State of California
AIR RESOURCES BOARD

Final Statement of Reasons for Rulemaking,
Including Summary of Comments and Agency Response

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

Public Hearing Date: August 23, 2012
Agenda Item No.: 12-5-3

I. GENERAL

The Staff Report: Initial Statement of Reasons for Rulemaking (Staff Report), entitled "Proposed Amendments to the Verification Procedure, Warranty and In-Use Compliance Requirements for In-Use Strategies to Control Emissions from Diesel Engines", published on July 5, 2012, is incorporated by reference herein. The Staff Report contained a description of the rationale for the proposed amendments. On July 5, 2012, all references relied upon and identified in the Staff Report were made available to the public.

The Air Resources Board (ARB or Board) identified diesel particulate matter (PM) as a toxic air contaminant in 1998 (Title 13 California Code of Regulations (CCR) section 93000). ARB approved the Diesel Risk Reduction Plan in 2000, with the goal of reducing PM emissions and their associated health risks by 85 percent by the year 2020. Key measures to achieve this goal included more stringent standards for all new diesel-fueled engines and vehicles, retrofitting in-use diesel engines with diesel emission control strategies (DECS), and the use of ultra-low sulfur diesel fuel.

In 2002, ARB adopted the *Verification Procedure, Warranty, and In-Use Compliance Requirements for In-Use Strategies to Control Emissions from Diesel Engines* (Procedure). The Procedure ensures that DECS achieve real and durable reductions in emissions of PM and oxides of nitrogen (NOx). It specifies test procedures, warranty requirements, and in-use compliance testing requirements. DECS which satisfy all of the requirements of the Procedure are verified and can then qualify as compliance options for ARB fleet regulations that require the control of emissions from in-use diesel fleets.

Since it was originally adopted by the Board, the Procedure has been amended several times to improve its effectiveness and strengthen the benefits it provides. The Procedure was last amended in January 2010. Since that time, the staff has identified a number of elements that could be improved or clarified to better evaluate diesel retrofits and reduce the cost of compliance while providing improved performance to the end-user.

To address concerns voiced by verification applicants regarding the testing costs associated with the Procedure's in-use compliance requirements, staff proposed amendments at the August 23, 2012, public hearing that would reduce the amount of

in-use testing that the Procedure currently requires. Specifically, the amendments replace one phase of in-use emissions testing with field testing, increase the sales thresholds that determine when testing must begin, provide for functionality testing of supporting components, provide a pathway to complete the required in-use testing using only one phase of emissions tests, and streamline the in-use compliance process. These amendments would significantly reduce the cost to verification applicants while preserving the Procedure's goals and objectives.

Staff's amendments also add recall provisions and modify and clarify the annual warranty reporting requirements for applicants and installers. The amendments provide the Executive Officer with recall authority based on criteria such as a failure to meet the requirements for passing in-use compliance testing, failure of an operational feature, warrantable failures of the same part in excess of four percent of the number of engines using the strategy, or safety considerations. The amendments also clarify how the existing four percent threshold for warrantable failures is determined and clarifies the existing installation warranty requirements and requires installers of verified strategies to begin submitting annual installation warranty reports similar to the product warranty reports currently submitted by applicants. These changes would benefit the end-users of DECS by helping to ensure better installation and maintenance practices.

The Board approved several other amendments that are generally intended to provide more specificity and clarity to the existing requirements. These include conditions under which an application may be terminated, objective engine maintenance criteria that must be provided by the applicant to its authorized installers for the verified device pre-installation compatibility assessment, minimum operational data monitoring and storage requirements for backpressure monitoring systems, emission control groups and test engine selection criteria, label durability and replacement, alternative diesel fuels and fuel additives requirements, prohibition on tampering of verified DECS, and safety evaluation requirements.

At the request of the regulated entities, one amendment extends the conditional verification timeframe for off-road strategies from one to two years. This would benefit verification applicants by allowing them additional time to complete their conditional verification requirements.

Lastly, in order to provide all referenced documents to the public, the test procedure for American Petroleum Institute (API) gravity was amended to reflect updated laboratory procedures. Table 6, Fuel Test Methods and Reference Fuel Specifications, found in Section 2710 of the proposed amendments, includes this new test procedure option. A copy of this test procedure can be purchased from American Society for Testing and Materials (ASTM) by telephone at 1-877-909-2786, by mail from ASTM International, 100 Barr Harbor Drive, PO Box C700, West Conshohocken, Pennsylvania, 19428-2959 USA, or online at http://www.astm.org.

