diesel PM emission rate of zero shall be used in the fleet calculations for these engines.

2. Alternative-fueled portable engines operating 100 or more hours per calendar year and added to a fleet prior to January 1, 2009, may be counted twice in the company's fleet average determination toward compliance with the 2013 and 2017 fleet emission standards. The alternative-fueled engine shall be certified to meet a federal or California standard for newly manufactured nonroad engines pursuant to 40 CFR Part 89 or Title 13 of the California Code of Regulations.

(B) Portable diesel-fueled engines certified to Tier 4 nonroad engine standards that are added to a fleet prior to January 1, 2015, may be counted twice in the company's fleet average determination toward compliance with the 2013 and 2017 fleet emission standards.

Authority cited: Sections 39600, 39601, 39650, 39658, 39659, 39666, 41752, 43013 and 43018 Health and Safety Code. Reference: Sections 39650, 39666, 41752, Health and Safety Code.

**§ 93116.3.1 Compliance Flexibility for Diesel PM Standards.**

If the Executive Officer finds, based on verifiable information from the engine manufacturer, distributor, or dealer, that current model year engines meeting the current emission standards are not available or not available in sufficient numbers or in a sufficient range of makes, models, and horsepower ratings, then the Executive Officer may allow the sale, purchase, or installation of a new stock engine meeting the emission standards from the previous model year to meet the emission standards in section 93116.3(b).

Authority cited: Sections 39600, 39601, 39650, 39658, 39659, 39666, 41752, 43013 and 43018 Health and Safety Code. Reference: Sections 39650, 39666, 41752, Health and Safety Code.

**§ 93116.4 Fleet Recordkeeping and Reporting Requirements.**

(a) The owner or operator of a fleet is not subject to the requirements of this section if each portable diesel-fueled engine in the fleet satisfies any one of the following requirements:

(1) the portable diesel-fueled engine is certified to Tier 4 emission standards for newly manufactured nonroad engines; or

(2) the portable diesel-fueled engine is equipped with a properly functioning level-3 verified technology; or

(3) the portable diesel-fueled engine is equipped with a combination of verified emission control strategies that have been verified together to achieve at least 85 percent reduction in diesel PM emissions.

(b) Portable diesel-fueled engine(s) equipped with properly operating SCR system(s) shall be excluded from the requirements of section 93116.4(a) if the engine(s) is not subject to section 93116.3(c)(1).

(c) Effective January 1, 2012, the Responsible Official of a fleet shall:

(1) Keep and maintain records for:

(A) alternative-fueled portable engines used as part of a company's fleet average, except as provided in section 93116.4(d); and

(B) portable diesel-fueled engines affected by the use of electrification; and

(C) portable diesel-fueled engines qualifying as low-use engines; and

(D) portable diesel-fueled engines used exclusively in emergency applications.

(2) The Responsible Official, for all portable engines subject to section 93116.4(c)(1), shall:

(A) install or cause to be installed and properly maintained on each portable engine subject to recordkeeping a non-resettable hour-meter; and

(B) maintain on a calendar year basis a record of the total hours of operation for each portable engine. If the portable engine is used out-of-state, then the records may account for operation within California only, excluding operation within the OCS; and

(C) maintain all required records at a central place of business for five years. The records shall clearly identify each portable engine subject to the recordkeeping requirement as well as the annual hours of operation. These records are to be made available, upon request for inspection, to local air pollution control district or CARB personnel. The requested records shall be provided to the appropriate personnel within ten business days of the request.

(3) The Responsible Official of a fleet electing to use electrification in determining the fleet average shall:

(A) notify the Executive Officer identifying the dates, location, duration of the project, and a description of the project that will rely on electrification instead of using portable diesel-fueled engines. The notification shall be provided prior to the start of the project; and

(B) identify each affected portable diesel-fueled engine, including: make, model, serial number, year of manufacture for each engine, emission factor (g/bhp-hr) and district permit or State/district registration number; and

(C) shall clearly identify the electrification activity, including indicating the amount of electricity used and the time period for the project; and

(D) shall retain copies of contracts or other documentation, with the project proponent and/or applicable utility, supporting the use of grid power.

(4) Test results for SCR compliance shall be maintained at a central place of business for five years. At the request of CARB or district personnel, the Responsible Official shall have three business days to provide a copy of the most recent test results.

(d) Effective January 1, 2008, for alternative-fueled engines added to a fleet prior to January 1, 2009, the Responsible Official shall:

(1) install or cause to be installed and properly maintained on each portable engine subject to recordkeeping a non-resettable hour-meter; and

(2) maintain on a calendar year basis a record of the total hours of operation for each portable engine. If the portable engine is used out-of-state, then the records may account for operation within California only, excluding operation within the OCS; and

(3) maintain all required records at a central place of business for five years. The records shall clearly identify each portable engine subject to the recordkeeping requirement as well as the annual hours of operation. These records are to be made available, upon request for inspection, to local air pollution control district or CARB personnel. The requested records shall be provided to the appropriate personnel within ten business days of the request.

(e) The Responsible Official of the fleet shall provide the following reports to the Executive Officer:

(1) A status report, due to the Executive Officer by March 1, 2011, that includes the following items:

(A) the fleet's weighted average PM emission rate for the 2010 calendar year, including a summary for each portable engine that is part of the fleet and each engine's emission rate (g/bhp-hr); and

(B) inventory of portable engines in the fleet identifying whether the engine is state-registered or permitted/registered with the district. Alternative-fueled engines should be identified by fuel type. The inventory shall identify the make, model, serial number, year of manufacture, primary fuel type, emission factor (g/bhp-hr), and district permit or State/district registration number for each engine to be used in the fleet average determination; and

(C) identify, if applicable, each portable diesel-fueled engine that the owner commits to replacing with a Tier 4 engine, including: make, model, serial number, year of manufacture for each engine, and district permit or State/district registration number; and

(D) listing of portable diesel-fueled engines, if applicable, used exclusively in emergency applications. The listing shall identify each engine claiming use only in emergency applications, including: make, model, serial number, year of manufacture for each engine, emission factor (g/bhp-hr), and district permit or State/district registration number; and

(E) listing of portable diesel-fueled engines, if applicable, satisfying the low-use engine requirements. The listing shall identify each engine, including: make, model, serial number, year of manufacture for each engine, emission factor (g/bhp-hr), and district permit or State/district registration number; and

(F) listing of portable alternative-fueled engines, if applicable, added to the fleet prior to January 1, 2009, pursuant to section 93116.3(d)(2)(B)2. The listing shall identify each engine, including: make, model, serial number, year of manufacture for each engine, U.S. EPA engine family name, emission factor (g/bhp-hr), and district permit or State/district registration number; and

(G) for portable diesel-fueled engine(s) equipped with SCR system(s), documentation demonstrating that the SCR system is operating properly.

(2) A statement of compliance signed by the Responsible Official that the fleet standards are being achieved and a summary that identifies each portable engine in the fleet and the associated emission rate (g/bhp-hr). Portable engines included in the fleet are those that are part of the fleet at the time the fleet standard became effective. The engine identification shall include, at a minimum, the make, model, serial number, and year of manufacture for each engine. Alternative-fueled engines should be identified by fuel type. The statements of compliance are due to the Executive Officer by the following dates:

(A) March 1, 2013, for the fleet standards that become effective January 1, 2013; and

(B) March 1, 2017, for the fleet standards that become effective January 1, 2017; and

(C) March 1, 2020 for the fleet standards that become effective January 1, 2020.

(3) The Responsible Official shall identify to the Executive Officer, as part of each compliance report, the specific portable diesel-fueled engines, if any, used exclusively in emergency applications and the specific portable diesel-fueled engines, if any, claimed to be low-use engine. The list shall include for each portable diesel-fueled engine: the make, model, serial number, year of manufacture for each engine, emission factor (g/bhp-hr), and district permit or State/district registration number.

(4) The Responsible Official shall identify to the Executive Officer, as part of each compliance report, the specific portable diesel-fueled engines, if any, excluded from the fleet because the portable diesel-fueled engine operated exclusively outside of California or operated only within the OCS. The list shall include for each portable diesel-fueled engine: the make, model, serial number, year of manufacture, and, district permit or State/district registration number for each engine.

(5) If compliance with the fleet average includes the use of electrification, the Responsible Official shall provide documentation supporting the credit claimed for electrification.

(6) As part of each compliance report, the Responsible Official shall, if applicable, certify the following:

(A) all portable alternative-fueled engines included in the fleet average operated at least 100 hours during the previous 12 months prior to the fleet emission standard becoming effective.

(B) for all portable diesel-fueled engines used exclusively in emergency applications, the engines were used only for emergency applications.

(C) for all portable diesel-fueled engines using the low-use designation, the engines operated no more than 80 hours for the reporting period.

(D) for all portable diesel-fueled engines equipped with SCR, the engine complies with applicable district or Statewide Portable Equipment Registration Program requirements.

(7) After March 1, 2013, the APCO or the Executive Officer may require the submittal of information demonstrating compliance with the applicable

fleet standard. Upon receiving the request, the Responsible Official shall provide the requested information within 30 days.

(f) For fleets that are exempted from the requirements of section 93116.4 pursuant to section 93116.4 (a), the Responsible Official shall certify that all portable diesel-fueled engines in the fleet satisfy the requirements of section 93116.4(a). The Responsible Official shall provide the certification statement and a list of the portable diesel-fueled engines in the fleet to the Executive Officer when the fleet initially satisfies the requirements of section 93116.4(a). The list of engines shall identify the make, model, serial number, and district permit or State/district registration number for each engine.

Authority cited: Sections 39600, 39601, 39650, 39658, 39659, 39666, 41752, 43013 and 43018 Health and Safety Code. Reference: Sections 39650, 39666, 41752 Health and Safety Code.

**§ 93116.5 Enforcement of Fleet Requirements.**

(a) Both the Executive Officer and the APCO have the authority to review or seek enforcement action for violation of the fleet emission standard.

(b) The CARB will make available to the districts the information the Responsible Official has provided to CARB to demonstrate compliance with the fleet standard.

Authority cited: Sections 39600, 39601, 39650, 39658, 39659, 39666, 41752, 43013 and 43018 Health and Safety Code. Reference: Sections 39650, 39666, 41752 Health and Safety Code.

# Appendix C

# Proposed Regulation Order

## REGULATION FOR IN-USE OFF-ROAD DIESEL VEHICLES

**California Air Resources Board**

Sections 2449, title 13, California Code of Regulations.

(Note: Proposed amendments to the regulation are identified below. Underline is used to indicate the proposed additions. ~~Strikeout~~ is used to indicate proposed deletions from the regulation text.)

## Proposed Regulation Order

## REGULATION FOR IN-USE OFF-ROAD DIESEL VEHICLES

Amend sections 2449 and 2449.3 in title 13, article 4.8, chapter 9, California Code of Regulations (CCR) to read as follows: Sections 2449.1 and 2449.2 are not being amended so they are not included. The symbol "******" indicates that regulatory language not being amended is not shown.

### Article 4.8 In-Use Off-Road Diesel-Fueled Fleets

### Section 2449 General Requirements for In-Use Off-Road Diesel-Fueled Fleets

**(a) Purpose**

The purpose of this regulation is to reduce diesel particulate matter (PM) and criteria pollutant emissions from in-use off-road diesel-fueled vehicles.

**(b) Applicability**

Except as provided in the paragraphs below, the regulation applies to any person, business, or government agency who owns or operates within California any diesel-fueled or alternative diesel fueled off-road compression ignition vehicle engine with maximum power of 25 horsepower (hp) or greater that is used in a two-engine crane or to provide motive power in a workover rig or to provide motive power in any other motor vehicle that (1) cannot be registered and driven safely on-road or was not designed to be driven on-road, and (2) is not an implement of husbandry or recreational off-highway vehicle. Unless they are workover rigs or two-engine cranes or two-engine water well drilling rigs, vehicles that were designed to be driven on-road, have on-road engines, and still meet the original manufacturer's on-road engine emission certification standard are considered on-road and are specifically excluded from this regulation, even if they have been modified so that they cannot be registered and driven safely on-road. Off-road vehicles that were designed for off-road use and have off-road engines are considered off-road and are subject to this regulation, even if they have been modified so that they can be driven safely on-road.

This regulation also applies to any person who sells a vehicle with such an engine within California.

Persons who provide financing in the form of "finance leases," as defined in California Uniform Commercial Code Section 10103(a)(7), for in-use off-road diesel-fueled vehicles, do not "own" such vehicles for the purposes of this regulation.

Vehicles with engines subject to this regulation are used in construction, mining, rental, government, landscaping, recycling, landfilling, manufacturing, warehousing, ski industry, composting, airport ground support equipment, industrial, and other operations. The regulation does not cover locomotives, commercial marine vessels, marine engines, recreational vehicles, or combat and tactical support equipment. The regulation also does not cover stationary or portable equipment, equipment or vehicles used exclusively in agricultural operations, or equipment already subject to the Regulation for Mobile Cargo Handling Equipment at Ports and Intermodal Rail Yards. Off-road diesel vehicles owned and operated by an individual for personal, non-commercial, and non-governmental purposes are exempt from the provisions of this regulation.

**(c) Definitions**

*****

***(59) "Two-Engine Crane"*** means a mobile diesel-powered machine with a hoisting mechanism mounted on a specially constructed truck chassis or carrier; one engine provides motive power, and a secondary engine is used to lift and move materials and objects.

***(60) "Two-Engine Water Well Drilling Rig"*** means a mobile diesel-powered drilling rig owned by a water well drilling contractor with a current, valid C-57 license issued by the Contractors State License Board of California and used exclusively to drill water wells with a drilling mechanism mounted on a specially constructed truck chassis or carrier; one engine provides motive power, and a secondary engine is used to power the drilling mechanism.

***(601) "Verified Diesel Emission Control Strategy" (VDECS)*** means an emissions control strategy, designed primarily for the reduction of diesel PM emissions, which has been verified pursuant to the *Verification Procedures.* VDECS can be verified to achieve Level 1 diesel PM reductions (25 percent), Level 2 diesel PM reductions (50 percent), or Level 3 diesel PM reductions (85 percent). VDECS may also be verified to achieve NOx reductions. See also definition of Highest Level VDECS.

***(612) "VDECS Failure"*** means the condition of not achieving the emissions reductions to which the VDECS is verified. Such condition could be due to inappropriate installation, damage, or deterioration during use. If a Level 3 VDECS is emitting visible smoke, it should be assumed to have failed.

***(623) "Workover rig"*** means a mobile self-propelled rig used to perform one or more remedial operations, such as deepening, plugging back, pulling and resetting liners, on a producing oil or gas well to try to restore or increase the well's production.

*****

**(e) Special Provisions/Compliance Extensions**

*****

**(14) Two-Engine Cranes** – Both engines in a two-engine crane are subject to this regulation. For purposes of the rounding provisions in section 2449.1(a)(2)(a)7., neither engine in the two-engine crane is required to be turned over until the horsepower required to be turned over under section 2449.1(a)(2)(A) is at least half the sum of the maximum power of the primary and secondary engine in the two-engine crane.

**(15) On-road Registered Vehicles with Off-road Engines** – If a workover rig or other on-road registered vehicle subject to this regulation with an off-road engine is repowered and will be registered and driven on-road, it must be repowered with an on-road certified engine of the same model year or newer as the engine being replaced.

**(16) Two-Engine Water Well Drilling Rigs** – Both engines in a two-engine water well drilling rig are subject to this regulation. For purposes of the rounding provisions in section 2449.1(a)(2)(a)7, neither engine in the two-engine water well drilling rig is required to be turned over until the horsepower required to be turned over under section 2449.1(a)(2)(A) is at least half the sum of the maximum power of the primary and secondary engine in the two-engine water well drilling rig.

*****

**(g) Reporting –**

Reporting is required for each and every fleet. Large and medium fleets may report separately for different divisions or subsidiaries of a given company or agency. Fleet owners may submit reporting information using forms (paper or electronic) approved by the Executive Officer.

**(1) Initial reporting** – All fleet owners must submit the information in section 2449(g)(1)(A) through (G) to ARB by their initial reporting date. In the initial reporting, fleet owners must report information regarding each vehicle subject to this regulation that was in their fleet on March 1, 2009. Systems or non-

diesel fueled vehicles that are used in place of a vehicle that would be subject to this regulation must also be reported. The initial reporting date for large fleets is April 1, 2009. The initial reporting date for medium fleets is June 1, 2009. The initial reporting date for small fleets is August 1, 2009. Notwithstanding the aforementioned reporting dates, the initial reporting date for two-engine water well drilling rigs is August 1, 2010. Reports must include the following information:

**(A) Fleet Owner** –

1. Fleet owner's name;
2. Corporate parent name (if applicable);
3. Corporate parent taxpayer identification number (if applicable);
4. Company taxpayer identification number;
5. Address;
6. Responsible person name;
7. Responsible person title;
8. Contact name;
9. Contact phone number;
10. Contact email address (if available);
11. Whether the fleet owner is a low population county local municipality fleet;
12. Whether the fleet owner has an approval from the Executive Officer to be treated as if in a low-population county;
13. Whether the fleet owner is a non-profit training center;
14. Whether the fleet has an idling policy documented and available to employees;
15. Whether the fleet is using a fuel-based strategy as an emissions control strategy;
16. Whether the fleet is a Captive Attainment Area Fleet.

**(B) Vehicle List** – A list of each vehicle subject to this regulation along with the following information for each vehicle:

1. Vehicle type;
2. Vehicle manufacturer;
3. Vehicle model;
4. Vehicle model year;
5. Vehicle serial number; (i.e., for workover rigs and two-engine cranes and two-engine water well drilling rigs, vehicle identification number);
6. Whether the vehicle is a low-use vehicle;
7. If the vehicle is a low-use vehicle, whether the vehicle was operated outside of California during the previous compliance year;
8. Whether the vehicle is a specialty vehicle;
9. Whether the vehicle is a vehicle used solely for emergency operations;
10. Whether the vehicle is a dedicated snow removal vehicle;
11. Whether the vehicle is used for agricultural operations for over half of its annual operating hours;

12. Whether the vehicle is an electric vehicle that replaced a diesel vehicle;
13. Whether the vehicle has been retrofit, repowered, or replaced with Surplus Off-road Opt-in for NOx program funding and, if so, the start and end dates of the contract period;
14. Whether the vehicle has been retrofit, repowered, or replaced with Carl Moyer program funding;
15. Whether the vehicle has been retrofit through a demonstration program, and - if so - which program;
16. EIN if it has already been assigned.
17. License plate number, if vehicle has a license plate.

*****

Note: Authority cited: Sections 39002, 39515, 39516, 39600, 39601, 39602, 39650, 39656, 39658, 39659, 39665, 39667, 39674, 39675, 40000, 41511, 42400, 42400.1, 42400.2, 42400.3.5, 42402, 42402.1, 42402.2, 42402.4, 42403, 43000, 43000.5, 43013, 43016, 43018, and 43018.2, Health and Safety Code. Reference: Sections 39002, 39515, 39516, 39600, 39601, 39602, 39650, 39656, 39657, 39658, 39659, 39665, 39667, 39674, 39675, 40000, 41511, 42400, 42400.1, 42400.2, 42402.2, 43000, 43000.5, 43013, 43016, 43018, and 43018.2, Health and Safety Code.

**§ 2449.3. Surplus Off-Road Opt-In for NOx (SOON) Program**

***(a) Purpose***

*****

***(b) Applicability***

*****

***(1) District Applicability*** –

*****

***(2) Fleet Applicability*** – Section 2449.3 applies to a fleet that:
(A) Operates individual vehicles within the air district;
(B) As of January 1, 2008, on a statewide level, consisted of more than 40 percent Tier 0 and Tier 1 vehicles, and;
(C) Has a statewide fleet with maximum power greater than 20,000 horsepower (hp), excluding the hp from engines in two-engine cranes and the hp from single engine cranes formerly subject to the Cargo Handling Equipment Regulation and the hp from two-engine water-well drilling rigs.

