

## **TITLE 13. CALIFORNIA AIR RESOURCES BOARD**

### **NOTICE OF PUBLIC HEARING TO CONSIDER AMENDMENTS TO THE GASOLINE DEPOSIT CONTROL ADDITIVE REGULATION**

The California Air Resources Board (ARB or Board) will conduct a public hearing at the time and place noted below to consider amendments to the gasoline deposit control additive regulation.

DATE: September 24, 1998

TIME: 9:30 a.m.

LOCATION: Kern County Board of Supervisors Office  
1115 Truxton Avenue  
Bakersfield, California

This item will be considered at a two-day meeting of the Board, which will commence at 9:30 a.m., September 24, 1998, and may continue at 8:30 a.m., September 25, 1998. This item may not be considered until September 25, 1998. Please consult the agenda for the meeting, which will be available at least 10 days before September 24, 1998, to determine the day on which this item will be considered.

This facility is accessible to persons with disabilities. If accommodation is needed, please contact Jacqueline Wilson at (916) 327-1493, or TDD (916) 324-9531 or (800) 700-8326 for TDD calls from outside the Sacramento area by September 10, 1998.

### **INFORMATIVE DIGEST OF PROPOSED ACTION**

Sections Affected: Proposed amendments to section 2257, title 13, California Code of Regulations (CCR), and the following incorporated documents: ASTM D 5500-94, ARB's "Test Method for Evaluating Port Fuel Injector (PFI) Deposits in Vehicle Engines" and ARB's Test Method for Evaluating Intake Valve and Combustion Chamber Deposits in Vehicle Engines."

### **Plain English Policy Statement Overview**

The current gasoline deposit control additive regulation -- section 2257, title 13, California Code of Regulations -- was adopted by the Board in 1990. Essentially, the regulation requires that all commercial gasoline formulations be certified to contain effective levels of detergent additives. The regulation also contains specific administrative and performance requirements that a gasoline producer, importer, or distributor must meet to obtain certification of a gasoline

formulation. As part of the administrative requirements, an applicant must provide a completed application including specific information about the deposit control additive package being requested for certification and information about the certification test fuel.

More specifically, the regulation requires that applicants demonstrate that their gasoline formulation containing a deposit control additive, represented as a certification test fuel, meets specified performance criteria pertaining to: (i) the control of intake valve deposits when tested in accordance with the American Society for Testing and Materials (ASTM) Method D5500-94, and (ii) the prevention of port fuel injector deposits when tested in accordance with ASTM Method D5598-94 (also known as PFI keep-clean test), and (iii) the reduction of port fuel injector deposits when tested in accordance with the Stationary Source Division's "Test Method for Evaluating Port Fuel Injector Deposits in Vehicle Engines," dated July 2, 1996 (also known as the PFI clean-up test). ARB staff uses the information from the application, and other requested information as necessary, to evaluate applications for certification of commercial gasoline formulations.

Recently, an evaluation was conducted by staff on combustion chamber deposits and their effect on emissions. Staff found that today's California reformulated gasoline (CaRFG), along with the use of newer technology deposit control additives, has led to reduced combustion chamber deposit levels relative to past levels. Because combustion chamber deposits have been linked to NOx emissions, the combustion chamber deposit reductions have likely resulted in a reduction in NOx emissions within the California vehicle fleet. Staff estimates this reduction in NOx emissions to be at least five percent from past levels when gasoline prior to CaRFG was used. Therefore, staff is proposing a new combustion chamber deposit standard to be included in the gasoline deposit control additive regulation to cap the current combustion chamber deposit levels within the California vehicle fleet and to protect the NOx benefit already realized.

A recent evaluation of performance test data from gasoline certifications issued between July 1, 1996, to the present by ARB staff has revealed that additive packages have improved dramatically. For the gasoline certifications reviewed, the majority of the additive packages resulted in intake valve deposit (IVD) levels below 50 mg/valve (less than half the current required standard). Staff believes that today's deposit control additives which demonstrate more effective IVD control will provide better protection against elevated levels of deposits. Therefore, staff proposes to revise the IVD performance standard from the existing 100 mg/valve standard, to 50 mg/valve.

The IVD performance standard is just one of three demonstration criteria that the Board requires under the gasoline certification program, as described above. The Board adopted the three additive performance standards to ensure effective additives since certification is based on a single pass on a single vehicle type for the three demonstration criteria. However, by

strengthening the IVD performance standards, added assurance is provided in the program to ensure effective deposit control additives. This has allowed staff to reconsider the need for the port fuel injector deposit (PFID) clean-up performance standard. Further review of the issued gasoline certifications, show that certifications that have excellent IVD performance below 50 mg/valve, consistently demonstrated excellent PFI keep-clean and PFI clean-up performance. Therefore, staff proposes to eliminate the PFID clean-up performance requirement to provide greater cost-effectiveness in complying with the regulation. Demonstration of PFID keep-clean is still required and is consistent with the federal gasoline deposit control additive program.