The document is referenced and incorporated into the CCR because it would be cumbersome, unduly expensive, and otherwise impractical to publish them in the Code. It has been a longstanding and accepted practice of the ARB to incorporate ASTM test methods into the CCR by reference. Among other things, this enables interested

parties to verify that the test methods have been adopted by a consensus-driven, authoritative source.

Overall, the approved amendments would provide additional flexibility and economic relief to applicants while ensuring that DECS verified by ARB continue to be durable and effective in reducing emissions from existing diesel vehicles. The proposed amendments would also strengthen and preserve critical end-user protections to ensure that DECS used to comply with ARB's fleet rules are safe and effective.

After considering the information provided by ARB staff in the Staff Report and at the public hearing, and the comments submitted by the public during the 45-day comment period and at the public hearing, the Board approved the proposed amendments with changes as proposed by staff in Resolution 12-30. The Board directed the Executive Officer to make the text of the modified amendments available to the public for a supplemental written comment period of no less than 15 days (15-day comment period) as required in section 11346.8 of the *Government Code* and specified in Resolution 12-30. The "Notice of Public Availability of Modified Text" was published on May 29, 2013 and comments from the public were accepted through June 13, 2013. The modifications included both those identical in text to Attachment 1, modifications for further clarification, and additional non-substantial modifications for clarification such as typographical, grammatical, or numbering errors, and correction of references. The changes include a process to grant an extension of time up to an additional 15 days for submitting a market-ready DECS, clarifying language to the pre-conditioning requirements, and new warranty claim resolution language which includes an application process for the investigation and repair of a verified DECS' filter. The Resolution and all other regulatory documents for this rulemaking are available online at http://www.arb.ca.gov/regact/2012/verdev2012/verdev2012.htm.

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, except ARB. ARB will require one additional staff person to monitor and investigate warranty issues in calendar years 2013 and thereafter. Total annual staff costs are estimated to be $187,000.

For the reasons set forth in the Staff Report, in staff's comments and responses at the hearing, and in this Final Statement of Reasons (FSOR), the Board determined that no alternative considered by the agency would be more effective in carrying out the purpose for which the regulatory action was proposed, or would be as effective as and less burdensome to affected private persons, or would be more cost-effective to affected private persons and equally effective in implementing the statutory policy or other provisions of law than the action taken by the Board.

II. SUMMARY OF COMMENTS AND AGENCY RESPONSE

Written comments were received during the 45-day comment period from five entities. In the order they were logged, these are:

Joseph Ramirez, elementary school teacher;
Bryn Burke, Mobile Crane Operators Group (MCOG);
Rasto Brenzy for Joseph Kubsh, Manufacturers of Emission Controls Association (MECA);
Kevin Brown, for Lyndon Smith, Clean Diesel Technologies, Incorporated (CDTi);
Gary Simons, Donaldson Company Incorporated (Donaldson).

In the order presented, testimony was offered at the hearing by:
Rasto Brezny, MECA;
Gary Simons, Donaldson;
Frank Haas, ESW Group;
Kevin Brown, CDTi.

Below is a summary of each comment made regarding the proposed regulatory action, together with the agency's response. The comments have been grouped according to the following topics: streamlining the process, costs, changes to monitors, safety testing, service literature, vehicle pre-installation assessment, test requirements, harmonization with U.S. Environmental Protection Agency, miscellaneous, and support. Comments made during the 45-day comment period and at the Board hearing are followed by relevant comments made in response to the 15-day changes. Written comments were also received from Proventia Emission Control (Proventia) after the 45-day comment period.