*****

Note: Authority cited: Sections 39002, 39515, 39516, 39600, 39601, 39602, 43000, 43000.5, 43013, 43016 and 43018, Health and Safety Code. Reference: Sections

39002, 39515, 39516, 39600, 39601, 39602, 39650, 39656, 39657, 39658, 39659, 39665, 39667, 43000, 43000.5, 43013, 43016 and 43018, Health and Safety Code.

# Appendix D

# Proposed Regulation Order

## REGULATION FOR IN-USE ON-ROAD HEAVY-DUTY DIESEL VEHICLES

**California Air Resources Board**

Sections 2025, title 13, California Code of Regulations.

(Note: Proposed amendments to the regulation are identified below. Underline is used to indicate the proposed additions. ~~Strikeout~~ is used to indicate proposed deletions from the regulation text.)

# PROPOSED REGULATION ORDER TO REDUCE EMISSIONS OF DIESEL PARTICULATE MATTER, OXIDES OF NITROGEN, AND OTHER POLLUTANTS FROM IN-USE HEAVY-DUTY DIESEL-FUELED VEHICLES

Amend section 2025, in title 13, article 4.5, chapter 1, California Code of Regulations (Cal. Code Reg.) to read as follows: (Note that only subsection 2025(c) is being revised, so the subsections that follow are not included.)

## Section 2025. Regulation to Reduce Emissions of Diesel Particulate Matter, Oxides of Nitrogen and Other Criteria Pollutants, from In-Use Heavy-Duty Diesel-Fueled Vehicles

*(a) Purpose.*

The purpose of this regulation is to reduce emissions of diesel particulate matter (PM), oxides of nitrogen (NOx) and other criteria pollutants, and greenhouse gases from in-use diesel-fueled vehicles.

*(b) Scope and Applicability.*

(1) Except as provided in subsection (c), this regulation applies to any person, business, federal government agency, school district or school transportation provider that owns or operates, leases, or rents, affected vehicles that operate in California. The regulation also applies to persons that sell affected vehicles in California. Affected vehicles are those that operate on diesel-fuel, dual-fuel, or alternative diesel-fuel that are registered to be driven on public highways, were originally designed to be driven on public highways whether or not they are registered, yard trucks with on-road or off-road engines, both engines of two engine sweepers, schoolbuses, and have a manufacturer's gross vehicle weight rating (GVWR) greater than 14,000 pounds. Affected vehicles also include shuttle vehicles defined in section 2025(d)(68).

*(c) Exemptions*

This regulation does not apply to:

(1) Vehicles subject to the solid waste collection vehicle rule commencing with title 13, CCR, section 2021;

(2) On-road diesel-fueled heavy-duty vehicles over 14,000 pounds owned or operated by a municipality, that comply with the Best Available Control Technology (BACT) requirements of title 13, section 2022.1(a)(1);

(3) Vehicles subject to the fleet rule for transit agencies commencing with title 13, CCR, section 2023;

(4) Vehicles subject to the rule for mobile cargo handling equipment at ports and intermodal rail yards commencing with title 13, CCR, section 2479;

(5) Military tactical support vehicles, as described in title 13, CCR, section 1905;

(6) Authorized emergency vehicles as described in California Vehicle Code (Veh. Code), section 165;

(7) Off-road vehicles subject to title 13, CCR, sections 2401, 2411, 2421, 2432, and 2449;

(8) Dedicated snow-removal vehicles as defined in section 2025(d)(18);

(9) Two-engine cranes as defined in title 13, CCR, section 2449(c)(5~~6~~9);

(10) Historic vehicles as defined in section 2025(d)(41);

(11) Motor homes for non-commercial private use;

(12) Vehicles subject to the regulation for drayage trucks commencing with title 13, CCR, section 2027 until January 1, 2021; and

(13) Trucks with a GVWR of 19,500 pounds or less with originally equipped pick-up beds used exclusively for personal use, non-commercial, non-governmental use.

(14) Two-engine water well drilling rigs as defined in title 13, CCR, section 2449(c)(60);

# Appendix E

Discussion of Emission Factor for Tier 1 Engines <175 bhp.

## Appendix E

The Portable Diesel Engine ATCM requires owners to meet emission standards for PM, on a fleet average basis, starting in 2013 and continuing in 2017 and 2020. Emission factors to be used to demonstrate compliance with the standards are those submitted to U.S. EPA and/or ARB for the purposes of engine certification. However, since no PM standard exists for Tier 1 engines under 175 bhp, there are no certification emission factors available. There are approximately 6,000 engines in this category registered in the statewide registration program.

To determine emission factors for these engines, we began with PM emission factors that were developed by MSCD for their Off-Road Mobile Equipment ATCM and adjusted them for applicability to the Portable Engine ATCM. They used an equation that begins with a zero-hour (new) Carl Moyer Program emission factor which is adjusted to account for emissions deterioration and changes in fuel.

> PM deteriorated emission factor = [(useful life x deterioration factor x fuel correction) + zero hour emission factor] / 0.8

We have decided to use the above equation to determine the PM emission factor to be used for fleet averaging purposes for engines in the 50 to 174 bhp size range, except that we will not divide by 0.8 because it was shown that actual test results of engines in other size ranges were found to be about 20 percent lower than the emission standard levels. This "adjustment factor" was used because the Off-road Mobile Equipment ATCM requires emission standard values to be used in order to meet their average fleet limit. However, since the Portable Engine ATCM requires actual tested values to be used (instead of emission standard values), we have determined not to use this adjustment factor.

If there is PM emission data from the engine manufacturer, then we will evaluate this data for the purposes of compliance with the ATCM on a case by case basis. In certain cases, we may decide to use this data for the fleet average instead of the deteriorated PM default values.

The following PM emission factors will be used for calculating the ATCM fleet averages for engines in the 50 to 174 bhp range:

For 50-119 bhp
(8000 hr x 0.0000502 g/bhp-hr$^2$ x 0.80) + 0.552 g/bhp-hr = 0.87 g/bhp-hr

For 120-174 bhp
(8000 hr x 0.0000276 g/bhp-hr$^2$ x 0.80) + 0.274 g/bhp-hr = 0.46 g/bhp-hr

Where: 8000 hours is the useful life of the engine,

0.80 is a factor to adjust for improvement in diesel fuel in California since engine certification, and

0.0000502 g/bhp-hr$^2$ and 0.0000276 g/bhp-hr$^2$ are the deterioration factors from the Off-Road Model which is used by ARB to develop off-road emission inventories

0.552 g/bhp-hr and 0.274 g/bhp-hr are the new or zero-hour PM emission factors as published in the most current Carl Moyer Program Guidelines dated April 2008.

# Appendix F

# List of Acronyms

## Appendix F

## List of Acronyms

| | |
|---|---|
| AB | Assembly Bill |
| AQIA | Air Quality Impact Analysis |
| ARB or Board | Air Resources Board |
| ARB staff or Staff | Air Resources Board Staff |
| Portable Engine ATCM | Airborne Toxic Control Measure |
| BACT | Best Available Control Technology |
| bhp | Brake-horsepower |
| CAA | Federal Clean Air Act |
| CAPCOA | California Air Pollution Control Officers Association |
| CCR | California Code of Regulations |
| CEQA | California Environmental Quality Act |
| CFR | Code of Federal Regulations |
| CO | Carbon Monoxide |
| Districts | Air Pollution Control Districts or Air Quality Management Districts |
| DOF | Department of Finance |
| g/bhp-hr | Grams per Brake Horsepower-hour |
| HAP | Hazardous Air Pollutant |
| HC | Hydrocarbons |
| HSC | California Health and Safety Code |
| ISOR | Initial Statement of Reasons |
| LAER | Lowest Achievable Emission Rate |
| MACT | Maximum Achievable Control Technology |
| NMHC | Non-methane Hydrocarbons |
| NOx | Oxides of Nitrogen |
| NSR | New Source Review |
| OCS | Outer Continental Shelf |
| PEPS | Provider of Essential Public Service |
| PERP | Statewide Portable Equipment Registration Program |
| PM | Particulate Matter |
| ppmvd | Parts Per Million by Dry Volume |
| PSD | Prevention of Significant Deterioration |
| SB | Senate Bill |
| SCAQMD | South Coast Air Quality Management District |
| SOx | Oxides of Sulfur |
| STW | State Territorial Waters |
| Statewide PERP Regulation | Statewide Portable Equipment Registration Program Regulation |
| TACs | Toxic Air Contaminants |
| TSE | Tactical Support Equipment |
| U.S. EPA | United States Environmental Protection Agency |
| UTM | Universal Transverse Mercator |
| VOC | Volatile Organic Compounds |
| Workgroup | Portable Equipment Workgroup |

# TITLE 13. CALIFORNIA AIR RESOURCES BOARD

## NOTICE OF PUBLIC HEARING TO CONSIDER AMENDMENTS TO THE VERIFICATION PROCEDURE, WARRANTY AND IN-USE COMPLIANCE REQUIREMENTS FOR IN-USE STRATEGIES TO CONTROL EMISSIONS FROM DIESEL ENGINES

The Air Resources Board (ARB or Board) will conduct a public hearing at the time and place noted below to consider adoption of amendments to the Verification Procedure, Warranty and In-Use Compliance Requirements for In-Use Strategies to Control Emissions from Diesel Engines. The proposed amendments would revise, clarify and make specific requirements that pertain to the process for obtaining the ARB's verification of devices or strategies to control emissions from diesel engines.

DATE: January 28, 2010

TIME: 9:00 a.m.

PLACE: California Environmental Protection Agency
Air Resources Board
Byron Sher Auditorium
1001 I Street
Sacramento, California 95814

This item may be considered at a two day meeting of the Board, which will commence at 9:00 a.m., January 28, 2010, and may continue at 8:30 a.m., on January 29, 2010. Please consult the agenda for the meeting, which will be available at least 10 days before January 28, 2010, to determine the day on which this item will be considered.

## INFORMATIVE DIGEST OF PROPOSED ACTION AND POLICY STATEMENT OVERVIEW

**Sections Affected**: Proposed amendments to title 13, California Code of Regulations (CCR), sections 2700, 2701, 2702, 2703, 2704, 2705, 2706, 2707, and proposed adoption of new section 2711.

**Background:**

In 1998, ARB identified diesel particulate matter (PM) as a toxic air contaminant (title 17, CCR, section 93000). In 2000, ARB adopted the Diesel Risk Reduction Plan (DRRP) with the goal of reducing PM emissions and their associated health risks by 85 percent by the year 2020. The DRRP identified a number of key measures to achieve this goal: more stringent standards for all new diesel-fueled engines and vehicles, retrofitting in-use diesel engines with diesel emission control systems, and the use of low-sulfur diesel fuel.

To support the DRRP, staff developed a verification procedure (Procedure) for in-use diesel emission control systems (systems or DECS) that was adopted by the Board in May 2002. The Procedure is used by staff to ensure that in-use diesel emission control systems achieve real and durable PM emissions reductions. It specifies test procedures, warranty requirements, and in-use compliance testing requirements. Systems that meet all of the Procedure's requirements are verified and thus become candidate compliance options for ARB fleet regulations that require the control of diesel emissions from in-use fleets.

In-use fleet regulations, both adopted by the Board and currently under development, rely on having verified diesel emission control systems available to fleet owners as compliance options. Diesel vehicles and equipment for which regulations have already been adopted include transit buses (title 13, CCR, section 2023, et seq.), solid waste collection vehicles (title 13, CCR, section 2021, et seq.), vehicles that belong to public agencies and utilities (title 13, CCR, section 2022, et seq.), mobile cargo handling equipment at ports and intermodal rail yards (title 13, CCR, section 2479), transport refrigeration units (title 13, CCR, section 2477), off-road diesel equipment (title 13 CCR, section 2449 et seq.), and private on-road diesel vehicles (title 13, CCR, section 2025 et seq.). These regulations provide several paths to compliance, one of which is the installation of verified diesel emission control systems. To support the successful implementation of these regulations, it is therefore critical for the Procedure to be an effective and efficient means to evaluate diesel emission control systems. However, as the verification program has matured, staff has found that a number of amendments to the Procedure are necessary to better serve the needs of the in-use fleet regulations.

**Proposed Amendments:**

The proposed regulatory language and explanations can be found in the Staff Report: Initial Statement of Reasons (ISOR) and the attachments thereto. The most significant proposed amendments are summarized below:

**Pre-Installation Compatibility Assessment Requirements**
Staff proposes to add new language to section 2706 (Other Requirements) of the Procedure to provide guidance and direction on how to assess the compatibility of a DECS with a candidate vehicle prior to installation. The proposal establishes basic

requirements to help standardize the evaluation process and allows for the option of using exhaust temperature data from similar engines and applications in lieu of logging exhaust temperature data for every candidate vehicle.

**Remedial Action for High Warranty Claim Rates**
The current Procedure requires annual warranty reporting, but does not clearly spell out possible ramifications of high numbers of warranty claims. Most verified device manufacturers recognize that ARB can terminate a verification if a system has catastrophic problems in the field. However, ARB can take less drastic remedial actions according to the situation. Staff proposes to clarify this ability as it is unclear in the current language.

**Incident Notification Timeframe**
Staff proposes to change the period applicants currently have to submit a report of any incidents during the durability or field demonstration period. This change will result in applicants having a period of no more than 45 days, rather than 90, within which they must submit a report describing device/component failures, unscheduled repairs or unscheduled maintenance events.

**Exhaust Temperature and Engine Backpressure Monitoring**
Engine history and maintenance information as well as the backpressures, temperatures, and warning and fault codes experienced by a verified device are critical data in determining compatibility with an application as well as helping to resolve warranty disputes. Therefore staff has introduced language that would require all temperature dependent DECS that are verified after the effective date of the proposed amendments to have the capability to measure and record certain operational parameters.

**Identification of Off-road Categories**
Currently, marine, locomotive, transport refrigeration units, and auxiliary power units are grouped into the off-road engines category, but are typically tested differently for verification (emissions and durability) according to the most appropriate test procedure and durability demonstration for the application. The proposed changes clarify this distinction by acknowledging these applications as individual and unique subcategories within the off road arena.

**Installation Warranty Clarifications**
Staff proposes to add clarifying language to section 2707 (Warranty Requirements) making it clear that the installation warranty requirements are identical to the product warranty requirements. The proposed clarification does not in any way alter the warranty period or coverage for either the applicant or installer.

**Compliance with California's Industrial Safety Regulations**
The Division of Occupational Safety and Health of the California Department of Industrial Relations is in the process of developing safety regulations that will pertain to

the installation of DECS on off-road vehicles and equipment. Staff proposes that an applicant for verification must conform to these regulations when conducting durability and field demonstrations. Staff's proposal will ensure that each applicant is familiar with California's industrial safety regulations and is able to comply with them.

**Photographic Documentation**
To better illustrate and document durability and field demonstrations, staff proposes that the applicant must submit digital photographs of each DECS and demonstration vehicle or piece of equipment as part of the application for verification. Staff's proposal would require photographs at three stages of a demonstration: before installation of the DECS, after installation, and after completion of the demonstration. This requirement should not add any significant burden to applicants.

**Public Availability of Information on DECS Maintenance**
Staff proposes that applicants provide comprehensive DECS maintenance information to the device owner upon delivery. This includes routine maintenance procedures, filter cleaning procedures, the identification of any equipment necessary to clean and maintain DECS components, and any performance criteria used to determine a proper state of maintenance, such as the pressure drop, minimum air flow rates, or filter weight in a fully cleaned filter.

**Component Swapping**
Staff proposes to extend the ability to swap devices by removing the restriction that components may only be swapped within a given common ownership fleet under certain conditions. All of the other restrictions and provisions in the current regulation still apply.

**Re-Designation Practices for Repowered Engines**
Currently, the Procedure does not address situations where the DECS remains on a chassis, but the engine is replaced with a different one. This action is equivalent to a DECS re-designation which is already governed under the Procedure. Staff therefore proposes to allow re-designation to include this situation. All existing re-designation requirements apply.

**Component Swapping and DECS Re-Designation Warranty Clarifications**
The Procedure is clear on the applicant's warranty responsibilities in the context of component swapping and DECS re-designation, but less so on the installer's responsibilities. Staff's proposal clarifies the installer's warranty responsibilities for both component swapping and DECS re-designation that occur both before and after expiration of the original warranty. Before expiration of the original warranty, the installer must honor the remaining terms of the warranty just as the applicant does. If the original warranty has expired or has less than one year remaining, the installer must provide a new one-year installation warranty. Each installer is thus held responsible for each component swap or re-designation that he or she performs.

**Labeling requirements**
To ensure that only ARB verified systems carry a label compliant with Section 2706, and have the assigned DECS name, staff proposed to clarify that such label must only be used with verified systems. Therefore any verified device carrying an ARB approved label is obligated to honor all terms and conditions of verification including, but not limited to, warranty requirements.

**Unidirectional Design Clarification**
Staff proposes to clarify the unidirectional design requirement contained in section 2706(r). As currently specified in the Procedure, this requirement becomes effective January 1, 2010. However, due to the effects of the current global recession, and recent changes to some of the in-use diesel fleet rules, sales of verified DECS are lower than expected, resulting in some DECS manufacturers having excess inventory of DECS that do not meet the unidirectional design requirement. To address this, staff proposes to provide a "sell through" period.

**Scope of Compliance**
Currently, ARB can enforce or revoke a verification if the verified device manufacturer fails to meet the requirements of the Procedure. Section 2711 clarifies ARB's authority to enforce on issues related to verified devices regardless of the location of the verified device. Staff's proposal further explains that a product should not be sold, offered for sale, or introduced into commerce as "Verified" or carrying an ARB approved (per section 2706 of the Procedure) label if the product does not meet all the terms and conditions of the governing Executive Order. The amendment gives flexibility to the Executive Officer to modify, revoke or suspend an Executive Order if the applicant violates the terms and conditions thereof. Additionally, staff proposes to clarify that a device which has not been ARB verified may not be represented as such.

**Data Logging Date and Time Stamp Requirements**
Staff proposes to add language to sections 2704 (Durability Testing Requirements), and 2705 (Field Demonstration Requirements), to clarify the type of data that must be recorded during durability demonstrations and field demonstrations.

**Other Proposed Amendments**
Staff clarified appropriate contacts and mailing addresses for all application submittals. Staff also modified the application outline in section 2702 to ask for pre-installation compatibility procedures and clarified the scope of information requested describing DECS installation requirements.

## COMPARABLE FEDERAL REGULATIONS

The United States Environmental Protection Agency (U.S. EPA) has published a draft document, "General Verification Protocol for Diesel Exhaust Catalysts, Particulate Filters, and Engine Modification Control Technologies for Highway and Nonroad Use Diesel Engines," but has not promulgated formal regulations for this verification protocol. That verification protocol is intended to support the voluntary retrofit programs

initiated by U.S. EPA, while staff's proposal is to support ARB's DRRP and all the associated in-use fleet regulations. Additionally, the U.S. EPA program affords no warranty protection.

## AVAILABILITY OF DOCUMENTS AND AGENCY CONTACT PERSONS

ARB staff has prepared a Staff Report: Initial Statement of Reasons (ISOR) for the proposed regulatory action, which includes a summary of the economic and environmental impacts of the proposal. The report is entitled: *Proposed Amendments to the Verification Procedure, Warranty and In-Use Compliance Requirements for In-Use Strategies to Control Emissions from Diesel Engines.*

Copies of the ISOR and the full text of the proposed regulatory language, in underline and strikeout format to allow for comparison with the existing regulations, may be accessed on ARB's website listed below, or may be obtained from the Public Information Office, Air Resources Board, 1001 I Street, Visitors and Environmental Services Center, First Floor, Sacramento, California, 95814, (916) 322-2990, at least 45 days prior to the scheduled hearing on January 28, 2010.

Upon its completion, the Final Statement of Reasons (FSOR) will be available and copies may be requested from the agency contact persons in this notice, or may be accessed on the ARB website listed below.