Two other amendments proposed by staff relate to the criteria for certification test gasoline. One proposal adds additional specificity related to the T90 distillation temperature (temperature at which 90% of gasoline evaporates) of the certification test fuel. The current regulation specifies that the T90 temperature be typical of the level found in the applicant's commercial gasoline. However, because of the potential of raising the CaRFG cap limits above today's limits to address increased refiner flexibility in the future, staff believes that it is appropriate to specify the T90 to ensure that certification test gasoline be representative of commercial gasoline. The other amendment proposed by staff would require the submittal of a list of blend stocks that are used to formulate the certification test gasoline. This information would be used by staff to ensure that certification test gasoline adequately represent the deposit forming tendency of the gasolines to be marketed by the applicant.

Finally, staff proposes to amend the regulatory standard applicability provision to invalidate outdated deposit control additive packages which have been approved since the implementation of the gasoline deposit control additive program in 1992.

### **Summary of Proposed Changes**

Amendments to the Regulatory Standard: Staff proposes amendments to section 2257(a), title 13, CCR, to disallow any gasoline certification issued prior to July 1, 1996. The amendment effectively eliminates the use of certifications which were issued prior to the introduction of CaRFG. Staff believes this is appropriate because the use of older certifications would allow the use of outdated deposit control additives in concentrations high enough to increase current combustion chamber deposit levels. Staff also proposes to allow gasoline certifications issued between July 1, 1996, and the 30 days after the effective date of the amendments. A separate combustion chamber deposit demonstration would not be required for these certifications because the deposit control additive packages have already been adjusted to conform with the CaRFG commercial gasoline and already meet the proposed more stringent IVD performance standard. Staff does not expect these certifications to adversely affect current combustion chamber deposit levels. The thirty day transition period is

to allow for the processing of gasoline certification applications submitted just prior to the effective date of the amendments.

Amendments to Eliminate the Port Fuel Injector Clean-up Performance Test Requirement: Staff proposes to delete the existing section 2257(c)(1)(A)(iii) text pertaining to port fuel injector clean-up testing requirement.

Amendment to Lower the Performance Standard for Demonstration of Intake Valve Performance: Staff proposes to lower the existing performance standard pass criteria for demonstrating intake valve deposit effectiveness. The existing regulation requires intake valve deposits to be less than 100 milligrams per intake valve (averaged across all four intake valves), when tested in accordance with the referenced vehicle test method. Staff now proposes to lower the performance standard for intake valves to be less than 50 milligrams per intake valve (averaged across all four intake valves), when tested in accordance with the referenced test method.

Amendment to Include a New Performance Standard for Combustion Chamber Deposits: Staff proposes to add new regulatory text to section 2257(c)(1)(A)(iii) to require a combustion chamber deposit performance demonstration for gasoline certification. Under staff's proposal, an applicant must perform a pre-described test to show that combustion chamber deposits will be maintained under 1300 milligrams per cylinder (when averaged across all four cylinders of the BMW 318i test vehicle). There is also an optional combustion chamber deposit demonstration that would allow an applicant to compare the combustion chamber deposit difference of a certification test gasoline with no additive to a certification test gasoline with additive.

Amendments to Update the Vehicle Test Methods Incorporated in the Gasoline Deposit Control Additive Regulation: Staff proposes to amend section 2257(c)(1)(A)(i) to update the referenced intake valve deposit test method from ASTM D 5500-94 to ASTM D 5500-98. Staff also proposes to amend section 2257(c)(1)(A)(ii) to update the referenced port fuel injector test method from ASTM D5598-94 to ASTM D-5598-95a. Finally, staff proposes an amendment to section 2257(c)(1)(A)(iii) to incorporate a new ARB vehicle test method for measuring combustion chamber deposits.

Amendment to Specify the T90 Distillation Temperature of Certification Test Gasoline: Staff proposes to include regulatory text to specify the minimum requirements for the T90 distillation temperature of certification test gasoline to be within 40°F of the maximum requested gasoline property values for certification.

Amendment to Require Submittal of Information Related to Certification Test Gasoline Formulation: Staff proposes to require applicants to submit the list of blend stocks used to

produce the certification test gasoline. The amendments also allow staff to further request more detailed information about the blend stocks to determine the representativeness of the certification test gasoline compared to the typical gasoline to be marketed under the approved certification.