Streamlining the Process

1. Comment: ARB should modify the process outlined in Section 2702 to include deadlines for ARB response, specifically for the Engineering and Compliance Review of a complete application, and a completeness review of the final application. (MECA)

2. Comment: These provisions present a strict compliance timetable for the manufacturers but no time limitations for ARB. (ESW)

> Agency Response: Staff has further defined the application and review process to help manufacturers develop more complete preliminary applications, which will speed up the review process. Unfortunately, the need for additional information from an applicant often arises during the Engineering and Compliance Review, as staff develops a thorough understanding of how the applicant's strategy functions to determine if the proposed test plan is adequate to support verification. Placing a deadline on this review would be arbitrary and unrealistic, as each application represents a complex DECS and many applicants are still finalizing their system designs. Similarly, the completeness review may be simple if there is limited applicability, but systems with broader applicability will require more review. Staff will continue to work with applicants to find ways to

accelerate and streamline the review and approval process, but incorporation of interim timeline deadlines for ARB is not practical. It should be noted that existing regulatory language already includes a 30 day time limitation for ARB to notify the applicant if the preliminary application is complete and a 60 day time limit to determine whether the DECS should be verified after the final application is deemed complete. To provide further structure to the process and at the request of stakeholders, staff's proposal includes an additional time limitation for ARB: 45 days to issue a test plan approval letter after determining the preliminary application is complete.

3. Comment: Manufacturers have only a handful of years remaining to recoup their investments in retrofits. We are concerned it still takes two to four years to get a verification approved. (MECA)

4. Comment: CDTi accepts the proposed structure to the application process in section 2702 as it applies to device verification where mandatory fleet retrofit requirements exist. But the verification application process generally takes too long, especially the issuance of letters and verifications after final submission. (CDTi)

Agency Response: The time required for the verification process is highly dependent on the completeness of the initial application and the timeliness of the manufacturer's response to staff requests for additional information. Through this rulemaking, staff aims to clarify and provide more specificity to certain requirements for verification, which should result in some streamlining of the process.

5. Comment: Dealing with the added reporting effort associated with this rule will increase ARB's workload and further increase the times needed for verifications and corrections. (Donaldson)

Agency Response: ARB believes that by clarifying and adding specificity to reporting requirements, staff's workload will be reduced. Staff will be able to more quickly identify product or installation issues for currently verified DECS. Reducing staff's workload in ascertaining the nature of any warranty claims will help to focus resources on verification review.

Costs

6. Comment: Providing a market-ready device may result in significant cost, which should be included in ARB's cost methodology. (MECA)

Agency Response: The intent of this provision is to ensure that the manufacturer has a market-ready device and not a prototype. ARB already has the ability to request a device at its discretion pursuant to section 2702(p). The proposed language only clarifies this ability in the circumstance where the request is made at the time of the preliminary application. It does not create an automatic requirement for all applicants and therefore does not represent a change in the cost of verification.

7. Comment: Although connection hardware and software costs may not be significant, section 2706(f) imposes new costs on manufacturers that are not accounted for in the cost methodology, including the costs to train ARB staff on their use and data interpretation. (MECA)

> Agency Response: The proposed change does not require applicants to provide training on use or data interpretation. Staff may request a copy of the manufacturer's training manual as a courtesy, but formal training is not required. Rather than increasing costs for manufacturers, enabling staff to directly download and review monitored data will provide cost savings due to reduced demands on manufacturers to meet staff in the field to retrieve the data. Manufacturers can thereby avoid personnel and travel costs.

8. Comment: The numerous changes and additions to the rules more than offset the cost benefit to the manufacturers from changes to in-use requirements without providing any measurable air quality benefit. (Donaldson)

> Agency Response: Staff does not agree that there are significant added burdens associated with these proposed amendments. Overall the regulation amendments provide significant cost reductions to the manufacturers. The in-use compliance changes will yield an estimated $5.0 to $5.7 million in savings to the industry. The recall provisions will only impact a manufacturer with a DECS that does not have satisfactory performance. Changes to the pre-installation assessment requirements will serve to reduce the likelihood that DECS are installed improperly, which reduces a manufacturer's warranty claim burden. The application review changes better define the steps of the process and will motivate both applicants and staff to curtail repeated back-and-forth submittals and communications. This will result in improved efficiency in the review of an application. The installation warranty reporting requirements only increases cost for installers. They increase the accountability of installers, however, which will likely result in improvements in the quality of installations and reductions in the number of warranty claims that installers and manufacturers alike must process.