Inquiries concerning the substance of the proposed regulation may be directed to the designated agency contact persons, Mr. Juan Avila, Air Pollution Specialist, Retrofit Assessment Section, at (626) 575-7098, or Ms. Shawn Daley, Manager, Retrofit Assessment Section, at (626) 575-6972.

Further, the agency representative and designated back-up contact persons to whom non-substantive inquiries concerning the proposed administrative action may be directed are Lori Andreoni, Manager, Board Administration & Regulatory Coordination Unit, (916) 322-4011, or Trini Balcazar, Regulations Coordinator, (916) 445-9564. The Board has compiled a record for this rulemaking action, which includes all the information upon which the proposal is based. This material is available for inspection upon request to the contact persons.

This notice, the ISOR, and all subsequent regulatory documents, including the FSOR, when completed, are available on the ARB website for this rulemaking at www.arb.ca.gov/regact/2010/verdev2010/verdev2010.htm

## COSTS TO PUBLIC AGENCIES AND TO BUSINESSES AND PERSONS AFFECTED

The determinations of the Board's Executive Officer concerning the costs or savings necessarily incurred by public agencies and private persons and businesses in reasonable compliance with the proposed amendments are presented below.

Pursuant to Government Code sections 11346.5(a)(5) and 11346.5(a)(6), the Executive Officer has determined that the proposed regulatory action would not create costs or savings to any State agency or in federal funding to the State, costs or mandate to any local agency or school district, whether or not reimbursable by the State pursuant to Government Code, title 2, division 4, part 7 (commencing with section 17500), or other nondiscretionary cost or savings to State or local agencies.

In developing this regulatory proposal, ARB staff evaluated the potential economic impacts on representative private persons or businesses. In general, the ARB is not aware of any cost impacts that a representative private person or business would necessarily incur in reasonable compliance with the proposed action. Participation in the Procedure is purely voluntary, both in its current form and as amended under the proposed action. Presumably, only entities that expect to benefit financially by obtaining verification will do so. While it is true that participation in the verification process is voluntary and there is no prohibition against selling diesel emission control strategies in California that have not been verified by ARB, the Board has adopted and may in the future adopt regulations requiring reductions of PM from in-use diesel vehicles through the application of verified, retrofitted diesel emission control strategies in specific situations. Entities subject to these retrofit requirements must use verified diesel emission control strategies to comply with these requirements under some compliance options. Consequently, entities that wish to pursue these compliance options will only purchase systems from manufacturers that have obtained ARB's verification. For the most part, the proposed amendments would not raise compliance costs, and in the case of pre-installation assessment flexibility, maintenance procedure availability, and component swapping across fleets, cost savings may be afforded to some participants and end users.

The Executive Officer has made an initial determination that the proposed regulatory action would not have a significant statewide adverse economic impact directly affecting businesses, including the ability of California businesses to compete with businesses in other states, or on representative private persons.

In accordance with Government Code section 11346.3, the Executive Officer has determined that the proposed regulatory action would not eliminate jobs within the State of California, and may lead to the creation of new businesses within the State of California. It may also lead to the expansion of businesses currently operating within the State of California. A detailed assessment of the economic impacts of the proposed regulatory action can be found in the ISOR.

The Executive Officer has also determined, pursuant to title 1, CCR, section 4, that the proposed regulatory action would not negatively affect small businesses though it has the potential for creating additional business opportunities. These opportunities may result from the proposals to make maintenance practices transparent, to allow inter-fleet component swapping, and to define representative sampling of candidate engines. These proposals may also benefit fleets that are affected by ARB's in-use fleet regulations.

In accordance with Government Code sections 11346.3(c) and 11346.5(a)(11), the Executive Officer has found that the reporting requirements of the regulation which apply to businesses are necessary for the health, safety, and welfare of the people of the State of California.

Before taking final action on the proposed regulatory action, the Board must determine that no reasonable alternative considered by the Board or that has otherwise been identified and brought to the attention of the Board would be more effective in carrying out the purpose for which the action is proposed or would be as effective and less burdensome to affected private persons than the proposed action.

## SUBMITTAL OF COMMENTS

Interested members of the public may also present comments orally or in writing at the meeting and may be submitted by postal mail or by electronic submittal before the meeting. To be considered by the Board, written comments, not physically submitted at the meeting, must be received **no later than 12:00 noon, January 27, 2010,** and addressed to the following:

Postal mail: Clerk of the Board, Air Resources Board
1001 I Street, Sacramento, California 95814

Electronic submittal: http://www.arb.ca.gov/lispub/comm/bclist.php

Please note that under the California Public Records Act (Gov. Code, § 6250 et seq.), your written and oral comments, attachments, and associated contact information (e.g., your address, phone, email, etc.) become part of the public record and can be released to the public upon request. Additionally, this information may become available via Google, Yahoo, and any other search engines.

The Board requests, but does not require, that 20 copies of any written statement be submitted and that all written statements be filed at least 10 days prior to the hearing so that ARB staff and Board members have time to fully consider each comment. The Board encourages members of the public to bring to the attention of staff in advance of the hearing any suggestions for modification of the proposed regulatory action.

## STATUTORY AUTHORITY AND REFERENCES

This regulatory action is proposed under that authority granted in Health and Safety Code, sections 39002, 39003, 39500, 39600, 39601, 39650-39675, 40000, 43000, 43000.5, 43011, 43013, 43018, 43105, 43600, and 43700. This action is proposed to implement, interpret and make specific sections 39650-39675, 43000, 43009.5, 43013, 43018, 43101, 43104, 43105, 43106, 43107, and 43204-43205.5 of the Health and Safety Code and title 17, CCR, section 93000.

## HEARING PROCEDURES

The public hearing will be conducted in accordance with the California Administrative Procedure Act, title 2, division 3, part 1, chapter 3.5 (commencing with section 11340) of the Government Code.

Following the public hearing, the Board may adopt the regulatory language as originally proposed, or with non-substantial or grammatical modifications. The Board may also adopt the proposed regulatory language with other modifications if the text as modified is sufficiently related to the originally proposed text that the public was adequately placed on notice that the regulatory language as modified could result from the proposed regulatory action; in such event the full regulatory text, with the modifications clearly indicated, will be made available to the public, for written comment, at least 15 days before it is adopted.

The public may request a copy of the modified regulatory text from the ARB's Public Information Office, Air Resources Board, 1001 I Street, Visitors and Environmental Services Center, First Floor, Sacramento, California, 95814, (916) 322-2990.

## SPECIAL ACCOMMODATION REQUEST

**To request a special accommodation or language needs for any of the following:**

- An interpreter to be available at the hearing.
- Have documents available in an alternate format (i.e. Braille, large print) or another language.
- A disability-related reasonable accommodation.

Please contact the Clerk of the Board at (916) 322-5594 or by facsimile at (916) 322-3928 as soon as possible, but no later than 10 business days before the scheduled Board hearing. TTY/TDD/Speech to Speech users may dial 711 for the California Relay Service.

**Para solicitar alguna comodidade especial o si por su idioma necesita cualquiera de los siguientes:**

- Un intérprete que esté disponible en la audiencia.
- Documentos disponibles en un formato alternativo (es decir, sistema Braille, letra grande) u otro idioma.
- Una acomodación razonable relacionados con una incapacidad.

Porfavor llame a la officina del Consejo a (916) 322-5594 o envie un fax a (916) 322-3928 lo mas pronto possible, pero no menos de 10 dias de trabajo antes del el dia programado para la audencia del Consejo. TTY/TDD/ Personas que nesessitan este servicion pueden marcar el 711 para el Servicio de Retransmisión de Mensajes de California.

CALIFORNIA AIR RESOURCES BOARD

James N. Goldstene
Executive Officer

Date: December 1, 2009

*The energy challenge facing California is real. Every Californian needs to take immediate action to reduce energy consumption. For a list of simple ways you can reduce demand and cut your energy costs, see our website at www.arb.ca.gov.*

California Environmental Protection Agency

# Air Resources Board

## STAFF REPORT:
## INITIAL STATEMENT OF REASONS FOR PROPOSED RULEMAKING

## PROPOSED AMENDMENTS TO THE VERIFICATION PROCEDURE, WARRANTY AND IN-USE COMPLIANCE REQUIREMENTS FOR IN-USE STRATEGIES TO CONTROL EMISSIONS FROM DIESEL ENGINES

Date of Release: December 10, 2009

Scheduled for Consideration: January 28-29, 2010

This document has been reviewed by the staff of the California Air Resources Board, and approved for publication. Publication does not signify that the contents necessarily reflect the views and policies for the Air Resources Board.

## TABLE OF CONTENTS

**EXECUTIVE SUMMARY** ..... **5**
**I. BACKGROUND AND RECOMMENDATION** ..... **7**
A. Introduction ..... 7
B. Background ..... 7
C. Overview of the Verification Program ..... 8
D. Recommendation ..... 8
**II. REGULATORY AUTHORITY AND PUBLIC OUTREACH** ..... **11**
A. Regulatory Authority ..... 11
B. Public Outreach ..... 11
**III. PROPOSED NEW PROVISIONS TO THE VERIFICATION PROCEDURE** ..... **13**
A. Pre-Installation Compatibility Assessment ..... 13
B. Incident Notification Timeframe ..... 16
C. Continuous Exhaust Temperature and Backpressure Monitoring ..... 16
D. Compliance with California's Industrial Safety Regulations ..... 17
E. Photographic Documentation ..... 17
F. Information on DECS Maintenance Practices ..... 17
G. Component Swapping ..... 18
H. Requirement to Log Date, Time, and Engine Speed Data ..... 19
**IV. PROPOSED CLARIFYING AMENDMENTS TO THE VERIFICATION PROCEDURE** ..... **21**
A. Remedial Action for High Warranty Claim Rates ..... 21
B. Identification of Off-road Categories ..... 21
C. Installation Warranty Clarifications ..... 22
D. Re-Designation Practices for Repowered Engines ..... 22
E. Component Swapping and DECS Re-Designation Warranty Clarifications ..... 22
F. Labeling Requirement Clarification ..... 23
G. Unidirectional Design Clarification ..... 23
H. Scope of Compliance ..... 24
I. Other Proposed Amendments ..... 24
**V. ECONOMIC and ENVIRONMENTAL IMPACTS** ..... **27**
A. Legal Requirement ..... 27
B. Potential Impact on California Businesses ..... 27
C. Potential Impact on Employment ..... 27
D. Potential Impact of Business Creation, Elimination or Expansion ..... 28
E. Potential Impact on Business Competitiveness ..... 28
F. Potential Impact to California State or Local Agencies ..... 28
G. Estimated Costs of the Proposed Amendments ..... 28
H. Environmental Impacts ..... 30
**VI. REGULATORY ALTERNATIVES CONSIDERED** ..... **31**
**VII. REFERENCES** ..... **33**

**APPENDIX A. Proposed Regulation Order**

## EXECUTIVE SUMMARY

In 1998, the Air Resources Board (ARB or Board) identified diesel particulate matter (PM) as a toxic air contaminant (Title 17, California Code of Regulations (CCR), section 9300) following a ten-year review process. A toxic air contaminant is an air pollutant which may cause or contribute to an increase in mortality or serious illness, or which may pose a present or potential hazard to human health. Many toxic air contaminants are volatile and are found primarily in the atmosphere as gases, but some are atmospheric particles or liquid droplets. Diesel PM is of particular concern because of its prevalence in California.

The amount of diesel PM emitted into California's air and the potential cancer risk it poses make diesel PM the most harmful toxic air contaminant in the state. To address this significant health concern, the ARB adopted the Diesel Risk Reduction Plan (DRRP) in 2000, which outlines possible control measures to reduce diesel PM. One of the key components in the DRRP involves using diesel emission control strategies with the existing fleet, which consists of diesel vehicles and equipment in on-road, off-road, and stationary applications. To date, regulations (fleet rules) targeting emission reductions from nearly all in-use diesel vehicles and engines have been adopted by the Board. However, before a diesel emission control strategy may be used to satisfy a regulatory requirement, ARB must first determine if it can effectively and durably reduce emissions.

To ensure that diesel emission control strategies (DECS) achieve real and durable reductions of PM and oxides of nitrogen (NOx) emissions, staff developed the *Verification Procedure, Warranty and In-Use Compliance Requirements for In-Use Strategies to Control Emissions from Diesel Engines* (the Procedure), which the Board initially adopted in May 2002 and subsequently amended a number of times since. The Procedure is used by staff to evaluate DECS through emissions, durability, and field testing. In addition, it permits further evaluation after installation through warranty and in-use compliance requirements. The Procedure is therefore ARB's key tool for ensuring that DECS used by fleet owners are an effective means to achieving the emission reduction goals of the DRRP.

The verification process is designed to assess technologies, determine that the emissions reduction claims of the manufacturer are real and durable, and to define proper in-field application of the devices. The Procedure also requires device manufacturers and installers to warrant their product and work thereby ensuring the purchaser of the device has substantial protection of their investment.

To improve the verification process and better support ARB's in-use fleet rules, ARB staff is proposing a number of amendments to the Procedure. The amendments proposed by staff will:

- Require a pre-installation assessment of compatibility to ensure the suitability of a DECS,
- Clarify the range of remedial action available to ARB if reported DECS warranty claims exceed 4 percent of units sold,
- Reduce the incident notification period from 90 days to 45 days during durability/field demonstrations,
- Require filter-based DECS to store exhaust backpressure and temperature data for a specified period,
- Identify transport refrigeration units, auxiliary power units, locomotive and marine applications as off road sub-categories and clarify appropriate test cycles,
- Require engine speed, date and time to be continuously measured during durability and field demonstration trials,
- Require installations of DECS used in durability and field demonstrations to comply with California's industrial safety requirements,
- Require applicants to submit digital photographs of DECS, vehicles, and equipment used in durability and field demonstrations,
- Require DECS maintenance information to be provided to end users,
- Extend the ability to exchange DECS components across fleets,
- Clarify that all the provisions of a DECS Executive Order apply wherever a DECS is sold and that potential remedial action exists for failure to follow the provisions, and
- Other minor clarifications and modifications

The proposed changes are intended to further the objectives of the verification program and to strengthen the protections and remedies for the system purchasers. The changes will improve matching of devices with applications, strengthen ARB's ability to quickly and effectively address systems with high warranty claim rates, provide additional information to fleets on the maintenance and appropriate use of their DECS, and provide better information to staff regarding durability performance. The proposed changes are based on information and feedback arising from experience with the fleet rules, which require both particulate matter (PM) and oxides of nitrogen (NOx) reductions. In addition, staff incorporated input from device manufacturers, distributers, and end-users in the development of this proposal.

# I. BACKGROUND AND RECOMMENDATION

## A. Introduction

This report describes proposed amendments to the *Verification Procedure, Warranty and In-Use Compliance Requirements for In-Use Strategies to Control Emissions from Diesel Engines* (Procedure), which is provided in the California Code of Regulations, Title 13, Sections 2700-2710. The Procedure arose out of the need to support California's Diesel Risk Reduction Plan, whose goal is to dramatically reduce Californians' exposure to diesel PM through, among other things, regulations to reduce emissions from existing diesel vehicles and equipment (also known as the fleet rules). Subsequent fleet rules also required emissions reductions in NOx. Verification of an emissions control system under the Procedure is the key to participating in the diesel emission control market in California. Staff determined that changes should be made to improve the Procedure to both better enable the ARB to meet the goals of the Diesel Risk Reduction Plan and to better support the various fleet rules. This report describes staff's proposed changes and the rationale behind them, as well as their potential impact.

The ARB has already adopted a number of fleet rules as part of the Diesel Risk Reduction Plan that requires emissions reductions from in-use fleets of diesel vehicles and equipment. One of the primary paths to compliance with the fleet rules is for fleet owners to retrofit their engines with diesel emission control systems (DECS) that are verified by ARB under the Procedure. The Verification Program is therefore a critical element of the Diesel Risk Reduction Plan. It ensures that the benefits from a verified emission control system are both real and durable. It also affords protections to the purchasers of the verified devices via warranty and in-use compliance requirements.

## B. Background

In 1998, following a ten-year review process, ARB identified diesel PM as a toxic air contaminant. A toxic air contaminant is an air pollutant that contributes to mortality or serious illness, or poses other potential hazards to human health. Diesel PM is of particular concern because it is distributed over large regions, thus resulting in widespread public exposure.

Diesel PM is the largest contributor to health risk posed by toxic air pollutants, constituting approximately 70 percent of the total statewide risk. To address this large-scale health concern, the ARB adopted the Diesel Risk Reduction Plan in 2000 (ARB, 2000). One of the primary goals of the Diesel Risk Reduction Plan is to reduce emissions of diesel PM from the long-lived in-use fleet. The Plan outlines measures that include the use of diesel emission control systems with existing diesel vehicles and equipment in on-road, off-road, and stationary applications. To be able to implement those measures, ARB must first verify that candidate emission control technologies are effective in reducing emissions.

In response to that requirement, ARB staff developed the Procedure to verify systems that provide real and durable reductions in diesel PM emissions. The Board adopted the Procedure at a public hearing held on May 16, 2002, and has subsequently amended it several times since. The Procedure encompasses on-road, off-road, and stationary applications and is designed to evaluate a broad range of technologies, including aftertreatment systems, alternative diesel fuels, and fuel additives. It establishes emission and durability testing requirements that manufacturers of emission control technologies must meet in order for their products to receive verification, as well as warranty and in-use compliance testing requirements.

To date, 151 diesel emission control strategies (DECS) verifications, including subsequent extensions of the scope of existing verifications, have been issued through the Procedure. As the Procedure and fleet programs have matured, staff has identified a number of improvements to the Procedure to address actual in-field issues and practices (such as device swapping and the need to better pre-installation assessments). Staff is now proposing a number of modifications to the Procedure to effect these changes.

## C. Overview of the Verification Program

The verification process, as defined by the Procedure, ensures DECS used to satisfy fleet rule requirements achieve real and durable emissions reductions. A manufacturer seeking to verify its product must satisfy emissions testing, durability testing, warranty and in-use compliance requirements as required by the Procedure.

To initiate the verification process, an applicant first submits an application containing detailed information describing the product, the engineering scientific basis of how the product works, and information regarding how they will comply with the testing requirements of the Procedure. In this initial stage, staff is careful to evaluate the strengths and weaknesses of the technology, whether the proposed testing and test engine will enable a meaningful evaluation of the product's performance and durability, and any additional issues unique to the system that must be addressed over the course of the verification. Verification requires that testing and other submitted information supports the desired emissions control group (those engines and applications that will be covered by the verification) and demonstrates successful system performance.

Following verification, applicants must honor the warranty and in-use compliance requirements of the Procedure. Applicants must submit annual warranty reports to ARB which include production and sales information of systems sold in California, and provides a summary of warranty claims. The summary includes a description of the nature of the claims and what actions were taken by the applicant to address them.

## D. Recommendation

Staff recommends that the Board adopt the proposed amendments to sections 2700, 2701, 2702, 2703, 2704, 2705, 2706, and 2707, and adopt new section 2711, title 13, of

the California Code of Regulations, as set forth in the proposed Regulation Order in Appendix A.

## II. REGULATORY AUTHORITY AND PUBLIC OUTREACH

This chapter describes the legal basis on which ARB can adopt and modify the regulation and the public outreach conducted by staff in developing this proposal.

### A. Regulatory Authority

ARB has authority under California law to adopt the proposed regulatory amendments. California Health and Safety Code sections 43000, 43000.5, 43013(b) and 43018 provide broad authority for ARB to adopt emission standards and other regulations to reduce emissions from new and in-use vehicular and other mobile sources. Under Health and Safety Code sections 43013(b) and 43018, ARB is directly authorized to adopt emission standards for off-road vehicular sources, as expeditiously as possible, to meet state ambient air quality standards. ARB is further mandated by California law under Health and Safety Code section 39667 to adopt Air Toxic Control Measures (ATCM's) for new and in-use vehicular sources, including off-road diesel vehicles, for identified toxic air contaminants, such as diesel PM.