### **Comparable Federal Deposit Control Additive Requirements.**

The U.S. EPA promulgated a final rule (61 Fed. Reg. 35309 (July 5, 1994).) in 1996 to implement their deposit control additive program in two phases. The initial phase of the program was in effect prior to 1997 and consisted of interim regulations. The final additive phase of the federal additive regulations went into effect in 1997 and require submittal of additive registration under 40 Code of Federal Regulations (CFR) sections 79.6, 79.10, 79.11, 79.20 and 79.21, as applicable. The final federal regulations also establishes a certification program similar to the existing California gasoline deposit control additive regulation. Under the final federal deposit control additive regulation, applicants are required to meet the same performance standards as the California gasoline deposit control additive program for port fuel injector keep-clean and intake valve deposits. However, the U.S. EPA does not require a port fuel injector clean-up demonstration. Under staff's proposed amendments, the federal and state regulations will be more consistent due to staff's proposal to delete the port fuel injector clean-up demonstration. However, the programs will also differ with staff's proposal to lower the existing intake valve deposit performance standard.

The final U.S. EPA regulations also allow ARB certifications to meet the federal certification requirements for California gasoline. In these cases, the U.S. EPA has delegated the administration and recordkeeping requirements to the State for gasolines sold in California.

### **AVAILABILITY OF DOCUMENTS AND CONTACT PERSON**

The Board staff has prepared a staff report which includes the initial statement of reasons for the proposed action and a summary of the environmental impacts of the proposal, if any. Copies of the staff report and the express terms of the proposed amendments are available from the Board's Public Information Office, 2020 L Street, Sacramento, California 95814, (916) 322-2990. To obtain this document in an alternative format, please contact the Air Resources Board ADA Coordinator at (916) 322-4505, TDD (916) 324-9531, or (800) 700-8326 for TDD calls from outside the Sacramento area. The Board staff has compiled a record which includes all of the information upon which the proposal is based. This material is available for inspection upon request to the contact person identified below. The ARB has determined that it is not feasible to draft the regulation amendments in plain English due to the technical nature of the regulation; however, a plain English summary of the proposed amendments is available from the agency contact person named in this notice, and is also contained in the Staff Report for this regulatory action.

Further inquiries related to the proposed amendments should be directed to Mr. Dean C. Simeroth, Chief, Criteria Pollutants Branch, Stationary Source Division, P.O. Box 2815, Sacramento, CA 95812, (916) 322-6020.

### **COST TO PUBLIC AGENCIES AND TO BUSINESSES AND PERSONS AFFECTED**

The determinations of the Board's Executive Officer concerning the costs or savings necessarily incurred in reasonable compliance with the proposed actions are presented below.

The Board's Executive Officer has determined that the proposed action will not create costs or savings, as defined in accordance with 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 nondiscretionary savings to local agencies.

The Executive Officer has also determined that adoption of the proposed regulatory action will not have a significant adverse economic impact on large or small businesses, including the ability of California businesses to compete with businesses in other states.

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

The Executive Officer has also determined that there will be no, or an insignificant, potential cost impact, as defined in Government Code section 11346.5(a)(9), on private persons or businesses directly affected resulting from the proposed action.

Before taking final action on the proposed regulatory action, the Board must determine that no alternative considered by the agency would be more effective in carrying out the purpose for which the action is being proposed or would be as effective and less burdensome to the affected private persons or businesses than the proposed action.

### **SUBMITTAL OF COMMENTS**

Members of the public may present comments regarding this proposal orally or in writing. To be considered by the Board, written comments must be addressed to, and received by, the Clerk of the Board, Air Resources Board, P.O. Box 2815, Sacramento, California 95812, no later than 12:00 noon, September 23, 1998, or received by the Clerk of the Board at the hearing.

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. 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 HEARING PROCEDURES**

This regulatory action is proposed under that authority granted in sections 39600, 39601, 43013, 43018, and 43101 of the Health and Safety Code, and *Western Oil and Gas Ass'n. v. Orange County Air Pollution Control District*, 14 Cal.3d 411, 121 Cal.Rptr. 249 (1975). This action is proposed to implement, interpret and make specific sections 39000, 39001, 39002, 39003, 39500, 39515, 39516, 41511, 43000, 43013, 43016, 43018, and 43101 of the Health and Safety Code, and *Western Oil and Gas Ass'n. v. Orange County Air Pollution Control District*, 14 Cal.3d 411, 121 Cal.Rptr. 249 (1975).

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 nonsubstantial 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 Board's Public Information Office, 2020 L Street, Sacramento, California 95814, (916) 322-2990.

CALIFORNIA AIR RESOURCES BOARD

Michael P. Kenny  
Executive Officer

Date: July 28, 1998