9. Comment: The strict layout of responsibility levels for tracking the devices and installations is certainly appreciated, as it provides clarity. However, these high standards can only be achieved if the manufacturer appropriately accounts for them at the time of sales. The current economic and competitive marketplace situation is leaving no room for any financial provisions of such activity. The administrative burden for the warranty requirement and reporting and in-use compliance testing is huge for the manufacturer. (ESW)

> Agency Response: The proposed changes will reduce the burden for in-use compliance testing. Manufacturers already account for the warranty requirement and reporting at the time of sales since this is required under the current regulation. One of the primary purposes of these proposed changes is to clarify the requirements and to increase consistency of available data for warranty issues. The changes to the warranty requirement and reporting provide

additional clarification, and require installers to begin submitting annual warranty reports to ARB. During the workshops, several installers stated that the warranty reports that they submitted to the manufacturer were not consistent with the warranty reports that the manufacturer submitted to ARB, so ARB proposed changes that require the installer to also submit their warranty reports to ARB to increase consistency of available data and help further define warranty issues.

10. Comment: The high back pressure notification values do not necessarily reflect the variety of available control algorithms in the marketplace. Such fixed values and algorithms may mean additional burden and cost for manufacturers to provide a cost competitive and reliable product. (ESW)

Agency Response: ARB staff did not propose fixed high backpressure value language to the Board at its August 23, 2012 hearing. Prior to the hearing, during the rulemaking development process, ARB staff had initially drafted high backpressure prescription notification value language as it takes staff a large amount of time to understand and approve the various control algorithms. While staff believes that there is merit to this type of warning level notification system, manufacturers argued that they wanted to maintain the flexibility to design backpressure monitoring systems as they deemed appropriate for the specific engines and applications they were targeting.

11. Comment: Some of the proposed changes will impose new costs on verifications. Sales of retrofit devices are waning, and are currently far below projections. Little time is left to recoup initial investments in retrofits, much less new investments. Changes should only be made that are absolutely necessary to address specific performance or safety aspects that are found in the field. (MECA)

Agency Response: One of the primary purposes of these proposed changes is to clarify the requirements and to increase consistency of available data for warranty issues. Costs to manufacturers are significantly reduced due to changes in the in-use compliance requirements which eliminated one phase of laboratory emission testing.

Changes to Monitors

12. Comment: Although MECA supports functionally significant changes to operational monitors that improve the performance and reliability of retrofit systems, any changes to monitors need to be clearly justified and the costs considered. Continual redesign of monitors is costly for manufacturers that have made investments in the capabilities of their operational monitors based on previous requirements. Changes should be limited to those that address system critical issues. Tightly regulating the format of logged data offers little true value and may result in delays in the verification process. We request that the Board make these operational monitor changes effective for future verification applications received after the regulation is approved by the Office of Administrative Law (OAL), and not retroactive to existing verification applications in progress. Retroactive changes should only be implemented when the performance or safety of the device is jeopardized. (MECA)

13. Comment: The proposed changes to the format of logging data and the operational system monitors is coming very late in the game. While most manufacturers already meet these proposed changes, some do not. For those, a possibly significant cost will be incurred, which should be included. It also has the potential to keep you from selling the entire system if it is not deemed to be compliant. It forces you to go back through re-verification activities to have a new monitor. (CDTi)

14. Comment: With respect to amendments to the monitoring system requirements, tightly regulating the format of logged data offers little value to device manufacturers and end-users. Greater flexibility should be afforded. This request for greater flexibility is justified, as section 2706(f)(6) requires companies to provide related hardware and software to ARB needed to download all diagnostic data. These changes have the potential to greatly impact costs to manufacturers and these costs are not accounted for in the cost methodology. (CDTi)

15. Comment: The time at which a change becomes effective is critically important to its cost. We expect a large surge every fourth quarter because due to the fleet rules, this is where most of the sales occur. If these changes get implemented around this time of year when inventory and sales levels are the highest, it has the greatest potential to impact on cost or sales. We think there is greater flexibility required, and that the justification for changing simply the log format of the data is insufficient to merit these changes that were made with respect to our system monitors. (CDTi)