Under federal and California law, ARB is the primary agency in California responsible for making certain that all regions of the State attain and maintain National Ambient Air Quality Standards. To achieve this, California must adopt all feasible measures to obtain the necessary emission reductions, including measures for new and existing mobile sources.

### B. Public Outreach

In developing the proposed amendments, staff held a public workshop in El Monte, California on June 23, 2009. This workshop was also accessible via webcast. Staff presented the proposed amendments and received questions and comments from stakeholders. Attendees were predominantly comprised of DECS manufacturers, their representatives, distributors, and some DECS end-users, including regulated fleets. Staff also held multiple meetings and conversations with the Manufacturers of Emission Controls Association (MECA) and individual companies to further discuss the proposals. Staff considered all comments received during development of the proposed amendments.

## III. PROPOSED NEW PROVISIONS TO THE VERIFICATION PROCEDURE

This chapter discusses the motivation and rationale behind each of the proposed amendments that would become a new requirement if adopted by the Board. The chapter following this one discusses proposed amendments that would primarily serve to clarify existing requirements.

### A. Pre-Installation Compatibility Assessment

Most DECS have an exhaust temperature requirement that must be met for them to function properly. However, there are no specific requirements in the Procedure that spell out how an installer of a DECS is to determine if the temperature requirement is met for a given diesel engine. The Executive Orders for verified DECS simply state that for the verification to be valid, the exhaust temperature of the engine must meet the listed requirement. Having no specific guidance, many installers choose to measure and log exhaust temperature from a few representative diesel engines instead of all the engines in a fleet that are being considered for retrofit with the DECS, while others data-log every vehicle to be retrofit. This has resulted in large variations in the percentage of engines that installers assess as well as the methods they use to conduct an assessment. As a result, sometimes inappropriate assessment methods have been used and DECS have been installed on engines that are too cold.

To address this, staff proposes to add guidance in the Procedure that standardizes how the exhaust temperature of a candidate engine must be assessed prior to retrofit. For DECS that reduce PM only, staff's proposal would allow installers to continue to sample a representative number of engines but defines what constitutes a representative number. This is because if the temperature criterion is not met, most PM-only DECS would continue to get their verified PM reductions, but give the operator strong feedback that there is a problem. At first the DECS would illuminate backpressure warning lights, and eventually it would plug up, causing very noticeable problems with vehicle operation. However, for DECS that reduce NOx, staff's proposal would eliminate the practice of representative sampling and require that all candidate engines be assessed because there is no such feedback mechanism in inappropriate (too cold) applications. In such a situation, the DECS would not achieve its verified NOx reductions yet the vehicle would continue to run normally.

For PM-only DECS, staff proposes a number of minimum requirements for determining what constitutes a representative sample of candidate engines within a fleet. There are two parts to staff's proposal: establish a minimum number of engines within a fleet that must be data-logged per group of similar engines, and clarify how a similar group of engines is defined. Staff proposes that within a group of similar engines, as described below, at least 5 engines or 10 percent of the engines, whichever is greater, must be data-logged. This dual requirement ensures that there is always some diversity in datasets and that a given data-logged engine will never represent more than 9 other

engines. Staff defines a group of engines as similar if they meet the following requirements:

- All engines belong to the same common ownership fleet.
- All engines have the same make and model.
- All engines are certified to the same PM emissions standard.
- The maximum power ratings of all engines fall within a range that does not exceed 100 horsepower. For example, all engines are rated to between 250 and 350 horsepower.
- None of the engines have exhaust gas recirculation, or all of the engines have external exhaust gas recirculation, or all of the engines have internal exhaust gas recirculation.
- All engines are installed in similar vehicles or equipment that perform a like function. Examples of vehicle or equipment groups considered similar include solid waste collection vehicles, transit buses, class 8 tractors, excavators, wheel loaders, and back-up emergency generators.

Under staff's proposal, logged exhaust temperature data can only be used to represent engines with highly similar characteristics within the same fleet. Such a group of similar engines can include engines with different model years, engine family names, and maximum power ratings, but all have the same make and model and perform the same basic function. However, even with engine groups thus defined, staff recognizes that there can still be variability in exhaust temperature profiles within such a group. While staff's proposal controls several of the variables, it cannot control all of them. If a DECS manufacturer or installer chooses to take this option and not data-log every candidate engine, it also accepts any uncertainty and risk associated with the option. However, Staff's proposal provides a reasonable balance of these risks, while providing a consistent methodology to evaluating the appropriateness of a particular DECS installation.

The final requirement for those that choose the representative sampling option involves documentation. If all vehicles are data-logged, each will have a dataset and analysis associated with it. However, in a representative sampling scheme, there may be no documentation of an exhaust temperature assessment for some of the vehicles and engines, depending on the practices of a given manufacturer or installer. To address this and to ensure that there is a clear record, staff proposes that if a DECS is found to be compatible with a candidate engine through the use of the representative sampling option, the party doing the assessment must provide a written statement to the owner indicating that the terms and conditions of the Executive Order, including the temperature requirements, have been met. The statement must include detailed information on the DECS and on each vehicle and engine for which the determination is valid. It must also identify which engines were actually data-logged and what parameters were used to define groups of similar engines. Upon request, the manufacturer or installer must submit a copy of the statement to the Executive Officer within 30 calendar days.

Staff's proposal also establishes requirements for the procedures used to assess the exhaust temperature of a candidate engine for both PM and NOx DECS. Currently, the Procedure does not address how a candidate engine is to be data-logged, what kind of data must be recorded, and how much data are necessary. To address this, staff proposes that:

- The data-logging system must be a stand-alone system that is independent of the DECS,
- Data must be measured and recorded while the candidate engine is being used in a manner that is representative of its normal operation,
- Data must be measured at a point in the exhaust system that is within 6 inches of the proposed location of the inlet of the DECS,
- The recorded exhaust gas temperature must have an accuracy of ±4 degrees Celsius, and the temperature sensor must have an appropriate range,
- Data must be recorded long enough to ensure that the candidate engine's operating exhaust temperature profile can be determined, but not for less than 24 hours of representative, actual engine operation,
- The data-logging system must have sufficient memory to avoid any overwriting of logged data, and
- Data must be recorded at a frequency of at least once every 5 seconds. Each record must include the exhaust temperature in Celsius, the time and date, and any other parameters that are necessary to determine compatibility with the Executive Order of the DECS.

Given that a minimum of 24 hours of actual engine operation must be recorded, the data-logging strategy must include a means to determine when the engine is actually running. One way of doing this is to use a data-logging system that automatically starts when the engine starts and stops when the engine stops. Another way is to log data continuously but to redact data that correspond with the engine being off. Logging engine speed or using a temperature threshold, such as just below the temperature at idle, are two means of identifying when the engine is running.

Finally, staff's proposal also includes a requirement that the data used to determine the compatibility of a DECS with a given engine must be retained by the installer for the duration of the warranty period. This includes engine oil consumption records at the time of installation and documentation showing that the engine was tuned according to the manufacturer's maintenance specifications prior to installation. All such data must be made available to ARB upon request.

Staff's pre-installation compatibility assessment proposal will help to ensure that candidate engines are more systematically screened prior to retrofit. The new requirements will improve the matching of candidate engines with appropriate DECS, and ensure that candidate engines are operating properly before receiving a DECS resulting in fewer problems in the field. Because assessment procedures are better

defined and include specific recordkeeping requirements, staff's proposal also makes the terms and conditions of a DECS Executive Order more enforceable.

**B. Incident Notification Timeframe**

Staff proposes to shorten the period applicants currently have to submit a report of any incidents during the durability or field demonstration period. This change will result in applicants having a period of no more than 45 days, rather than the currently allowed 90, within which they must submit a report describing device/component failures, unscheduled repairs or unscheduled maintenance events.

Given that the field demonstration period can be as short as 200 hours (or 10,000 miles) the current 90 day reporting window is impractical as it is almost half way over before ARB would even know about an issue. A problem during durability/field demonstrations can negatively affect ARB's acceptance of that information in support of a verification, and may require an applicant to reassess its system and/or restructure their testing. As a result, if ARB determines that the problem is significant enough to affect acceptance of the data, the device manufacturer has committed time and resources to an unproductive endeavor and could better utilize their resources working towards a successful durability/field demonstration. This can result in significant loss of time and capital which delays the verification process. Staff's proposal should minimize the occurrences of such issues, thereby providing better certainty to manufacturers of ARB acceptance of supporting verification data.

**C. Continuous Exhaust Temperature and Backpressure Monitoring**

If a problem arises with an installed DECS, certain basic information must be obtained in order to investigate the cause and/or nature of the problem. In addition to engine history and maintenance information, this includes backpressure and temperature data showing what the device was experiencing prior to the problem, as well as any history of any warning codes and fault codes. Such information can also be critical if disputes arise over warranty claims and obligations. However, not all systems incorporate control units capable of storing information for any appreciable length of time. Therefore staff is proposing to require all temperature dependent DECS that are verified after the effective date of the proposed amendments to have the capability to measure and record certain operational parameters. These parameters include engine exhaust temperature, exhaust backpressure and any error codes that may result during the day-to-day operation of the DECS. All DECS must include an electronic device capable of measuring these parameters, except error codes, for a period of no less than 200 hours of actual engine operation at an interval of once every 30 seconds. Error codes must be logged for a period of no less than 500 hours of actual engine operation at the same interval.

## D. Compliance with California's Industrial Safety Regulations

The Division of Occupational Safety and Health of the California Department of Industrial Relations is in the process of developing safety regulations that will pertain to the installation of DECS on off-road vehicles and equipment. Staff proposes that an applicant for verification must conform to these regulations for all durability and field demonstrations conducted in California. Should all of an applicant's demonstrations be conducted outside of California, staff proposes that at least one must conform to these regulations. Staff's proposal will ensure that each applicant is familiar with California's industrial safety regulations and is able to comply with them.

## E. Photographic Documentation

To better illustrate and document durability and field demonstrations, staff proposes to require that the applicant submit digital photographs of DECS and demonstration vehicles or equipment as part of the application for verification. This is because all demonstrations are conducted under the oversight of the applicant, not ARB, so staff rarely has the opportunity to see the installation first hand. While most applicants already submit digital photographs of retrofitted demonstration vehicles as part of their application, there is neither a formal requirement for this nor standardization as to what photographs should show.

Staff's proposal would require photographs at three stages of a demonstration: before installation of the DECS, after installation, and after completion of the demonstration. Specifically, photographs must show:

- The entire vehicle or piece of equipment before and after installation,
- A close-up of the location in which the DECS will be installed before and after installation,
- All available identification for the vehicle or equipment, engine, and DECS including labels and license plates, and
- After completion of the demonstration, the outlet face of the filter if the DECS includes one.

This proposal should not add any significant burden to applicants because, as mentioned previously, most of them already submit digital photographs.

## F. Information on DECS Maintenance Practices

The Procedure currently requires that DECS manufacturers provide owners with the maintenance requirements for the DECS in the owner's manual. This basic information lists the maintenance that must be done, but no additional information, such as the procedure for properly cleaning a component, is required. To better enable the owner to take care of the DECS, staff proposes that DECS manufacturers provide more comprehensive maintenance information to owners, and that this information be provided upon delivery of the DECS. This additional information includes routine maintenance procedures, filter cleaning procedures, the identification of any equipment

necessary to clean and maintain DECS components, the identification of any prohibited or harmful maintenance practices, and any performance criteria used to determine a proper state of maintenance, such as the pressure drop across a fully cleaned filter. The information provided must be sufficient to enable an owner to properly maintain the DECS without requiring that services be provided exclusively by the applicant or the applicant's distributor.

Requiring this level of maintenance information is important because it helps to give an owner a choice when deciding how to maintain his or her DECS. A DECS manufacturer may have grounds to deny a warranty claim if an owner does not properly maintain a DECS, but cannot deny a claim simply because the owner did not use an authorized service provider. Nevertheless, if comprehensive maintenance information is not available, an owner may have little choice but to use the authorized service provider. The proposed amendment serves to balance this situation.

For those DECS manufacturers that are concerned about anyone other than an authorized provider performing maintenance, there is another option they can consider. A manufacturer may require that a DECS be serviced by an authorized provider if the maintenance is covered under warranty at no cost to the owner. This is the only circumstance in which specifying the service provider is acceptable.

**G. Component Swapping**

The Procedure provides a limited pathway for an end-user to exchange, or "swap," specific DECS components among vehicles that are retrofitted with the same DECS. For DECS swapping to be permitted, the vehicles must belong to the same common ownership fleet and the swapping procedures must be approved by both the DECS manufacturer and ARB. Staff is proposing to modify this provision by removing the restriction that components may only be swapped within a given common ownership fleet. Staff's proposal would allow swapping across different fleets upon approval of this practice by the manufacturer and ARB. As a result, end-users, manufacturers, and installers would have another means by which to address the logistical challenge of removing DECS components that are in need of service while minimizing vehicle downtime. Also, staff's proposal could potentially reduce or even eliminate the need for a fleet to purchase costly spare components as it would have access, most likely through a service provider, to a large pool of spare components as needed.

Another element of staff's proposal is a clarification that applies to both component swapping and DECS re-designation. The proposed change clarifies that whether a vehicle is receiving a component or entire system from another vehicle, both the end-user and the installer must verify that the recipient vehicle meets the terms of the Executive Order, not the end-user alone.

## H. Requirement to Log Date, Time, and Engine Speed Data

Staff proposes to add language to Sections 2704 (Durability Testing Requirements), and 2705 (Field Demonstration Requirements), to clarify the type of data that must be recorded during durability demonstrations and field demonstrations. Staff routinely receives logged durability data that has no date or time stamp. In addition, applicants often submit data without any corresponding engine speed data, making analysis extremely difficult. Given that these data are used to evaluate the ability of a DECS to meet the emission reductions and durability requirements as required by the Procedure, it is essential that the data be properly identified such that it can be correlated to specific dates and times. Therefore, staff is proposing to require applicants to measure and record engine speed data and to ensure that all measured data has an accurate date and time stamp that corresponds with engine operation.

## IV. PROPOSED CLARIFYING AMENDMENTS TO THE VERIFICATION PROCEDURE

This chapter discusses the motivation and rationale behind the proposed amendments that would serve to clarify several of the existing requirements in the Procedure.

### A. Remedial Action for High Warranty Claim Rates

Currently, the Procedure requires annual warranty reporting, but does not clearly spell out possible ramifications if a high number of warranty claims are reported. Most verified device manufacturers recognize that ARB can revoke a verification if a system has catastrophic problems in the field, and ARB has always had the authority to take appropriate remedial action if necessary. However, staff believes it is appropriate to add clarifying language to remind device manufacturers that ARB can also modify or suspend a verification if the warranty claim rate exceeds the four percent threshold provided in the Procedure. Modifications include, for example, reducing the scope of engines that a verification covers and increasing the minimum exhaust temperature requirement. Suspension of a verification means that the DECS is not verified for some period of time. A suspension can end when the problem with the DECS has been resolved.

### B. Identification of Off-road Categories

While marine vessels, locomotives, transport refrigeration units, and auxiliary power units are currently grouped into the off-road engines category under the Procedure, they typically are tested very differently for verification (this includes both emissions and durability testing). These applications are tested according to the most appropriate test protocol and durability demonstration that best suites the application. These subcategories are characterized by very different duty cycles and operating conditions making it inappropriate to utilize a single off-road certification test cycle (such as the Non-Road Transient Cycle) to substantiate DECS performance.

Staff's proposed changes clarify this distinction by acknowledging these applications as individual and unique subcategories within the off road arena. Staff has proposed adding a definition for each one as part of the Procedure. Furthermore, the proposed amendments also specifically list the most appropriate test procedure to be used for each category. This clarification is necessary so that the testing and durability requirements are obvious to an applicant and not confused with those for general off-road applications. This change will not require different or additional testing relative to what the Procedure currently provides for and what is currently required of applicants targeting those subcategories. However, separating these as individual subcategories provides clarity to manufacturers in the verification process and to end users in the Executive Order by identifying that a DECS is verified to be used specifically for one of these applications. The proposed distinction will help ensure misapplications are less likely to occur by clearly identifying the appropriate subcategory.

### C. Installation Warranty Clarifications

Staff proposes to add clarifying language to Section 2707 (Warranty Requirements) making it clear that the installation warranty requirements are identical to the product warranty requirements. The product warranty covers defects in the DECS, and the installation warranty covers defects in the installation of the DECS, but both warranties have the same warranty period, cover any damage caused to the engine, and must meet the same set of additional requirements as outlined in the Procedure.

The proposed clarification does not in any way alter the warranty period or coverage for either the applicant or installer. This clarification is necessary because the section has been misinterpreted in a number of instances, requiring ARB to reiterate the responsibility of installers to honor the full extent of their warranty responsibilities. Additionally, misinterpretation by end-users resulted in failures to recognize their rights, and the remedies available to them under the Procedure leading to a lack of clarity in the market place.

### D. Re-Designation Practices for Repowered Engines

Currently the Procedure allows for the transfer of an entire DECS from one engine to another within a common ownership fleet provided all the terms of the Executive Order are met. This is known as DECS re-designation. DECS manufacturer and ARB approval is required and other restrictions and conditions apply.

However, the current language in the Procedure does not address situations where the DECS remains on a chassis, but the engine is replaced with a different one. This action is equivalent to a DECS re-designation. Staff therefore proposes to allow re-designation to include this situation. All existing re-designation requirements apply.

### E. Component Swapping and DECS Re-Designation Warranty Clarifications

The Procedure is clear on the applicant's warranty responsibilities in the context of component swapping and DECS re-designation, but less so on the installer's responsibilities. The applicant must agree to continue to honor the product warranty for the duration of the original warranty period as both components and entire DECS get moved from one vehicle to another. Concerning the installation warranty, the Procedure only addresses the circumstance in which a DECS is re-designated after the original warranty expires. It requires that the installer issue a new one-year installation warranty.

Staff's proposal clarifies the installer's warranty responsibilities for both component swapping and DECS re-designation that occur both before and after expiration of the original warranty. Before expiration of the original warranty, the installer must honor it just as the applicant does. If the installer of either a swapped component or re-designated DECS is not the same as the installer who did the original installation, the new installer must honor the installation warranty for the remainder of the original

warranty period or until another installer swaps the component or re-designates the DECS. If the original warranty has expired or has less than one year remaining, the installer must issue a new one-year installation warranty.

The proposed requirements ensure that every aspect of a DECS installation warranty is intact throughout potentially multiple component swaps or re-designations. Responsibility is assigned to the installer that performs the service. In this way, each installer is held accountable for his or her own actions and not those of other installers.

**F. Labeling Requirement Clarification**

For a DECS to be "verified", it must comply with all requirements in the Procedure. Awarding of verification status by ARB entitles a device manufacturer to market, sell, and install their devices as a fleet rule compliance option for end-users. Since regulated fleets may only meet their compliance obligations with verified DECS, they need assurance that the "verified" designation includes performance requirements and warranty protection. Additionally, this designation distinguishes verified devices from non-verified aftermarket parts, and from similar Federal programs which offer no warranty recourse or protections.

All verified devices are assigned a DECS name by ARB, which must be included on a label complying with Title 13, CCR, section 2706 of the Procedure. This label is an important compliance and consumer protected tool to distinguish an ARB verified device from non-verified devices. To ensure that only ARB verified systems carry a label compliant with section 2706, and have the assigned DECS name, staff is proposing to clarify that such a label may only be used with verified systems. Therefore, any DECS carrying an ARB approved label is presumed to be verified, and the manufacturer is obligated to honor all terms and conditions of verification including, but not limited to, warranty requirements, regardless of where the devise is installed or the retrofit vehicle is used.