> Agency Response: The proposed changes are not retroactive for systems that are already verified, but instead apply to new verification activity from the time the changes become effective. If a verification is still in progress when the changes become effective and the applicant has a test plan approval letter, the applicant does not need to comply with the changes. Regulations approved by the Board generally take about a year to become final. This gives manufacturers' another year from the time of adoption to plan their verification activities accordingly. However, due to the significant cost savings associated with the in-use compliance testing changes, manufacturers have requested early implementation of these proposed regulations. Staff does not agree with delaying monitoring requirements while allowing early implementation of the other part of the proposal.
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> One of the goals of these amendments is to clarify and better define the requirements for verification. The requirements for the electronic control unit (ECU) have been in the procedure since the 2010 amendments. Most systems do comply with these requirements. However, staff's experience has shown that systems which cannot convey this level of detail and information can hamper ARB's review of in-fleet data acquired from these deployed devices. ARB is often asked to investigate warranty disputes, and without basic clear information from the device ECU, ARB may not be able to assist end-users with their systems. This may result in harm to the end user if valid warranty claims are denied. Since the last amendments, ARB staff became aware that a few technologies still did not have the ability to provide definitive information with their

current method of sampling and storing data. Staff wanted to ensure that a device can provide clear and meaningful data such that any in-field issues can be expeditiously resolved. Staff is simply clarifying the changes adopted with the 2010 amendments.

The ability to download or access device information is critical to ensure the devices are properly functioning and adhering to the terms of the verification. This is independent of the clarification to the existing requirements for the warning system. Most DECS manufacturers have already begun to implement these changes since the 2010 amendments. Since this should only require minor hardware and possible software changes, ARB does not believe this change is an undue burden given the additional benefit to the program this information will provide.

Safety Testing

16. Comment: Section 2706(w)(2) allows ARB to require both safety testing and design modifications. However, there are no criteria or established procedures identified. Without such procedures or standards, there is no way for a manufacturer to determine what is acceptable to ARB. As with most devices, it is possible to generate a test that uses unrealistically harsh conditions that result in a device failure. This section makes it possible for a test or design to be imposed on one device that would not apply to others. We propose that any safety rules be based on accepted industry standard practices, be objective, and apply equally to all devices, whether produced by the original manufacturer or by a retrofit company. (Donaldson)

Agency Response: Retrofit systems are verified over a variety of categories, such as on-road, off-road, stationary, marine, transport refrigeration units (TRUs), and auxiliary power units. The systems are also designed with a multitude of operational parameters that could involve a potential safety-related issue which makes it very difficult to apply a standardized test method. Some of the standardized safety testing can also be very expensive (e.g., Underwriters Laboratory (UL) testing). The proposed language allows some flexibility for manufacturers to propose safety and catastrophic failure analyses. Staff believes that Donaldson's proposal has merit but is not feasible due to the diversity of systems and potential safety issues, and that the proposed language offers the flexibility needed to provide safety analyses to cover all system types. In addition, if the manufacturer wants to use a standardized test, this language allows them to propose such a test to the Executive Officer. It should be noted that staff did reference known existing safety requirements such as the Federal Motor Carrier Safety Administration, Subpart G, Miscellaneous parts and accessories, section 393.83 for location of exhaust systems.

Service Literature

17. Comment: The proposal requires that manufacturers provide ARB with all service literature and other information that is shared with installers, distributors, or end users. MECA believes that this provision will pose a burden to ARB staff, and will require

release of business sensitive and/or confidential information. MECA also believes that any critical technical issues with devices are already part of a manufacturer's warranty report. However, at a minimum, MECA asks that this requirement be changed to restrict provided information to technical service bulletins and other documentation relevant to the terms of the Executive Order, such as proper operation, installation, and maintenance of the diesel emission control strategy that is provided to end-users, authorized installers, or distributors. (MECA)

> Agency Response: ARB is simply requiring that any information communicated to installers, maintenance providers or endusers be copied to the agency. This information is needed to properly evaluate warranty-related claims and other issues reported in the field. It also ensures that manufacturers' communications are consistent with the regulations and the terms of their Verification Executive Order. Staff currently receives this type of information from other programs such as certification. Since some service related information may not be directly related to the terms of the Executive Order but may be related to service of the system, vehicle, or equipment, staff does not agree with the suggested language change. ARB has long-standing procedures in place to safeguard any business-sensitive and/or confidential information.