**G. Unidirectional Design Clarification**

Staff proposes to clarify the unidirectional design requirement contained in section 2706(r). As currently specified in the Procedure, this requirement becomes effective January 1, 2010. However, due to the effects of the current global recession, and recent changes to some of the in-use diesel fleet rules, sales of verified DECS are lower than expected, resulting in some DECS manufacturers having excess inventory of DECS that do not meet the unidirectional design requirement. To address this, staff proposes to provide a "sell through" period that would allow DECS manufacturers and installers to sell and install, for an additional 6 months, DECS that are manufactured before December 31, 2009.

## H. Scope of Compliance

In conjunction with the proposed changes to the labeling requirements, staff proposes to add a new section 2711, Title 13, CCR, to the Procedure which clarifies the scope of the verification program and ARB's ability to take necessary and appropriate enforcement action in response to violations of the Procedure. Currently, ARB can enforce or revoke a verification if the verified DECS manufacturer fails to meet the requirements of the Procedure. Section 2711 clarifies ARB's authority to take enforcement action regardless of the location of the sale, installation, or use of a verified DECS.

Specifically, staff's proposal clarifies that a DECS cannot be sold, offered for sale, or introduced into commerce anywhere as "verified" if the product does not meet all of the terms and conditions of the governing Executive Order, including the warranty and label requirements. Additionally, the proposed amendment would reiterate ARB's ability to modify, revoke or suspend an Executive Order if the applicant violates any of the terms and conditions thereof. Finally, the proposed language clarifies that a DECS cannot be represented as being ARB verified unless it has actually been verified under the Procedure.

As previously stated, for a DECS to be called "verified" means it complies with all requirements in the Procedure. Awarding of verification status by ARB entitles a device manufacturer to sell their devices as a fleet rule compliance option for end-users. Since regulated fleets must comply with the governing rule, they must choose from among verified retrofits, and deserve assurance that the "verified" designation includes performance and warranty protection. Additionally, this designation distinguishes "verified" devices from aftermarket parts and from similar Federal programs which offer no warranty recourse or protections.

ARB staff is aware that DECS manufacturers are selling systems outside of California as "ARB verified" that do not meet all the terms and conditions of the verification. In particular, these DECS are often sold an inferior warranty that offers less protection than the warranty required by the Procedure. As a result, members of the regulated community trying to comply with the same ARB fleet rule will receive different levels of warranty protection depending on their location. Interstate trucking companies and multi-state construction companies, for example, that have trucks and equipment operating both in and outside of California that must comply with the fleet rules. Because they need to purchase ARB verified DECS to comply with the fleet rules, they should be afforded the same warranty protection given to California-based companies. Under staff's proposal, all verified DECS must come with the minimum warranty protection as defined in the Procedure, regardless of where they are sold.

## I. Other Proposed Amendments

Staff clarified appropriate contacts and mailing addresses for all application submittals.

Staff modified the application outline in section 2702 to ask applicants to submit pre-installation compatibility procedures, and clarified the scope of information requested on DECS installation requirements.

## V. ECONOMIC and ENVIRONMENTAL IMPACTS

This chapter discusses the economic impacts staff anticipates as a result of the proposed amendments.

### A. Legal Requirement

Section 11346.3 of the Government Code requires State agencies to assess the potential for adverse economic impacts on California business enterprises and individuals when proposing to adopt or amend any administrative regulation. The assessment shall include a consideration of the impact of the proposed regulation on California Jobs, business expansion, elimination or creation, and the ability of California business to compete with business in other states.

State agencies are also required to estimate the cost or savings to any State or local agency and school district in accordance with instructions adopted by the Department of Finance. The estimate shall include any non-discretionary cost or savings to the local agencies and the cost or savings in federal funding to the State.

### B. Potential Impact on California Businesses

The requirements for verification under the Procedure apply to any business that elects to participate in the program regardless of its location. Staff's proposal does nothing to alter the applicability of the program, and does not hold California business to a different standard than non-California business. Manufacturers that participate in the verification program need to provide detailed information and data on their products in accordance with the Procedure. The proposed changes include basic requirements for pre-installation assessment of candidate vehicles as well as provide for more transparency relating to the proper maintenance of the devices. These changes may result in new services and businesses arising to address this market.

Additionally, the proposal includes the ability to swap device components across fleets, which is currently not allowed. By providing the opportunity to swap components among the regulated community, end users (those affected by ARB's fleet rules) may have access to a larger pool of spare components, thereby reducing the amount of vehicle down time necessary when a DECS needs servicing. This may serve to lower compliance costs to fleets affected by ARB's fleet rules.

### C. Potential Impact on Employment

The proposed amendments to the Procedure are not expected to cause a noticeable change in California employment and payroll. As previously noted, participation in the program is voluntary. However, staff can foresee secondary businesses potentially arising which conduct pre-installation compatibility assessments, and/or device

maintenance and cleaning. This may result in an unquantifiable increase in additional jobs.

**D. Potential Impact of Business Creation, Elimination or Expansion**

The proposed amendment requiring manufacturers to make maintenance procedures more transparent will create new business opportunities in the service industry and allow capable fleets (including fleets that are small businesses) to maintain their own systems. The proposal to permit across-fleet component swapping may allow for new forms of service oriented business which can efficiently support multiple fleets' needs. Overall, staff expects that the proposed amendments to the Procedure will not negatively impact the status of California businesses, including small businesses.

**E. Potential Impact on Business Competitiveness**

The proposed amendments to the Procedure would have no adverse impact on the competitiveness of California businesses to compete. As all applicants must adhere to the same requirements. The proposed labeling requirements maintain the integrity of the ARB verification program, while the proposed new section 2711 further protects successful participants in the verification program by preventing non-verified devices and/or configurations from being marketed as ARB verified, or giving advantage to out-of-state installations which may be done to circumvent warranty responsibilities. The proposal to make maintenance information publically available will enable more business to compete in the provision of maintenance services to end users. This will increase business competitiveness thereby lowering costs to DECS owners.

**F. Potential Impact to California State or Local Agencies**

The proposed amendments to the Procedure will not create costs or savings, as defined in Government Code section 11346.5 (a)(6), to any State agency or in federal funding to the State, costs or mandate to any local agency or school district whether or not reimbursable by the State pursuant to Part 7 (commencing with section 17500, Division 4, title 2 of the Government Code), or other non-discretionary savings to local agencies.

**G. Estimated Costs of the Proposed Amendments**

The overall economic impacts of the proposed amendments on the State, affected businesses, and individual fleets are not expected to be significant. Participation in ARB's Verification Program is voluntary. Applicants electing to have their DECS verified under the requirements of the Procedure choose to do so for financial gain. Verification for these participants translates into increased sales and therefore, increased revenues. The proposed changes facilitate appropriate deployment of verified technologies and assist end-users in proper maintenance of the systems. These changes should foster a more competitive marketplace affording the end users more options at potentially less cost. Discussion specific to amendments that have potential cost implications is presented below.

### 1) Pre-Installation Assessment of Compatibility

The proposed amendment of pre-installation assessment provides an option by which applicants, installers, and vehicle owners can reduce their costs. All the terms and conditions of an Executive Order must be met for a device to be considered verified. Therefore, each candidate application must be individually assessed prior to installation of a device. This can involve temperature data-logging of each candidate vehicle. Staff's proposed amendment allows the option of representative sampling to evaluate exhaust temperature compatibility. This will potentially reduce the number of engines/vehicles which need to be data-logged thereby reducing compatibility assessment costs and affiliated vehicle down time. This should result in lower costs to fleets.

### 2) Operational Data Storage Requirement

The proposed amendment requiring the exhaust temperature and backpressure to be measured and recorded should have a negligible economic impact on DECS manufacturers. ARB staff contacted the manufacturers of all currently verified Level 3 devices and determined that this capability is already common practice and is reflected in the currently verified systems' designs. In part, this voluntary move towards this capability may have been driven by the need to have sufficient information in the case a system's functionally was every challenged or if a warranty dispute occurred. Therefore, staff believes that this proposal should have no additional economic impact on current or future verified device manufacturers.

### 3) Require Device Manufacturers to Disclose Maintenance Information

This requirement addresses the need for publicly available maintenance information. No requirements regarding the format of this information are proposed (i.e., electronic, PDF, pamphlet, etc.). Given device manufacturers currently provide a wide range of materials regarding their products in a range of media formats (e.g., websites, pamphlets, electronic files), and often provide maintenance documentation to their affiliates, this requirement is not expected to impose an additional cost on device manufacturers. In addition, it will likely result in a cost savings to end users as it may spur job growth and creation by supporting the establishment of cleaning and maintenance service providers, and/or by enabling end-users to become more self-reliant.

### 4) Component Swapping Among Fleets

The proposal to allow device components to move across fleets is an option which device manufacturers can allow if they so choose. Presumably, they will only support such a practice if they stand to benefit financially.

## H. Environmental Impacts

The proposal changes should have no significant environmental impacts. The changes do not affect verified device emission reduction designations (Levels or Marks), required testing, secondary emission concerns, or durability requirements.

## VI. REGULATORY ALTERNATIVES CONSIDERED

This section discusses a number of alternatives to staff's proposed amendments that were considered and the reasons why staff ultimately determined they are not better than the proposal described above.

### A. Do Not Define Pre-Installation Assessment Requirements

Failure to adopt this proposed amendment will perpetuate the current ambiguity surrounding how candidate engines are to be evaluated prior to DECS installation. This would result in the continuation of inconsistent installation policies, inequity in the market place, misapplications of DECS, system failures, negative impacts on engines and vehicle use, and non-resolvable warranty disputes.

### B. Do Not Require Operational Data Storage

Staff's proposal ensures all verified devices are capable of measuring and recording basic attributes of system functionality. This is critical information when assessing actual in-field device performance. This can facilitate warranty claim resolution, and should the need arise, ARB staff's investigation of a system's performance. However, while currently verified Level 3 device manufacturers currently employ such technology, failure to adopt this proposal means that no such guarantees exist for future verifications and verification activities.

### C. Do Not Require Disclosure of Maintenance Information

Failure to adopt this would result in potential unavailability of important information on proper system maintenance. This may also result in potential monopolies by retrofit manufacturers regarding filter cleaning and maintenance, inability to properly support systems, and inadvertent device damage due to inappropriate maintenance. Currently, information on proper maintenance practices is not widely available to most independent third parties. This is due, in part, to the device manufacturers wishing to maintain control over this information and/or releasing it only to authorized representatives. Many end-users are without complete maintenance information and therefore may not be able to appropriately support their devices. This can result in device performance issues, up to and including system failures. If inappropriately maintained, the device manufacturers have grounds to deny warranty claims.

### D. Do Not Adopt New Section 2711

This proposed change is meant to clarify existing ARB authority. Failure to adopt this new section may result in continued uncertainty amongst manufactures regarding ARB's ability to enforce on issues relating to verification. This may result in misrepresentation of non-verified product resulting in end-users purchasing devices

non-compliant with fleet rule requirements and not carrying the warranty protection provided by the Procedure.

## VII. REFERENCES

ARB, 2000. California Air Resources Board. *Risk Reduction Plan to Reduce Particulate Matter Emissions from Diesel-Fueled Engines and Vehicles.* California Air Resources Board, October 2000. http://www.arb.ca.gov/diesel/documents/rrpFinal.pdf

# APPENDIX A

## Proposed Regulation Order

California Code of Regulations, Title 13, Division 3

**Chapter 14. Verification Procedure, Warranty and In-Use Compliance Requirements for In-Use Strategies to Control Emissions from Diesel Engines**

Amend sections 2701, 2702, 2703, 2704, 2705, 2706, 2707, and adopt section 2711, Title 13, California Code of Regulations, to read as follows:

Note: The pre-existing regulation text is set forth below in normal type. The amendments are shown in underline to indicate additions and ~~strikeout~~ to indicate deletions. The symbol "*****" means that the remainder of the text of the regulation for a specific section is not shown, but has been incorporated by reference, unchanged.

* * * * *

**§ 2701. Definitions.**

* * * * *

(16) "Diesel-fueled auxiliary power system" or "APU" means any device that is permanently dedicated to the vehicle on which it is installed and provides electrical, mechanical, or thermal energy to the primary diesel engine, truck cab, and/or sleeper berth, bus passenger compartment or any other commercial vehicle's cab, as an alternative to idling the primary diesel engine.

~~(16)~~(17) "Distributor" means any person or entity to whom a diesel emission control strategy is sold, leased or supplied for the purposes of resale or distribution in commerce.

~~(17)~~(18) "Donor Vehicle/engine" means any vehicle/engine whose installed ~~DECS~~ diesel emission control strategy device has been removed for the purpose of re-designation or component swapping.

~~(18)~~(19) "Durability" means the ability of the applicant's diesel emission control strategy to maintain a level of emissions below the baseline and maintain its physical integrity over some period of time or distance determined by the Executive Officer pursuant to these regulations. The minimum durability testing periods contained herein are not necessarily meant to represent the entire useful life of the diesel emission control strategy in actual service.

~~(19)~~(20) "Emergency Standby Engine" means a diesel engine operated solely for emergency use, except as otherwise provided in airborne toxic control measures adopted by the ARB.

~~(20)~~(21) "Emergency Use" means using a diesel engine to provide electrical power or mechanical work during any of the following events and subject to the following conditions:

(A) The failure or loss of all or part of normal electrical power service or normal natural gas supply to the facility,

(B) The failure of a facility's internal power distribution system,

(C) The pumping of flood water or sewage to prevent or mitigate a flood or sewage overflow,

(D) The pumping of water for fire suppression or protection,

(E) The powering of ALSF-1 and ALSF-2 airport runway lights under category II or III weather conditions,

(F) Other conditions as specified in airborne toxic control measures adopted by the ARB.

~~(21)~~(22) "Emission control group" means a set of diesel engines and applications determined by parameters that affect the performance of a particular diesel emission control strategy. The exact parameters depend on the nature of the diesel emission control strategy and may include, but are not limited to, certification levels of engine emissions, combustion cycle, displacement, aspiration, horsepower rating, duty cycle, exhaust temperature profile, and fuel composition. Verification of a diesel emission control strategy and the extension of existing verifications are done on the basis of emission control groups.

~~(22)~~(23) "End user" means any individual or entity that owns or operates a vehicle or piece of equipment that has a verified diesel emission control system installed.

~~(23)~~(24) "Executive Officer" means the Executive Officer of the Air Resources Board or the Executive Officer's designee.

~~(24)~~(25) "Executive Order" means the document signed by the Executive Officer that specifies the verification level of a diesel emission control strategy for an emission control group and includes any enforceable conditions and requirements necessary to support the designated verification.

~~(25)~~(26) "Fuel Additive" means any substance designed to be added to fuel or fuel systems or other engine-related systems such that it is present in-cylinder during combustion and has any of the following effects: decreased emissions, improved fuel economy, increased performance of the entire vehicle or one of its component parts, or any combination thereof; or assists diesel emission control strategies in decreasing emissions, or improving fuel economy or increasing performance of a vehicle or component part, or any combination thereof. Fuel additives used in conjunction with diesel fuel may be treated as an alternative diesel fuel. See Section 2701 (a)(3) .

~~(26)~~(27) "Hot Start" means the start of an engine within four hours after the engine is last turned off. The first hot start test run should be initiated 20 minutes after the cold start for Federal Test Procedure testing

following Section 86.1327-90 of the Code of Federal Regulations, Title 40, Part 86.

~~(27)~~(28) "Installer" means any individual or entity that equips any vehicle, engine or equipment with a diesel emission control strategy.

(29) "Locomotive" means a self-propelled piece of on-track equipment designed for moving or propelling cars that are designed to carry freight, passengers or other equipment, but which itself is not designed or intended to carry freight, passengers (other than those operating the locomotive) or other equipment.

(30) "Marine Engine" means a compression ignition engine designed and used to provide propulsion or auxiliary power on water craft such as recreational boats, ocean going vessels, or commercial harbor craft.

~~(28)~~(31) "Portable Engine" means an engine designed and capable of being carried or moved from one location to another, except as defined in section 2701(a)(33). Engines used to propel mobile equipment or a motor vehicle of any kind are not portable. Indicators of portability include, but are not limited to, wheels, skids, carrying handles, dolly, trailer, or platform. A portable engine cannot remain at the same facility location for more than 12 consecutive rolling months or 365 rolling days, whichever occurs first, not including time spent in a storage facility. If it does remain at the facility for more than 12 months, it is considered to be a stationary engine. The definitions in Title 13 California Code of Regulations section 2452(g) and section 2452(x) are incorporated by reference herein.

~~(29)~~(32) "Re-designation" means the ~~movement~~ removal, within the same common ownership fleet, of a complete used verified ~~DECS~~ diesel emission control strategy from an appropriate engine in a vehicle/application and installation to another appropriate engine in a vehicle/application that meets the terms and conditions of the diesel emission control strategy ~~DECS~~ Executive Order. ~~meeting the terms and conditions of the DECS Executive Order within the same common ownership fleet.~~

~~(30)~~(33) "Regeneration" in the context of diesel particulate filters, means the periodic or continuous combustion of collected particulate matter that is trapped in a particulate filter through an active or passive mechanism. Active regeneration requires a source of heat other than the exhaust itself to regenerate the particulate filter. Examples of active regeneration strategies include, but are not limited to, the use of fuel burners and electrical heaters. Passive regeneration does not require a source of heat for regeneration other than the exhaust stream itself. Examples of passive regeneration strategies include, but are not limited to, the use of fuel additives and the catalyst-coated particulate filter. In the context of NOx reduction strategies, "regeneration" means the desorption and reduction of NOx from NOx adsorbers (or NOx traps) during rich operation conditions.

(34) "Repower" means to replace the engine in a vehicle or piece of equipment with another engine that meets a subsequent engine emissions standard (e.g., replacing a Tier 1 engine with a Tier 3 or later engine).

~~(31)~~(35) "Revoke" means to cancel the verification status of a diesel emission control strategy. If a diesel emission control strategy's verification status is revoked by the Executive Officer, the applicant must immediately cease and desist selling the diesel emission control strategy to end-users.

~~(32)~~(36) "Seller" means any person or entity that sells, leases or supplies a diesel emission control strategy.

~~(33)~~(37) "Stationary Engine" means an engine that is designed to stay in one location, or remains in one location. An engine is stationary if any of the following are true:

(A) The engine or its replacement is attached to a foundation, or if not so attached, will reside at the same location for more than 12 consecutive months. Any engine that replaces engine(s) at a location, and is intended to perform the same or similar function as the engine(s) being replaced, will be included in calculating the consecutive time period. In that case, the cumulative time of all engine(s), including the time between the removal of the original engine(s) and installation of the replacement engine(s), will be counted toward the consecutive time period; or

(B) The engine remains or will reside at a location for less than 12 consecutive months if the engine is located at a seasonal source and operates during the full annual operating period of the seasonal source, where a seasonal source is a stationary source that remains in a single location on a permanent basis (at least two years) and that operates at that single location at least three months each year; or

(C) The engine is moved from one location to another in an attempt to circumvent the residence time requirements [Note: The period during which the engine is maintained at a storage facility shall be excluded from the residency time determination.] The definitions in Title 13 California Code of Regulations Section 2452(g) and Section 2452(x) are incorporated by reference herein.

(38) "Transport Refrigeration Unit (TRU)" means a refrigeration system powered by an integral internal combustion engine designed to control the environment of temperature sensitive products that are transported in trucks and refrigerated trailers. TRUs may be capable of both cooling and heating.

~~(34)~~(39) "Unidirectional Device Design and Installation" means that an emission control device must be appropriately designed, manufactured and labeled to prevent reverse flow installation.

~~(35)~~(40) "Used Verified Device" means any verified ~~DECS~~ diesel emission control strategy which has been sold or leased to an end user and installed on an engine/application.

~~(36)~~(41) "Verification" means a determination by the Executive Officer that a diesel emission control strategy meets the requirements of this Procedure. This determination is based on both data submitted or otherwise known to the Executive Officer and engineering judgment.

~~(37)~~(42) "Warrantable Condition" means any condition of the diesel emission control strategy, vehicle, or engine which triggers the responsibility of the applicant to take corrective action pursuant to Section 2707.