Vehicle Pre-Installation Assessment

18. Comment: Donaldson agrees that the vehicle pre-assessment described in section 2706(t) is in the best interest of all parties. However, 2706(t)(4) imposes a maximum 15-day window between the vehicle pre-assessment and the device installation. This timeframe is unnecessarily prescriptive and imposes a burden on the commercial relationship between the manufacturer, installer, and end user. The timeframe for completing a basic engine assessment should be left to those who are responsible for the accuracy and timeliness of the installation. (Donaldson)

19. Comment: The pre-assessment testing times lines may or may not be practical. Supplying market-ready systems may or may not align with current inventory or practical lead times. (Donaldson)

20. Comment: The pre-installation assessment adds cost burden but lacks the flexibility to do the job. (ESW)

> Agency Response: The intent of this proposal is to ensure that the vehicle or equipment is appropriate for the DECS and in a good state of maintenance at the time of installation of the DECS. If the delay between the engine assessment and DECS installation is too long, there is a greater potential that the vehicle or equipment may go out of specification for the DECS and lead to operational issues. Prolonged delays allow more opportunity for equipment use and neglect, and can result in the engine's condition changing such that the DECS would not operate properly. ARB originally included this requirement due to lack of proper engine assessment prior to installation of a DECS and observed that some DECS showed major problems within hours of installation. In some cases, staff has even seen warranty claims denied. Most installers complete the pre-

assessment just prior to installation. To clarify, the 15-day window between assessment and installation applies only to the assessment of the engine's state of maintenance. It does not apply to the exhaust temperature data-logging and evaluation or any other portion of the pre-installation compatibility assessment. Only the assessment of the engine's state of maintenance would need to be repeated should the installation be delayed more than 15 days. Given these factors, staff believes that the proposed language is appropriate for facilitating good installations.

Test Requirements

21. Comment: Section 2708(b) makes it more difficult to obtain verification by requiring that every test meet the emissions target rather than the average test meeting the target. While this is not a significant problem for level 3 PM reduction, it is more problematic for reduction of NOx. There is currently one VDEC approved by ARB that exceeds 50% NOx reduction. Making it more difficult to achieve a target NOx reduction would appear counter-productive when there are few NOx reduction VDECs currently available. (Donaldson)

Agency Response: The emissions test requirement is consistent with ARB's engine certification program which has been in place for many years. The emissions tests submitted must all pass the applicable standards, not be averaged to meet the standards. For engine certification, staff also requires additional confirmatory testing if the emissions test data are very close to the standard. This confirmatory testing is not being required as a routine part of verification testing. Verified devices must comply with the verification Level or Mark in a consistent manner. Certain technologies can be greatly influenced by factors such as temperature, soot loading, emissions profile of the test engine, etcetera. These changes are intended to address such issues and ensure systems meet the verification Levels or Marks in real world use. Additionally, standard emissions testing should not show great variation in results. This could indicate problems with the testing or that degradation of the DECS has occurred. For example, a system which is damaged during the durability demonstration could show a decrease in filtration efficiency resulting in a failure to meet the Level that is indicated by the performance of the degreened system. Additionally, staff already consider these factors when assessing a proposed test plan or reviewing data in support of a verification. Systems which achieve inconsistent emissions reductions are assigned the lowest consistent Level or Mark they can obtain per the terms and conditions of their operation (formalized in the verification Executive Order or Conditional Verification letter). Additionally, for aged field systems which have been in use for extended periods of time, the Procedure already allows for a ten percent emissions deterioration for determining a passing result for in-use compliance testing. Therefore, staff rejects Donaldson's request. Consistency in emissions performance is critical for assessing systems and ensuring ARB's overall emission reduction goals are met.