NOTE: Authority cited: Sections 39002, 39003, 39500, 39600, 39601, 39650-39675, 40000, 43000, 43000.5, 43011, 43013, 43018, 43105, 43600 and 43700, Health and Safety Code. Reference: Sections 39650-39675, 43000, 43009.5, 43013, 43018, 43101, 43104, 43105, 43106, 43107 and 43204-43205.5, Health and Safety Code; and Title 17 California Code of Regulations Section 93000.

**§ 2702. Application Process.**

* * * * *

(b) Preliminary Verification Application. Before formally submitting a final application for the verification of a diesel emission control strategy, the applicant must submit a preliminary verification application at the Executive Officer's discretion. The Executive Officer shall use the information in the preliminary verification application to help determine whether the strategy relies on sound principles of science and engineering to control emissions, the need for additional analyses, and the appropriateness of allowing alternatives to the prescribed requirements. The preliminary verification application must follow the format shown in Section 2702(d) and at a minimum provide the information required in sections 1. through 5., and section 8.A.5, where applicable. In addition, the preliminary verification application must include the following information:

* * * * *

(5) A brief statement that the applicant acknowledges and agrees to do the following:

(A) Provide a warranty pursuant to the requirements of Section 2707.

(B) Submit in-use compliance information pursuant to the requirements of Section 2709.

(C) Keep records until the in-use compliance requirements are completed that contain information per Section 2702 (m) including:

1. Updated end user contact information.
2. A description of the vehicles or equipment on which the applicant's products are installed.
3. A description of the engines on which the applicant's products are installed.

(D) Provide all maintenance information for the diesel emission control strategy to the owner pursuant to Section 2706 (h)(2).

(c) When an applicant submits a preliminary verification application, the Executive Officer shall, within 30 days of its receipt, determine whether the applicant has identified the information necessary to support an application for verification and notify the applicant in writing that it may submit an application for verification. The Executive Officer may suggest modifications to the proposed preliminary verification application to facilitate verification of the diesel emission control strategy. All applications, correspondence, and reports, with the exception of applications based on the use of fuel additives or alternative diesel fuels, locomotive applications, transport refrigeration units and marine applications, must be submitted in writing to:

Chief, Heavy-Duty Diesel In-Use Strategies Branch
Air Resources Board
1001 I Street
Sacramento, CA 95814

All applications, correspondence, and reports for systems utilizing any form of fuel additive or alternative diesel fuel or intended for locomotives, must be submitted in writing to:

Chief, Criteria Pollutants Branch
Air Resources Board
1001 I Street
Sacramento, CA 95814

All applications, correspondence, and reports for systems intended for transport refrigeration units or marine applications must be submitted in writing to:

Chief, Emissions Assessment Branch
Air Resources Board
1001 I Street
Sacramento, CA 95814

(d) Application Format. The preliminary and final verification applications must be submitted in writing to the address shown in subsection (c) above. Electronic mail and verbal submissions do not constitute acceptable application formats. Supporting data in electronic format may be accepted as part of the application at the discretion of the Executive Officer. The preliminary and final verification applications for a diesel emission control strategy must follow the format shown below. If a section asks for information that is not applicable to the diesel emission control strategy, the applicant must indicate "not applicable." If the Executive Officer concurs with the applicant's judgment that a section is not applicable, the Executive Officer may waive the requirement to provide the information requested in that section. Final verification applications must include all of the information provided in the preliminary verification application as described in Section 2702(b), including any additional information, updates, or changes, and all additional information shown below.

* * * * *

2.8 Complete discussion of the ~~i~~installation requirements *(e.g., appropriate system placement, space requirements, visibility, device orientation, engine oil consumption limits, etc.)*

2.9 Pre-installation compatibility assessment procedures

2.~~9~~10 Maintenance requirements

2.~~9.1~~10.1 Detailed description of all normal maintenance requirements for the diesel emission control strategy ~~system~~

2.~~9.2~~10.2 A copy of the language that will instruct the end user of proper handling of spent components and/or materials cleaned from the diesel emission control strategy ~~system~~, identify any hazardous materials, and provide procedures for resetting any backpressure monitors after maintenance procedures are completed.

2.1~~0~~1 Description of noise level control compliance

* * * * *

*8. Appendices*

* * * * *

B. ~~Third-party letters or questionnaires describing in-field performance~~ Field test information

B.1 Engine backpressure and exhaust temperature data (as described in Sections 2704(d)(2) and 2705(c)(1))
B.2 Third-party letters or questionnaires describing in-field performance

C. Diesel emission control strategy ~~system~~ label
D. Copy of the Owner's ~~m~~Manual (as described in Section 2706 (l))
E. Copy of the Installation Manual
F. Sample diesel emission control strategy ~~system~~ label (See Section 2706(j))
G. Other supporting documentation

* * * * *

(h) Conditional Extensions of an Existing Verification for On-road Applications. If an applicant has an ARB verified diesel emission control strategy and wishes to extend the verification to include new on-road emission control groups, the applicant may apply to receive a conditional extension. If the Executive Officer determines that the diesel emission control strategy is technologically sound and appropriate for the intended application, the applicant may be granted a conditional extension for up to one year. Upon receiving a conditional extension, the applicant may sell the diesel emission control strategy as a verified product for the duration of the conditional extension period. To obtain full verification, the applicant must complete the requirements set forth by the Executive Officer according to the requirements of the regulation. In granting a conditional extension, the Executive Officer may consider all relevant information including, but not limited to, the following: the design of the diesel emission control strategy, original test data, other relevant test data, the duty cycle of the prospective emission control group, and field experience. For the time period it is effective, a conditional extension is equivalent to a verification for the purposes of satisfying the in-use compliance requirements. Diesel e~~E~~mission control strategies that are conditionally verified for off-road and stationary applications are not eligible for conditional extensions (See Section 2704(k)).

* * * * *

(j) Verification Transfers. If an applicant wishes to sell, lease, or supply another manufacturer's previously verified diesel emission control strategy ~~system~~, the applicant must do the following:
(1) Submit a letter of consent from the manufacturer that legally holds the original verification. The letter must give the applicant the right to hold a verification for the diesel emission control strategy ~~system~~ and, if applicable, to use information that was previously submitted as support in the application for the original verification.

* * * * *

(k) Emission Control Strategies ~~Systems~~ Approved under Other Verification Programs. Any applicant with a diesel emission control strategy ~~system~~ that is verified under another diesel emission control verification program that wishes to receive ARB verification must submit an application that contains the information requested in part (d) above. Pre-existing data and information submitted in support of verification approval from other programs may be submitted, but the applicant must meet requirements that are unique to this Procedure including, but not limited to, a system label compliant with Section 2706(j), a California owner's manual compliant with Section 2706(l), a warranty compliant with Section 2707, in-use compliance requirements per Section 2709, and multimedia evaluation if applicable. The Executive Officer may evaluate all information submitted including additional information required by this Procedure to determine if a diesel emission control strategy merits ARB verification.

* * * * *

(m) Recordkeeping Requirements. Both applicants and diesel emission control strategy installers are responsible for keeping records as described below.

(1) Applicants that receive a verifications, a conditional verifications ~~(See Section 2704(k)~~, or a conditional extensions must keep records that have valid end user contact information (name, address, phone number), a description of the vehicles or equipment the units are applied to (type of vehicle/equipment, make, model year, vehicle identification number), and a description of the engines the units are applied to (make, model, model year, engine serial number, engine family name). The applicant must keep these records for each diesel emission control strategy family until the in-use compliance requirements of the diesel emission control strategy family are completed. Applicants that receive a conditional extensions or conditional verifications must submit these records to the Executive Officer one year after receiving the conditional extension or conditional verification. Applicants that receive verifications must submit these records upon request by the Executive Officer to an agent or employee of ARB. The Executive Officer may request that such records be made available at any time. The applicant must provide these records within 30 days of the request by the ARB. Failure to submit these records may result in revocation or suspension of the verification and/or any other remedy available under Part 5, Division 26 of the Health and Safety Code.

(2) Installers must keep all pre-installation compatibility assessment records as described in Section 2706(t)(3).

* * * * *

(o) Applicants that receive a verifications, a conditional verifications, or a conditional extensions must demonstrate sales or the active pursuit of sales

of their diesel emission control strategies ~~systems~~ in California upon request of the Executive Officer. If an applicant fails to provide such proof, the Executive Officer will evaluate whether the verification should be revoked.

* * * * *

(q) The Executive Officer may lower the verification level or revoke the verification status of a verified diesel emission control strategy family, a conditionally verified strategy ~~system~~, or a strategy ~~system~~ with a conditional extension or suspend all review of pending verification applications if the Executive Officer determines that there are errors, omissions, inaccurate information, fraudulent submittals, or a deficiency of required submittals in the application for verification, supporting information, warranty report, or in-use compliance testing. Additionally, penalties may be assessed under Part 5, Division 26 of the Health and Safety Code. The Executive Officer may suspend the review of all other applications sent by an applicant if that applicant fails to submit warranty reports or other requested information. The Executive Officer may also seek remedial action against the applicant if it is determined that the verified diesel emission control strategy does not comply with the requirements or provisions of the Executive Order.

NOTE: Authority cited: Sections 39002, 39003, 39500, 39600, 39601, 39650-39675, 40000, 43000, 43000.5, 43011, 43013, 43018, 43105, 43600 and 43700, Health and Safety Code. Reference: Sections 39650-39675, 43000, 43009.5, 43013, 43018, 43101, 43104, 43105, 43106, 43107 and 43204-43205.5, Health and Safety Code; and Title 17 California Code of Regulations Section 93000.

**§ 2703. Emission Testing Requirements.**

* * * * *

(c) Diesel Emission Control Strategy ~~System~~ Pre-conditioning. The engine or vehicle installed with a diesel emission control strategy ~~system~~ must be operated for a break-in period of between 25 and 125 hours before emission testing. Note that special pre-conditioning requirements may apply. See section 2706(a)(4) for details.

* * * * *

(e) Test Cycle. The diesel emission control strategy must be tested using the test cycles indicated in subparagraphs 1-3 below (summarized in Table 2) or with an alternative cycle(s) approved by the Executive Officer pursuant to subsection (f) below. The Executive Officer may require the applicant to conduct additional testing if such information is necessary for a complete evaluation of the control technology.

Table 2. Test Cycles for Emission Reduction Testing

| Test Type | On-Road | Off-Road (including portable engines) | Stationary (including TRU and APU) | Marine | Locomotives |
|---|---|---|---|---|---|
| Engine | FTP Heavy-duty Transient Cycle (1 cold-start and 3 hot-starts) | ~~Steady-state test cycle from ARB off-road regulations until December 31, 2008 with Executive Officer approval, otherwise; Transient test cycle from ARB off-road regulations (3 hot-starts either cycle)~~ NRTC, or if appropriate, a discrete mode test cycle as required in Section 2703 (e)(2) (3 hot starts) | Discrete mode test cycle from ARB off-road regulations or another test cycle approved by the Executive Officer (3 hot-starts) | Discrete mode test cycles identified in the ISO 8178 test procedure, Part 4, August 15, 1996, Section 8.5, Test Cycles type E "Marine applications" (3 hot-starts) | 40 CFR Part 92 (Subpart B) or 40 CFR Part 1033 (Subpart F) |
| Chassis | UDDS (3 hot-starts) and a low-speed test cycle per 2703 (e)(1)(B)2. (3 hot-starts). | Not Applicable | Not Applicable | Not Applicable | Not Applicable |

| | | | | | |
|---|---|---|---|---|---|
| | | | | | |

FTP = Federal Test Procedure; UDDS = Urban Dynamometer Driving Schedule
ISO = International Standards Organization; NRTC = Nonroad Transient Composite Cycle

* * * * *

(2) Off-road Engines and Equipment (including portable engines). For off-road diesel-fueled vehicles and equipment, the applicant must follow the transient test procedures outlined in the ARB off-road regulations (California Code of Regulations, Title 13, Section 2423 and the incorporated California Exhaust Emissions Standards and Test Procedures for New 2008 and Later Tier 4 Off-Road Compression-Ignition Engines, Part I-C). For all variable speed engines, a minimum of three hot-start tests must be conducted using the Nonroad Transient Composite Cycle (NRTC).

* * * * *

(C) An applicant with a strategy ~~system~~ verified after October 19, 2007 using the steady state test procedure outlined in the ARB off-road regulations (California Code of Regulations, Title 13, Section 2423 and the incorporated California Exhaust Emission Standards and Test Procedures for New 2000 and Later Tier 1, Tier 2, And Tier 3 Off-Road Compression-Ignition Engines, Part I-B) must submit emissions test data using the NRTC by January 1, 2013. The Executive Officer will reassess and potentially revise the verification status of the strategy ~~system~~, claimed emissions reductions, and compliance with $NO_2$ emissions requirements based on the submitted data. Appropriate testing must include a pre-conditioned unit, an aged unit, and a baseline test. If such data are not received and approved by the Executive Officer by January 1, 2013, the verification will be revoked. A verification awarded prior to October 19, 2007, is not subject to this requirement. A verification for which the Executive Officer determines the NRTC is not appropriate per section 2703(e)(2)(A) is not subject to this requirement.

* * * * *

(3) Stationary Engines. For stationary, transport refrigeration unit, and auxiliary power system engines, the applicant must follow the discrete mode test procedures outlined in the ARB off-road regulations (as referenced in (2) or (2)(B) above). A minimum of three hot-start tests must be conducted using the specified test cycle. Applicants may request that the Executive Officer consider alternative test cycles and methods, as described in subsection (f).

(4) Marine Engines. For marine propulsion engines, the applicant must follow the discrete mode test procedures outlined in the ARB off-road regulations (as referenced in (2) or (2)(B) above), but use the test cycles identified in the International Standards Organization (ISO) 8178 test procedure, Part 4, August 15, 1996, Section 8.5, Test Cycles type E "Marine applications". A minimum of three hot-start tests must be conducted using the specified test cycle. Applicants may request that the Executive Officer consider alternative test cycles and methods, as described in subsection (f).

(5) Locomotives. Applicants must follow the test procedures as specified in 40 CFR Part 92 (Subpart B) or 40 CFR Part 1033 (Subpart F).

(h) Emissions During Particulate Filter Regeneration Events. For any diesel emission control strategy that has a distinct regeneration event, emissions that occur during the event must be measured and taken into account when determining the net emission reduction efficiency of the system. If a regeneration event will not occur during emission testing, applicants may pre-load the diesel emission control strategy ~~system~~ with diesel PM to force such an event to occur during testing, subject to the approval of the Executive Officer. Applicants must provide data or engineering analysis indicating when events occur on test cycles and in actual operation (e.g., backpressure data).

* * * * *

(m)The Executive Officer may, with respect to any diesel emission control strategy sold, leased, offered for sale, or manufactured for sale in California, order the applicant or strategy manufacturer to make available for testing and/or inspection a reasonable number of diesel emission control strategies ~~systems~~, and may direct that they be delivered at the applicant's expense to the state board at the Haagen-Smit Laboratory, 9528 Telstar Avenue, El Monte, California or where specified by the Executive Officer. The Executive Officer may also, with respect to any diesel emission control strategy being sold, leased, offered for sale, or manufactured for sale in California, have an applicant test and/or inspect a reasonable number of units at the applicant or manufacturer's facility or at any test laboratory under the supervision of the Executive Officer.

NOTE: Authority cited: Sections 39002, 39003, 39500, 39600, 39601, 39650-39675, 40000, 43000, 43000.5, 43011, 43013, 43018, 43105, 43600 and 43700, Health and Safety Code. Reference: Sections 39650-39675, 43000, 43009.5, 43013, 43018, 43101, 43104, 43105, 43106, 43107 and 43204-43205.5 Health and Safety Code; Title 17 California Code of Regulations Section 93000.

**§ 2704. Durability Testing Requirements**

(a) The applicant must demonstrate, to the satisfaction of the Executive Officer, the durability of the applicant's diesel emission control strategy through an actual field or laboratory-based demonstration combined with chassis or engine dynamometer-based emission tests. If the applicant chooses a laboratory-based durability demonstration, an additional field demonstration will be required to demonstrate in-field compatibility (pursuant to Section 2705). If the applicant has demonstrated the durability of the identical strategy ~~system~~ in a prior verification or has demonstrated durability through field experience, the applicant may request that the Executive Officer accept the previous demonstration in fulfillment of this requirement. In evaluating such a request, the Executive Officer may consider all relevant information including, but not limited to, the similarity of baseline emissions and application duty cycles, the relationship between the emission control group used in previous testing and the current emission control group, the number of engines tested, evidence of successful operation and user acceptance, and published reports.

* * * * *

(d) Service Accumulation. The durability demonstration consists of an extended service accumulation period in which the diesel emission control strategy is implemented in the field or in a laboratory accepted by the Executive Officer, with emission reduction testing before and after the service accumulation. Service accumulation begins after the first emission test and concludes before the final emission test. The pre-conditioning period required in Section 2703 (c) cannot be used to meet the service accumulation requirements.
(1) Minimum Durability Demonstration Periods. The minimum durability demonstration periods are shown in Table 3, below.

Table 3. Minimum Durability Demonstration Periods

| Engine Type | Minimum Durability Demonstration Period |
|---|---|
| On-Road | 50,000 miles or 1000 hours |
| Off-Road (including portable engines) ~~and~~ Stationary, Marine, Locomotives, TRU, and APU | 1000 hours |
| Stationary Emergency Standby Engines | 500 hours |

(2) Temperature and Backpressure Measurement Requirements. For strategies that include exhaust aftertreatment, engine backpressure, ~~and~~ exhaust temperature, and engine speed must be measured and recorded for 1000 hours or over the entire durability period (whichever is shorter). The applicant must propose a measurement and recording protocol for approval by the Executive Officer. The protocol may include, but is not limited to, measurement and recording of values once every few seconds, or higher frequency measurement with recording of averages, minima, and maxima over longer time intervals. The data must include an accurate date and time stamp that corresponds with periods of actual engine operation. Data must be submitted electronically in columns as a text file or another format approved by the Executive Officer.

(3) NOx Emissions Measurement Requirements. For strategies that include exhaust aftertreatment to reduce emissions of NOx, the mass emissions of NOx both upstream and downstream of the aftertreatment device must be measured and recorded for at least the first and last 100 hours of the durability period. The applicant must propose a measurement method for approval by the Executive Officer. The method may include, but is not limited to, the use of NOx sensors before and after the device. Measurements of NOx emissions must occur on at least a 1 Hertz basis. Data must be recorded as averages over time intervals no greater than 10 seconds. The data must include an accurate date and time stamp that corresponds with periods of actual engine operation. Data must be submitted electronically in columns as a text file or another format approved by the Executive Officer.

(4) Fuel for Durability Demonstrations. The fuel used during durability demonstrations should be equivalent to the test fuel, or a fuel with properties less favorable to the durability of the emission control strategy. Durability demonstrations may, at the applicant's option and with the

Executive Officer's approval, include intentional misfueling events so that data on the effects of misfueling may be obtained.

(5) Industrial Safety Requirements. The installation of a diesel emission control strategy on an off-road vehicle or piece of equipment used for a durability demonstration within California must conform to all applicable industrial safety regulations (California Code of Regulations, Title 8, Division 1, Chapter 4). If all off-road durability demonstrations are conducted outside of California, at least one must conform to these regulations.

(6) Photographic Documentation. For each durability demonstration, the applicant must submit digital photographs in electronic format of the following:

(A) The vehicle or piece of equipment before installation of the diesel emission control strategy. Photographs must show:

1. The entire vehicle or piece of equipment.
2. A close-up of the location in which the diesel emission control strategy will be installed.
3. All available vehicle or equipment identification including the make, model, license plate, and vehicle number.
4. All available engine identification including the make, model, and engine label.

(B) The vehicle or piece of equipment after installation of the diesel emission control strategy. Photographs must show:

1. The entire vehicle or piece of equipment showing the diesel emission control strategy installed, if possible.
2. A close-up of the installed diesel emission control strategy.
3. All available diesel emission control strategy identification including labels and logos.

(C) For a filter-based diesel emission control strategy, the outlet face of the filter after completing the durability demonstration.

(e) Third-Party Statement for In-field Durability Demonstrations. For in-field durability demonstrations, the applicant must provide a written statement from an Executive Officer approved third party, such as the owner or operator of the vehicle or equipment used, at the end of the durability period. The statement must describe overall performance, maintenance required, problems encountered, and any other relevant comments. The results of a visual inspection conducted by the third party at the end of the demonstration period must also be described. The description should comment on whether the diesel emission control strategy is physically intact, securely mounted, leaking any fluids, and should include any other evaluative observations. The third party statement must clearly identify the demonstration engine and vehicle or equipment using a unique identifier such as a vehicle identification number and engine serial number along with the engine family name, and must provide the name and contact information of the third party.

(f) Test Cycle. Testing requirements are summarized in Table 4. Note that the same cycle(s) must be used for both the initial and final tests.

* * * * *

(2) Off-road and Stationary Applications (including marine, locomotives, transport refrigeration units and auxiliary power units). The applicant must use the same cycle for the emission reduction testing as defined in Section 2703. A minimum of three hot-start tests is required. If an applicant obtained a conditional verification prior to December 31, 2008, the applicant may fulfill the emission test requirements for full verification using the same discrete mode test cycle that was used to support the conditional verification.

(g) Test Run. The requirements for emissions reduction testing are summarized in Table 4, below. Note that special pre-conditioning requirements may apply. See section 2706(a)(4) for details.

(1) The diesel emission control strategy must undergo one set of emission tests before beginning and after completion of the service accumulation. Baseline testing with test repetitions as indicated in Table 4 must be conducted before and after the service accumulation. If baseline testing after the service accumulation is not technically feasible, the applicant may request the Executive Officer to waive the requirement. If there are substantial test data from previous field studies or field demonstrations, applicants may request that the Executive Officer consider these in place of the initial emission tests.

* * * **

Table 4. Emission Tests Required for Durability Demonstrations

| Application | Test Type | Initial Test (prior to service accumulation)<br>Final Test (after completion of 100% of the service accumulation) |
|---|---|---|
| On-Road | Engine | FTP Heavy-duty Transient Cycle<br>(1 cold and 3 hot-starts) |
| | Chassis | UDDS (3 hot-starts) and<br>a low-speed cycle per 2703 (e)(1)(B)2.(3 hot-starts) |
| Off-Road and portable engines | Engine | ~~Steady-state test cycle from ARB off-road regulations or an alternative cycle~~<br>NRTC, or if appropriate, a discrete mode test cycle as required in Section 2703 (e)(2)<br>(3 hot-starts) |
| Stationary (including, transport refrigeration units and auxiliary power systems) | Engine | Steady-state test cycle from ARB off-road regulations or another test cycle approved by the Executive Officer ~~an alternative cycle~~<br>(3 hot-starts) |
| Marine | Engine | Discrete mode test cycles identified in the ISO 8178 test procedure, Part 4, August 15, 1996, Section 8.5, Test Cycles type E "Marine applications"<br>(3 hot-starts) |
| Locomotive | Engine | 40 CFR Part 92 (Subpart B) or 40 CFR Part 1033 (Subpart F) |

(h) Maintenance During Durability Demonstration. Except for emergency engine repair, only scheduled maintenance on the engine and diesel emission control strategy ~~system~~ and re-fill of additives (if any) may be performed during the durability demonstration. If normal maintenance includes replacement of any component of the diesel emission control strategy ~~system~~, the time (miles, years, or hours) between component change or refill must be reported with the results of the demonstration.

* * * * *

(j) Performance Requirements. The diesel emission control strategy must meet the following requirements throughout the durability demonstration period:

(1) If the applicant claims a percent emission reduction, the percent emission reduction must meet or exceed the initial verified percent emission reduction level.

(2) If the applicant claims to achieve 0.01 g/bhp-hr for PM, the PM emission level must not exceed 0.01 g/bhp-hr.

(3) The diesel emission control strategy ~~system~~ must maintain its physical integrity. Its physical structure and all of its components not specified for regular replacement during the durability demonstration period must remain intact and fully functional.

(4) The diesel emission control strategy must not cause any damage to the engine, vehicle, or equipment.

(5) The backpressure caused by the diesel emission control strategy should not exceed the engine manufacturer's specified limits, or must not result in any damage to the engine.

(6) No maintenance of the diesel emission control strategy ~~system~~ beyond that specified in its owner's manual will be allowed without prior Executive Officer approval.

(k)Conditional Verification for Off-road and Stationary Applications. If the Executive Officer determines that the diesel emission control strategy is technologically sound and appropriate for the intended application, he may grant a conditional verification for off-road and stationary applications upon completion of 33 percent of the minimum durability period. In making this determination, the Executive Officer may consider all relevant information including, but not limited to, the following: the design of the diesel emission control strategy ~~system~~, filter and catalyst substrates used, similarity of the strategy ~~system~~ under consideration to verified strategies ~~systems~~, the intended application of the diesel emission control strategy ~~system~~, other relevant testing data, and field experience. Where conditional verification is granted, full verification must be obtained by completing the durability testing and all other remaining requirements. These requirements must be completed within a year after receiving conditional verification. For the aforementioned time period, conditional verification is equivalent to verification for the purposes of satisfying the requirements of in-use emission control regulations.

(l)Failure During the Durability Demonstration Period. If the diesel emission control strategy fails to maintain its initial verified percent emission reduction or emission level for any reason, the Executive Officer may downgrade the strategy to the verification level which corresponds to the lowest degraded performance observed in the durability demonstration period. If the diesel emission control strategy fails to maintain at least a 25 percent PM reduction or 25 percent NOx reduction at any time during the durability period, the diesel emission control strategy will not be verified. If the diesel emission control strategy fails, requires repair or maintenance, suffers any type of component

failure, or the demonstration is aborted at any point in the course of the durability demonstration period, the applicant must submit a report explaining the circumstances ~~of the failure~~ within ~~90~~ 45 days of the ~~failure~~ occurrence. The Executive Officer may then determine whether to deny verification or allow the applicant to correct the failed diesel emission control strategy and either continue the durability demonstration or begin a new durability demonstration.

NOTE: Authority cited: Sections 39002, 39003, 39500, 39600, 39601, 39650-39675, 40000, 43000, 43000.5, 43011, 43013, 43018, 43105, 43600 and 43700, Health and Safety Code. Reference: Sections 39650-39675, 43000, 43009.5, 43013, 43018, 43101, 43104, 43105, 43106, 43107 and 43204-43205.5 Health and Safety Code; and Title 17 California Code of Regulations Section 93000.

**§ 2705. Field Demonstration Requirements.**

(a) The applicant must demonstrate compatibility of its diesel emission control strategy in the field with at least one vehicle or piece of equipment belonging to the initial emission control group for which it seeks verification. Note that if the durability demonstration selected by the applicant is in-field, it may be used to satisfy the field demonstration requirement for that emission control group.

(1) Compatibility is determined by the Executive Officer based on the third-party statement (see part (c) of this section) and any other data submitted including backpressure data. A diesel emission control strategy is compatible with the chosen application if it:

(A) Does not cause damage to the engine or engine malfunction

(B) Does not cause backpressure outside of the engine manufacturer's specified limits or which results in any damage to the engine

(C) Does not hinder or detract from the vehicle or equipment's ability to perform its normal functions

(D) Is physically intact and well mounted with no signs of leakage or other visibly detectable problems

(2) To determine whether additional emission control groups require separate field demonstrations, the Executive Officer may consider all relevant information, including, but not limited to existing field experience and engineering justification and analysis.

(3) Industrial Safety Requirements. The installation of a diesel emission control strategy on an off-road vehicle or piece of equipment used for a field demonstration within California must conform to all applicable industrial safety regulations (California Code of Regulations, Title 8, Division 1, Chapter 4). If all off-road field demonstrations are conducted outside of California, at least one must conform to these regulations.

(b) Test Period.

(1) For on- and off-road engines, ~~and~~ stationary engines not used in emergency generators, marine, transport refrigeration unit, and auxiliary power system engines, a vehicle or piece of equipment must be operated

with the diesel emission control strategy installed for a minimum period of 200 hours or 10,000 miles, whichever occurs first.

(2) For stationary emergency standby engines, the emission control system must remain in the field for at least 30 days and operation must include:

(A) 12 maintenance runs (allowing for engine cool down between runs), and

(B) a minimum of two separate 4 hour sessions where the engine is operated under load (allowing engine cool down between runs).

(c) Reporting Requirements.

(1) Temperature and Backpressure Measurement Requirements. For strategies that include exhaust aftertreatment, engine backpressure, ~~and~~ exhaust temperature, and engine speed must be measured and recorded over the entire demonstration period. The applicant must propose a measurement and recording protocol for approval by the Executive Officer. The protocol may include, but is not limited to, measurement and recording of values once every few seconds, or higher frequency measurement with recording of averages, minima, and maxima over longer time intervals. The data must include an accurate date and time stamp that corresponds with periods of actual engine operation. Data must be submitted electronically in columns as a text file or another format approved by the Executive Officer.

(2) NOx Emissions Measurement Requirements. For strategies that include exhaust aftertreatment to reduce emissions of NOx, the mass emissions of NOx both upstream and downstream of the aftertreatment device must be measured and recorded over the entire demonstration period. The applicant must propose a measurement method for approval by the Executive Officer. The method may include, but is not limited to, the use of NOx sensors before and after the device. Measurements of NOx emissions must occur on at least a 1 Hertz basis. Data must be recorded as averages over time intervals no greater than 10 seconds. The data must include an accurate date and time stamp that corresponds with periods of actual engine operation. Data must be submitted electronically in columns as a text file or another format approved by the Executive Officer.

(3) Third Party Statement. The applicant must provide a written statement from a third party approved by the Executive Officer, such as the owner or operator of the vehicle or equipment used in the field demonstration. The written statement must be provided at the end of the test period and must describe the following aspects of the field demonstration: overall performance of the test application and the diesel emission control strategy, maintenance performed, problems encountered, and any other relevant information. The results of a visual inspection conducted by the third party at the end of the demonstration period must also be described. The description should comment on whether the diesel emission control strategy is physically intact, securely mounted, leaking any fluids, and should include any other evaluative

observations. The third party statement must clearly identify the demonstration engine and vehicle or equipment using a unique identifier such as a vehicle identification number and engine serial number along with the engine family name, and must provide the name and contact information of the third party.

(4) Photographic Documentation. For each field demonstration, the applicant must submit digital photographs in electronic format of the following:
(A) The vehicle or piece of equipment before installation of the diesel emission control strategy. Photographs must show:
1. The entire vehicle or piece of equipment.
2. A close-up of the location in which the diesel emission control strategy will be installed.
3. All available vehicle or equipment identification including the make, model, license plate, and vehicle number.
4. All available engine identification including the make, model, and engine label.
(B) The vehicle or piece of equipment after installation of the diesel emission control strategy. Photographs must show:
1. The entire vehicle or piece of equipment showing the diesel emission control strategy installed, if possible.
2. A close-up of the installed diesel emission control strategy.
3. All available diesel emission control strategy identification including labels and logos.
(C) For a filter-based diesel emission control strategy, the outlet face of the filter after completing the field demonstration.

(d) Failure During the Field Demonstration. If the diesel emission control strategy fails, requires repair or maintenance, suffers any type of component failure, or the demonstration is aborted at any point in the course of the field demonstration, the applicant must submit a report explaining the circumstances ~~of the failure~~ within 45 ~~90~~ days of the ~~failure~~ occurrence. The Executive Officer may then determine whether to deny verification or allow the applicant to correct the failed diesel emission control strategy and either continue the field demonstration or begin a new demonstration.

NOTE: Authority cited: Sections 39002, 39003, 39500, 39600, 39601, 39650-39675, 40000, 43000, 43000.5, 43011, 43013, 43018, 43105, 43600 and 43700, Health and Safety Code. Reference: Sections 39650-39675, 43000, 43009.5, 43013, 43018, 43101, 43104, 43105, 43106, 43107 and 43204-43205.5 Health and Safety Code; and Title 17 California Code of Regulations Section 93000.

**§ 2706. Other Requirements.**

(a) Limit and Procedure for Measuring Nitrogen Dioxide ($NO_2$).

* * * * *

(4) Pre-conditioning requirements. If the Executive Officer determines that a diesel emission control strategy ~~system~~ has a propensity to increase emissions of $NO_2$ and that $NO_2$ emissions from a diesel emission control strategy ~~system~~ could be affected by the presence of particulate matter or ash (as with a catalyzed diesel particulate filter), the strategy ~~system~~ must be preconditioned according to the following procedure:

* * * * *

(c) Fuel Additives. Diesel emission control strategies that use fuel additives must comply with Section 2710 and meet the following additional requirements for verification. Fuel additives must be used in combination with a level 3 diesel particulate filter unless they can be proven to the satisfaction of the Executive Officer to be safe for use alone. In addition, the applicant must meet the following requirements:

* * * * *

(2) Diesel emission control strategies ~~systems~~ employing the dosing of an additive in conjunction with a diesel particulate filter must include an on-board monitor of the additive level in the reservoir, integrated with the diesel particulate filter. The on-board monitor for fuel additive must include indicators to notify the operator when the additive level becomes low and when the additive tank is empty. In addition, the on-board monitor must be capable of shutting off the supply of additive, if there is a detected diesel particulate filter problem,

* * * * *

(f) ~~Engine Backpressure and Monitoring. During the emission and durability testing, the applicant must demonstrate that the backpressure caused by its diesel emission control system is within the engine manufacturer's specified limits, or will not result in any damage to the engine. Furthermore,~~

~~(1) If operation of the engine with the diesel emission control system installed will result in a gradual build-up of backpressure exceeding the engine's specified limits over time (such as due to the accumulation of ash in a filter), information describing how the backpressure will be reduced must be included.~~

~~(2) All filter-based diesel emission control systems must be installed with a backpressure monitor to notify the operator when the high backpressure limit, as specified by the engine manufacturer or included in the verification, is approached. The notification must occur and be clearly visible to the operator while the vehicle or equipment is in use. The~~

~~applicant must identify the high backpressure limits of the system in its application for verification.~~

~~(3) The Executive Officer reserves the right to require monitors that identify low backpressure limits in those cases where failures leading to low backpressure are unlikely to be detected, or have the potential to cause environmental damage beyond that caused by the engine prior to being equipped with the emission control strategy (e.g., systems that introduce additives into the fuel).~~

(f) Operational Data Monitoring and Storage Requirements. The following requirements apply to all diesel emission control strategies that include exhaust aftertreatment:

(1) During emissions and durability testing, the applicant must:

(A) Measure and record exhaust backpressure and temperature pursuant to sections 2703 and 2704.

(B) Demonstrate that the backpressure caused by its diesel emission control strategy is within the engine manufacturer's specified limits, or will not result in any damage to the engine.

(2) If operation of the engine with the diesel emission control strategy installed will result in a gradual build-up of backpressure exceeding the engine's specified limits over time (such as due to the accumulation of ash in a filter), the applicant must submit information describing how to reduce the backpressure.

(3) All filter-based diesel emission control strategies must be installed with a backpressure monitor to notify the operator when the high backpressure limit, as specified by the engine manufacturer or included in the verification application, is approached. The notification must occur and be clearly visible to the operator while the vehicle or equipment is in use. The applicant must identify the high backpressure limits of the strategy in its application for verification.

(4) The Executive Officer reserves the right to require monitors that identify low backpressure limits in those cases where failures leading to low backpressure are unlikely to be detected, or have the potential to cause environmental damage beyond that caused by the engine prior to being equipped with the emission control strategy (e.g., systems that introduce additives into the fuel).

(5) If the Executive Order for a diesel emission control strategy includes an exhaust temperature requirement, the strategy must include an electronic device that is able to do the following:

(A) Measure and record exhaust backpressure and exhaust gas temperature data. Each record must include the date and time of measurement.

(B) Have the capacity to record exhaust backpressure and exhaust temperature data for a period of at least 200 hours of actual engine

operation without overwriting any stored data. Data must be recorded at least once every 30 seconds.

(C) Have the capacity to record error codes for a period of at least 500 hours of actual engine operation without overwriting any stored data.

* * * * *

(h) Maintenance Requirements. The applicant must provide information on maintenance of the diesel emission control strategy as follows:

(1) The applicant must identify all normal maintenance requirements for the diesel emission control ~~system~~ strategy. The applicant must specify the recommended intervals for cleaning and/or replacing components. Any components to be replaced within the defects warranty period must be covered with the original diesel emission control system package or provided free of charge to the customer at the appropriate maintenance intervals. Any normal maintenance items that the applicant does not intend to provide free of charge must be approved by the Executive Officer (the applicant is not required to submit cost information for these items). In addition, the applicant must specify procedures for proper handling of spent components and/or materials cleaned from the diesel emission control strategy ~~system~~. If any such materials are hazardous, the applicant must identify them as such in the owner's manual. For filter-based diesel emission control strategies, the applicant must include procedures for resetting any backpressure monitors after maintenance procedures are completed.

(2) The applicant must provide detailed maintenance information for a verified diesel emission control strategy to the owner upon delivery of the diesel emission control strategy. The information provided must be sufficient to enable an owner to properly maintain the diesel emission control strategy without requiring services be provided exclusively by the applicant or the applicant's distributor. The required information includes, but is not limited to:

(A) Specific maintenance and cleaning procedures and timeframes.

(B) All performance criteria used to determine a proper state of maintenance, such as the pressure drop across a fully-cleaned diesel particulate filter.

(C) Any prohibitions or specific maintenance practices which may result in damage to the diesel emission control strategy.

(i) Component Swapping and Re-Designation Practices

(1) ~~End User Device~~ Component Swapping Practices.

Applicants may authorize ~~end users to move~~ that components of ~~their~~ a verified control strategy ~~systems~~ be moved from the original ~~installed configuration~~ installation and transferred ~~them on~~ to ~~other~~ another vehicles

or equipment~~, but only within a common ownership fleet~~, provided the following provisions are met:

(A) Identical components that have the same part number may only be swapped between diesel emission control strategies that share a common diesel emission control strategy family name.

~~(A)~~(B) Applicants must first receive written approval outlining the specific component eligible to be moved from the Executive Officer prior to approving any transfers.

~~(B)~~(C) Recipient vehicle must be fitted with the same diesel emission control strategy ~~DECS~~.

~~(C)~~(D) Component swapping must also comply with the requirements as described in subsection (i)(3).

~~(D)~~(E) Donor vehicle/engine whose component has been moved must remain in compliance with the terms and conditions of the applicable Executive Order and have all diesel emission control strategy ~~DECS~~ components present and functional.

(2) Device Re-Designation Practices. Applicants may authorize ~~end users to~~ the completely ~~remove~~ removal of a ~~their~~ verified diesel emission control strategy ~~systems~~ from the original ~~installed~~ installation ~~configuration and install them on other~~ to another vehicles~~-~~ or equipment within the end user's commonly owned fleet, provided the following provisions are met:

(A) Applicants must receive written approval from the Executive Officer prior to approving a diesel emission control strategy ~~DECS~~ re-designation.

(B) Any party which removes a verified diesel emission control strategy ~~DECS~~ from an engine/application must remove the verified diesel emission control strategy ~~DECS~~ engine label. If the engine label cannot be removed whole, it must be destroyed.

(C) Any party which re-designates a device to another engine/application which was never previously retrofit with that exact diesel emission control strategy ~~DECS~~ must obtain and properly install an appropriate diesel emission control strategy ~~DECS~~ engine label.

(D) Any party which removes a verified diesel emission control strategy ~~DECS~~ from an engine/application must ensure the engine/application returns to its original factory configuration.

(E) Diesel emission control strategies ~~DECS~~ which are more than 10 years old based on the month and date of manufacture listed on the device label, or devices of unknown age, are not legal candidate systems for re-designation to a new engine/application.