Harmonization with U.S. EPA

22. Comment: CDTi believes that further substantial streamlining of related device verifications and harmonization or true reciprocity with U.S. EPA should be pursued by ARB. A truly common or reciprocal process would further incentivize investments in the availability of products and services to the off-road market. Since both U.S. EPA and ARB programs are voluntary, there is little reason for California to continue to insist upon and bear the costs of a distinct verification process. (CDTi)

> Agency Response: Participation in both U.S. EPA and ARB's verification programs is voluntary, but ARB's program supports mandatory in-use fleet rules whereas U.S. EPA's program supports a voluntary, incentive-driven retrofit program. ARB therefore needs to be able to tailor its verification program to produce higher quality DECS. The U.S. EPA program, for example, does not include warranty requirements and does not require compliance with Occupational Safety and Health Administration safety requirements. Additionally, if ARB automatically accepts a U.S. EPA-verified DECS, ARB may not have any information on how the DECS is designed due to confidentiality issues. This would make it virtually impossible to investigate in-field issues and resolve them or to assist end-users and fleets which have these technologies. Additionally, ARB would have no recourse or remedy should a serious problem arise with a DECS. ARB has always stated that it will work with U.S. EPA such that one set of testing and information will satisfy both agencies. This requires companies to commit to full disclosure (confidentiality waiver) between the two agencies, and that both agencies are involved with each aspect of the verification process such that all the concerns and requirements of both programs are equally addressed. ARB regularly informs new applicants of this path.

Miscellaneous

23. Comment: The sales volume of these systems are often quite low, so only a few instances of a problem will trigger the four percent threshold for recall provisions. In addition, obtaining ARB approval of any corrective action can require substantial time. (Donaldson)

> Agency Response: While staff concurs that for a DECS with low sales recall provisions could be triggered by only a few problems, it is important to note that triggering these provisions does not mean that a recall would necessarily be implemented. Rather, staff would confer with the manufacturer to determine the cause of the problem as well as a suitable solution, if warranted. If a suitable solution cannot be reached, a recall may be ordered. Additionally, the four percent threshold has always been part of the warranty report requirements. ARB has always had the ability to take significant action, including revocation of the verification and any remedy available in Part 5 of Division 26 of the Health and Safety Code (which includes recall) should a system exceed this number or otherwise violate the Procedure or applicable Executive Order. A recall allows for a less severe path than revocation of the verification, and allows ARB to

quickly identify and address potential system issues which may impact the owners and operators of these devices.

24. Comment: ARB may request a market-ready device from the manufacturer, which must be delivered within 30 days. This is not always enough time if parts must be acquired or tooling completed. MECA requests this allotted time be increased to 60 days. (MECA)

Agency Response: Staff may grant an extension of time of up to an additional 15 days for good cause. If insufficient time is available and the preliminary application is terminated, the applicant may reapply after 30 days. The verification process is designed for market-ready DECS. Companies which do not have market-ready product typically cannot directly complete the verification process as they encounter problems over the course of verification testing. Additionally, companies which need to modify or change the product over the course of verification demand a disproportionate amount of staff time to address and work through the various issues. Given ARB's limited resources, this impacts other companies interested in verification which have well developed, market-ready products. Additionally, the comment neglects to take into consideration that starting the verification process is solely at the discretion of the applicant. If an applicant does not have a market-ready product available, it can always wait to apply until it has constructed such a product.

25. Comment: Implementing training for all end-users, some of whom are reluctant to get training, may be an issue. (Donaldson)

Agency Response: While staff agrees that complying with training programs can be a challenge, improper use of a DECS can significantly reduce its effectiveness, cause failure, or even create a safety issue in the instance where an end-user does not understand the warning system. Therefore, staff believes that proper training for end-users is essential. Verified technologies must be used and supported according to the terms and conditions of the verification, and whatever additional requirements the DECS manufacturers may have (e.g., cleaning methods). Failure to do so can result in DECS malfunction, which not only may cost a fleet money to fix the system and loss of use of the equipment, but also may result in denial of a warranty claim by the DECS manufacturer based on the fact the fleet did not properly service or support the DECS. System problems due to lack of proper care and maintenance is an issue which can be addressed and improved by simply ensuring proper and sufficient training is provided by the verified DECS manufacturer.

26. Comment: ARB should assess each change and see if they are absolutely necessary as far as the performance and reliability of the verified devices. (Donaldson)

27. Comment: These changes do not provide any relief or make it easier or quicker for new product verification to occur. Instead, the presented changes provide clarification of the processes involved. These changes do not meet the direction given by the Board. (ESW)

Agency Response: One of the primary purposes of the proposed amendments is to provide clarification on the program requirements. ARB has become aware that some DECS manufacturers are misunderstanding the already adopted version of the regulation and/or still have product designs which do not comply with it. Staff's clarifications should reduce delays associated with incomplete applications and other such issues. The current rulemaking focuses on providing these clarifications, including the verification process itself, and providing financial relief through changes to the in-use compliance testing portion of the program. Many of the proposed changes have also been found to be necessary due in part to staff's experience with in-field systems and warranty disputes. As such, some of the changes directly address staff's ability to assess systems and provide support for end-users. Staff disagrees that these changes do not meet the direction given by the Board over the years.

Support

28. Comment: MECA, Donaldson, and CDTi expressed support for the modified in-use compliance requirements.

Agency Response: ARB appreciates the support expressed for these proposed regulatory changes.

Other Comments

Several additional comments were submitted that did not involve objections or recommendations specifically directed towards ARB's proposed action or to the procedures followed by ARB in this rulemaking. These comments are not summarized.

Comments Received After the Public Comment Period Closed

In addition to the comments above, comments were also received after the public comment period closed from Proventia Emission Control (Proventia). Proventia proposed changes that would specifically reduce costs for the ECU currently used in the currently verified Proventia's Electrically Heated Diesel Particulate Filter.

III. MODIFICATIONS TO THE ORIGINAL PROPOSAL – NOTICE OF MODIFIED TEXT

At the August 23, 2012, hearing, the Board approved the originally-proposed amendments and staff's proposed modifications. In approving the amendments, the Board directed staff in Resolution 12-30 to make the staff's recommended changes and any other needed conforming changes. The following is a brief description and justification of the modifications and clarifications by section number.

Modifications to Title 13, CCR, Section 2702 Preliminary Verification Application

Section 2702 (b): Staff modified the language for clarification and included a process to grant an extension of time for the submittal of a market-ready DECS of up to an additional 15 days if the applicant can show just cause.

Modifications to Title 13, CCR, Section 2706 Other Requirements

Section 2706 (a)(4)(2) and (a)(4)(3): Staff reworded the text to clarify the intent of the pre-conditioning requirements.

Modifications to Title 13, CCR, Section 2707 Warranty Requirements

Section 2707 (b)(3) Warranty Claim Resolution: Staff added a new section to define a process for investigating a warranty claim that allows the applicant to install a temporary replacement center body (TRB) in place of the verified DECS' filter for a period not to exceed 60 calendar days, provided that all terms and conditions are met in the Procedure. The process ensures that any TRB will be used temporarily, will be clearly identifiable, and will only be used in an appropriate manner.

Section 2707(b)(4) Temporary Replacement Center Body Application Process: Staff added an application process for an applicant that wants to use a TRB to investigate warranty claims. The applicant must submit the requested information and receive approval from ARB before using a TRB.

IV. SUMMARY OF PUBLIC COMMENTS AND AGENCY RESPONSES – NOTICE OF MODIFIED TEXT

During the 15-day comment period, written comments were received from Craig Phillips, an installer of DECS, only one of which is summarized and addressed below. The remainder of his comments as well as those submitted by Johnson Matthey did not involve objections or recommendations specifically directed towards the 15-day modifications to this rulemaking or to the procedures followed by ARB in this rulemaking. These comments are not summarized.

1. Comment: The new warranty claim resolution section should provide guidance on the situation of trucks in the field equipped with LongMile systems which will have Cleaire or ESW CleanTech CMMs installed for some time. (Craig Phillips)

> Agency Response: The purpose of this new section is to define the conditions under which a TRB can be installed in place of the system's filter when a manufacturer needs to investigate a warranty claim. The situation with the original LongMile systems in the field does not relate to warranty claim investigation and therefore should not be included here. It is a specific safety-related issue that is being handled separately.

V. ECONOMIC AND FISCAL IMPACTS

The proposed amendments provide significant cost savings to DECS manufacturers through the proposed changes to in-use testing requirements. Overall, staff's proposal is estimated to provide a net savings to industry of approximately $2.1 million to $5.6 million. This net savings takes in account lower in-use testing costs and the potential expense of product recall. The installation warranty reporting requirements will result in a small additional cost to each installer, which staff estimates to be about $960 per year. Furthermore, the proposed amendments should provide additional cost savings to consumers by providing better assessment of vehicles prior to retrofit, better installation practices, fewer in-field issues and less down time, and by helping to ensure end-users receive proper training.