(F) Diesel emission control strategy ~~DECS~~ system re-designation must also comply with the requirements as described in subsection (i)(3).

(G) A diesel emission control strategy installed on a vehicle or piece of equipment that is repowered (see section 2701 (a)(34)) may remain installed provided:

1. The replacement engine meets all the terms and conditions of the diesel emission control strategy Executive Order,

2. The diesel emission control strategy is not more than 10 years old (based on month and date listed on device label), and
3. The appropriate diesel emission control strategy engine label is installed on the replacement engine.

(3) Additional Component Swapping and Re-designation Requirements. In addition to the specific requirements in subparts (1) and (2), the following requirements must be met prior to the approval of a component swap or device re-designation:

(A) Applicants must provide written information to the Executive Officer on approved swapping and re-designation practices and~~,~~ how the applicant intends to satisfy ~~compliance with~~ warranty and in-use compliance~~,~~ requirements.

(B) Applicants must provide instructions for assessing if the system still meets its verified emissions reductions (for PM and/or NOx), instructions for device movement to prevent installation on an inappropriate vehicle, and other information required by the ~~EO~~ Executive Officer to assess the request.

(C) The end user and installer must verify that the new recipient vehicle ~~is within the scope~~ meets the terms of the original verification.

* * * * *

(E) The applicant must agree to honor the original product warranty and warranty period (see sections 2702 and 2707) and must provide a written statement to the ~~EO~~ Executive Officer confirming continued support of the original product warranty.

(F) The installer must agree to honor the original installation warranty and warranty period (see section 2707). If the installer of either a swapped component or re-designated diesel emission control strategy is not the same as the installer who did the original installation of the diesel emission control strategy, the new installer must assume the installation warranty responsibilities defined in section 2707 for the remainder of the original warranty period or until another installer swaps the component or re-designates the diesel emission control strategy. If the original installation warranty has expired or has less than one year remaining, the installer must issue a new warranty to guard against potential installation defects. The new installation warranty must meet the requirements of section 2707 except that the minimum period is reduced to one year from the date of installation. Any transfer of a diesel emission control strategy or component by an installer that does not offer this installation warranty is not considered a valid installation.

(G) No party shall advertise, sell, lease, or offer for sale or lease, a used verified diesel emission control strategy.

~~(4) Any device installed under the device re-designation provisions above must be compliant with the warranty requirements in section 2707 of the verification procedure. However, if the original device warranty has expired,~~

~~the installer must issue a warranty to guard against potential installation defects for a period of one year from the date of installation (see section 2707). Any transfer of a device by an installer that does not offer this installation warranty will not be considered a valid installation. No party shall advertise, sell, lease, or offer for sale or lease, a used verified DECS.~~

* * * * *

(j) System Labeling.

(1) The applicant must ensure that identical, legible, and durable labels are affixed on both the diesel emission control strategy ~~system~~ and the engine (or an alternate location approved by the Executive Officer) on which the verified diesel emission control strategy ~~system~~ is installed except as noted in (3) below. The required labels must identify the name, address, and phone number of the manufacturer, the diesel emission control strategy family name (defined in (2) below) of the installed system, a unique serial number, and the month and year of manufacture. The month and year of manufacture are not required on the label if this information can be readily obtained from the applicant by reference to the serial number. The applicant and installer must ensure that the label is affixed such that it is resistant to tampering and degradation from the conditions of its environment. The applicant and/or installer must ensure that the label is visible after installation. In the event that the original strategy ~~system~~ label is damaged or destroyed by the end-user, the device manufacturer shall issue a replacement. The replacement label must be identical to the original label with the exception of the words "REPLACEMENT LABEL" which must be included at the bottom line of information. A sample scale drawing of the original and replacement labels must be submitted with the verification application. All labels must be approved by the Executive Officer and must only be used with an ARB verified diesel emission control strategy. Unless an alternative is approved by the Executive Officer, the label information must be in the following format:

* * * * *

(2) Diesel Emission Control Strategy Family Name. Each diesel emission control strategy shall be assigned a family name defined as below:

**CA/MMM/YYYY/PM#/N##/APP/XXXXX**

CA: Designates a diesel emission control strategy verified in California

MMM: Manufacturer code (assigned by the Executive Officer)

YYYY: Year of verification

PM#: PM verification level 0, 1, 1+, 2, 2+, 3, or 3+ (e.g., PM3

means a level 3 PM emission control system).

N##: NOx verified reduction level in percent, if any (e.g., N25 means NOx reduction of 25 percent).

APP: Verified application ~~which may~~ that includes ~~a combination of~~ one of the following: On-road (ON),Off-road (OF),or Stationary (ST), Marine (MA), Locomotive (LO), Transport Refrigeration Unit (TR), or Auxiliary Power System (AP)

XXXXX: Five alphanumeric character code issued by the Executive Officer

* * * * *

(l) Owner's Manual. The applicant must provide a copy of the diesel emission control strategy ~~system~~ owner's manual, which must clearly specify at least the following information:

(1) Warranty statement including the warranty period over which the applicant is liable for any defects.

(2) Installation procedure and maintenance requirements for the diesel emission control strategy ~~system~~.

(3) Possible backpressure range imposed on the engine.

(4) Fuel consumption penalty, if any.

(5) Fuel requirements including sulfur limit, if any.

(6) Handling and supply of additives, if any.

(7) Instructions for reading and resetting the backpressure monitor.

(8) Requirements for lubrication oil quality and maximum lubrication oil consumption rate.

(9) The following statement must be included verbatim in the owner's manual:

YOUR RIGHT TO MAINTENANCE INFORMATION

The Air Resources Board requires that (Applicant's name) provide detailed maintenance information for the diesel emission control system upon delivery to the owner pursuant to section 2706(h)(2), Title 13, California Code of Regulations, at no additional cost to the owner. If you do not already have this information, contact (Applicant's chosen contact) at 1-800-xxx-xxxx.

~~(9)~~(10) Contact information for replacement components and cleaning agents.

~~(10)~~(11) Contact information to assist an end-user to determine proper ways to dispose of waste generated by the diesel emission control strategy (e.g., ash accumulated in filter-based systems). At a minimum, the owner's manual should indicate that disposal must be in accordance with all applicable Federal, State and local laws governing waste disposal.

~~(11)~~(12) Appropriate methods of removing the diesel emission control strategy ~~system~~ from the original installed configuration and installing the strategy ~~system~~ on a different vehicle or piece of equipment, if such

practices are allowed. The applicant must state possible repercussions to the end user if such practices are done in an inappropriate manner. (See section 2706(i))

(13) Appropriate methods of swapping identical components in strategies that share the same diesel emission control strategy family name.

~~(12)~~(14) Parts List. Those parts not covered by the warranty provisions of section 2707 must be specifically identified by a common description and part number.

(15) Notification of potential safety concerns associated with the operation of the diesel emission control strategy.

(m) Noise Level Control. Any diesel emission control strategy ~~system~~ that replaces a muffler must continue to provide at a minimum the same level of exhaust noise attenuation as the muffler with which the vehicle was originally equipped by the vehicle or engine manufacturer. Applicants must ensure that the diesel emission control strategy ~~system~~ complies with all applicable noise limits contained in Part 205, Title 40, Code of Federal Regulations and California Vehicle Code, Sections 27150, 27151 and 27200 through 27207, for the gross vehicle weight rating and year of manufacture of the vehicle for which the diesel emission control strategy is intended. All diesel emission control strategies ~~systems~~ must be in compliance with applicable local government requirements for noise control.

(n) Installation Manual. The applicant must provide a copy of the diesel emission control strategy ~~system~~ installation manual that the applicant intends to provide to installers and/or owners.

(o) Parts List. The applicant must include a list of all of the component parts of the diesel emission control strategy ~~system~~. All primary components must be listed, including, but not limited to, substrates, electronic control units, sensors, injectors, pumps, blowers, storage tanks, and notification lights. ~~Brackets, fasteners, and wiring need not be included.~~ For each listed component, the applicant must give a description and identification number. The applicant must also clearly specify which parts, if any, are not covered by the warranty. Parts that may be excluded from warranty coverage are subject to approval by the Executive Officer.

(p) Multimedia Assessment for Fuel Strategies. Diesel emission control strategies which rely on fuel changes either through use of additives or through use of alternative diesel fuels must undergo an evaluation of the multimedia effects. No diesel emission control strategy that relies on the use of an additive or an alternative fuel may be verified unless a multimedia evaluation of the additive or alternative fuel has been conducted and the California Environmental Policy Council established by Public Resources Code section 71017 has determined that such use will not cause a significant adverse impact on the public health or the environment, pursuant to Health

and Safety Code section 43830.8. No person shall sell, offer for sale, supply or offer for supply an alternative fuel or a diesel fuel in California that contains an additive for use in a verified diesel emission control strategy unless such a multimedia evaluation has been conducted and resulted in a determination that use of the alternative fuel or additive will not cause a significant adverse impact on the public health and the environment. The applicant shall bear the expense of conducting the multimedia assessment.

* * * * *

~~(r) Aftertreatment Devices. Any control strategy that is installed on or after January 1, 2010 that includes an aftertreatment device such as a diesel particulate filter, must be designed such that the aftertreatment device can only be installed on the application in one unique direction. Any new aftertreatment device installed in the period between February 19, 2009 and December 31, 2009 must indicate the proper direction of exhaust flow so the end user or installer can clearly see how to properly install the device.~~

(r) Directionality Requirements for Diesel Emission Control Strategies.

(1) Every diesel emission control strategy must be installed as designed and specified by the manufacturer. For a diesel emission control strategy comprised of multiple exhaust aftertreatment parts, each aftertreatment part must be installed in the proper order along the exhaust stream.

(2) Diesel emission control strategies installed between February 19, 2009, and January 1, 2010

(A) The diesel emission control strategy must indicate the proper direction of exhaust flow so the end user or installer can clearly see how to properly install the device.

(3) Diesel emission control strategies installed on or after January 1, 2010

(A) The proper direction for exhaust to flow through the aftertreatment part of the diesel emission control strategy must be clearly indicated on the outside surface of the aftertreatment part using an arrow imprinted on or affixed to the aftertreatment part which is clearly visible and durable.

(B) The aftertreatment part must be constructed such that it can only be installed into the diesel emission control strategy in one unique direction relative to the exhaust flow and cannot be reversed.

(C) A diesel emission control strategy not meeting these requirements may be installed after January 1, 2010, provided that the diesel emission control strategy:

(i) Has a date of manufacture no later than December 31, 2009,

(ii) Complies with (r)(1) and (r)(2) above, and

(iii) Is installed no later than July 1, 2010.

* * * * *

(t) Pre-Installation Compatibility Assessment. The applicant, distributor, or installer must be able to demonstrate, to the satisfaction of the Executive Officer, that a candidate engine being considered for retrofit is compatible with the verified diesel emission control strategy.

(1)For diesel emission control strategies that have exhaust gas temperature requirements for successful operation, the applicant, distributor, or installer must measure and record the exhaust gas temperature for each candidate engine to determine if the temperature requirements are satisfied. In lieu of logging data for each candidate engine, the applicant may choose to data-log a representative number of candidate engines, provided the following requirements are met:

(A) The diesel emission control strategy is verified to reduce emissions of diesel particulate matter only,

(B) At least 5 representative engines must be data-logged from within each group of similar engines, or 10 percent of each group, whichever is larger. All engines in a group of 5 or fewer engines must be data-logged. Data from engines outside the group cannot be used to support retrofit of engines within the group. A group of engines is similar if:

1. All engines belong to the same common ownership fleet.
2. All engines have the same make and model.
3. All engines are certified to the same PM emissions standard.
4. The maximum power ratings of all engines fall within a range that does not exceed 100 horsepower. For example, all engines are rated to between 250 and 350 horsepower.
5. None of the engines have exhaust gas recirculation, or all of the engines have external exhaust gas recirculation, or all of the engines have internal exhaust gas recirculation.
6. All engines are installed in similar vehicles or equipment that perform a like function. Examples of vehicle or equipment groups considered similar include solid waste collection vehicles, transit buses, class 8 tractors, excavators, wheel loaders, and back-up emergency generators.

(C) If the diesel emission control strategy is determined to be compatible with the candidate engine in its current application, the applicant, distributor, or installer must provide a written statement to the end user no later than the date of installation and, upon request, to the Executive Officer within 30 calendar days of the request, that includes:

1. A statement that the exhaust gas temperature profile of the candidate engine was found to satisfy the requirements of the diesel emission control strategy's Executive Order,
2. The date of this determination,
3. The name and contact information of the owner of the common ownership fleet,
4. The Executive Order number and the diesel emission control strategy family name,

5. The engine family name, engine make and model, and power rating of each candidate engine along with a unique identifier such as a vehicle identification number or an engine serial number,
6. A description of the vehicle or equipment type for each candidate engine,
7. Identification of which candidate engines were data-logged and the groups they represent,
8. Identification of the parameters used to define each group of similar engines, and
9. The name of the installer and the date of installation, if applicable.

(2)Data must be measured and recorded using a stand-alone data logging system that is independent of the diesel emission control strategy and must adhere to the following criteria:

(A) The measured and recorded data must be representative of the actual duty cycle and operation of the candidate engine as best it can be anticipated at the time.

(B) The exhaust gas temperature of the candidate engine must be measured at a point in the exhaust system that is within 6 inches of the proposed location of the inlet of the diesel emission control strategy.

(C) The recorded exhaust gas temperature must have an accuracy of at least ±4 degrees Celsius. The temperature sensor must have a range sufficient to accommodate the highest exhaust gas temperature measured plus 10 percent without exceeding the sensor's full scale rating while ensuring that 90 percent of the measured values fall between 10 and 90 percent of the sensor's full scale rating.

(D) The exhaust gas temperature of the candidate engine must be measured and recorded for a period that is long enough to determine the exhaust gas temperature profile associated with the candidate engine's duty cycle, but not less than 24 hours of representative, actual engine run time. The data logging strategy must include a means to accurately determine when the engine is actually running. This may include use of a data logging system that starts automatically when the engine starts and stops automatically when the engine stops, or a means to identify and remove data that correspond to the engine being off such as by simultaneously logging data from an engine RPM sensor or applying a temperature threshold that corresponds to a temperature just below the idle temperature of the engine.

(E) The memory of the data logging system must be of sufficient size to ensure that data are not overwritten prior to retrieval.

(F) All data must be recorded at a frequency of at least once every 5 seconds (0.2 Hertz)

(G) At a minimum, the following parameters must be measured and recorded:

1. Exhaust gas temperature in degrees Celsius
2. Time and date for each data point
3. Other parameters deemed necessary by the Executive Officer to meet the terms and conditions of the Executive Order.

(3)At the Executive Officer's request, the applicant must submit all data used to determine the suitability of a candidate engine with a verified diesel emission control strategy. All logged data must be submitted electronically in Microsoft Excel or another format approved by the Executive Officer. The installer must keep a record of the data used to determine the suitability of the candidate engine for the duration of the warranty period of the diesel emission control strategy and make the data available to the applicant and the Executive Officer upon request. These data must include all logged data, the date of the determination, the name and contact information of the end user, the date of installation, the name and contact information of the installer, the Executive Order number, the diesel emission control strategy family name, and clearly identify the candidate engine and vehicle or equipment using a unique identifier such as a vehicle identification number and an engine serial number along with the engine family name.

(4)Prior to installation of a diesel emission control strategy, the installer must ensure that the candidate engine is well maintained, in good working condition, and is appropriate for use with the diesel emission control strategy. In particular, the installer must review the engine's oil consumption records to ensure that it is not consuming lubrication oil at a rate greater than that specified by the engine manufacturer. The installer must maintain a record of all documentation used to make the determination that the candidate engine was appropriate for use with the diesel emission control strategy, including oil consumption records at time of installation and that manufacturer recommended parts replacement schedules were followed. Subsequent to installation of a diesel emission control strategy, the owner must continue to maintain oil consumption records for each retrofitted engine. All such records maintained by the installer and the owner must be made available to the Executive Officer within thirty days upon written request.

NOTE: Authority cited: Sections 39002, 39003, 39500, 39600, 39601, 39650-39675, 40000, 43000, 43000.5, 43011, 43013, 43018, 43105, 43600, 43700 and 43830.8, Health and Safety Code. Reference: Sections 39650-39675, 43000, 43009.5, 43013, 43018, 43101, 43104, 43105, 43106, 43107, 43204-43205.5 and 43830.8, Health and Safety Code; Section 71017, Public Resources Code; and Title 17 of Regulations Section 93000.

**§ 2707. Warranty Requirements.**

(a) (1) Product Warranty.

* * * * *

(2) Installation Warranty

* * * * *

(B) For each engine type and size listed in Table 5, the minimum defects warranty period is terminated by that listed event whichever occurs first. ~~The extent of the warranty coverage provided by installers must be the same as the warranty provided by the applicant as established in subsection (a)(1) and the same exclusions must apply.~~ The warranty must cover the full repair or replacement cost of the diesel emission control strategy, including parts and labor.

(C) The warranty coverage provided by installers must be the same as the warranty provided by the applicant as established in subsection (a)(1)(C) - (E) and the same exclusions must apply.

Table 5. Minimum Warranty Periods

| Engine Type | Engine Size | Minimum Warranty Period |
|---|---|---|
| On-Road | Light heavy-duty, 70 to 170 hp, Gross Vehicle Weight Rating (GVWR) less than 19,500 lbs. | 5 years or 60,000 miles |
| | Medium heavy-duty, 170 to 250 hp, GVWR from 19,500 lbs. to 33,000 lbs. | 5 years or 100,000 miles |
| | Heavy heavy-duty, exceeds 250 hp, GVWR exceeds 33,000 lbs. | 5 years or 150,000 miles |
| | Heavy heavy-duty, exceeds 250 hp, GVWR exceeds 33,000 lbs., and the truck is:<br>1. Typically driven over 100,000 miles per year, and<br>2. Has less than 300,000 miles on the odometer at the time of installation. | 2 years, unlimited miles |
| Off-Road (includes portable engines), ~~and~~ Stationary, Marine, Locomotives, TRU, and APU | Under 25 hp, and for constant speed engines rated under 50 hp with rated speeds greater than or equal to 3,000 rpm | 3 years or 1,600 hours |
| | At or above 25 hp and under 50 hp | 4 years or 2,600 hours |
| | At or above 50 hp | 5 years or 4,200 hours |

* * * * *

(c) Diesel Emission Control Strategy Warranty Report. The applicant must submit a warranty report to the Executive Officer annually by April 1 of each calendar year for each verified system as defined by a unique control strategy family name. The applicant must also submit a warranty report within 30 calendar days at any time if warranty claims exceed four percent of the number of diesel engines using the diesel emission control strategy. Where warranty claims exceed four percent, the Executive Officer may modify, revoke or suspend the existing verification. The warranty report must include the following information:
(1) Annual and cumulative sales, and annual and cumulative leases of diesel emission control systems (California only).

* * * * *

**§ 2711 Compliance**

(a) No person shall sell, offer to sell, or introduce into commerce an ARB verified diesel emission control strategy unless all of the conditions of the governing Executive Order and this Chapter are met.
(b) The Executive Officer may modify, revoke or suspend an existing verification for any violation of the governing Executive Order or the procedures of this Chapter and seek any other remedy available under Part 5, Division 26 of the Health and Safety Code.
(c) No person shall represent a device as being an ARB verified diesel emission control strategy unless it has received verification pursuant to this article.

NOTE: Authority cited: Sections 39002, 39003, 39500, 39600, 39601, 39650-39675, 40000, 43000, 43000.5, 43011, 43013, 43018, 43105, 43600, 43700 and 43830.8 Health and Safety Code. Reference: Sections 39650-39675, 43000, 43009.5, 43013, 43018, 43101, 43104, 43105, 43106, 43107, 43204-43205.5 and 43830.8, Health and Safety Code; Section 71017, Public Resources Code, and Title 17 California Code of Regulations Section 93000.