State of California
AIR RESOURCES BOARD

Supplement to the Final Statement of Reasons

June 1, 1995

PUBLIC HEARING TO CONSIDER AMENDMENTS TO THE CALIFORNIA PHASE 2 REFORMULATED GASOLINE REGULATIONS, INCLUDING AMENDMENTS PROVIDING FOR THE USE OF A PREDICTIVE MODEL

1. Rationale for New Section 2265(a)

The amendments adopted by the Board include a new section 2265 of Title 13, California Code of Regulations. Section 2265(a) sets forth the procedures by which a gasoline producer or importer is to notify the ARB's Executive Officer that a final blend of Phase 2 reformulated gasoline is being sold subject to alternative specifications based on the California predictive model. The notification procedure is based on preexisting provisions in section 2264(a)(2)(A) requiring a producer or importer of a final blend subject to a designated alternative limit (DAL) to notify the Executive Officer of the blend before the start of physical transfer of the gasoline from the production or import facility, and in no case less than 12 hours before the producer or importer either completes physical transfer or commingles the final blend.

The section 2264(a) provisions on notification of final blends subject to DALs allow departures from the specified notice requirements in two instances: (a)(3) authorizes the Executive Officer to treat a notification as timely where a producer or importer is unable to meet the notice requirements through no intentional or negligent conduct, and provides a written explanation of the cause of the delay, and (a)(4) allows a producer or importer to enter into an enforcement protocol with the Executive Officer.

At the June 9, 1994 hearing, the Board accepted the staff's recommendation to supplement the requirements on notification of final blends subject to alternative specifications based on the predictive model by adding provisions on enforcement protocols identical to those applicable for DAL notifications. The regulatory text made available for the supplemental 15-day comment period included an additional modification, adding language identical to section 2264(a)(3) as a new section 2265(a)(5). Since delayed notifications of DAL batches are allowed in situations where the delays are not the fault of the producer or importer, it is appropriate to include the same principle for notification of "predictive model" final blends.

2. Nature of Changes Made After 15-Day Availability Period

Attachment A of the Final Statement of Reasons identified the changes to the regulatory text and to the incorporated document made after the 15-day availability period. All of these changes were nonsubstantive and nonsubstantial.

The three changes to the regulatory text are listed in Section I of Attachment A. These changes are nonsubstantive because they simply correct improper subsection references in parts of the regulations to reflect the addition of a number of definitional subsections (Section I.A) and the deletion of one particular subsection within section 2261(d) (Sections I.B and I.C).

The changes to the incorporated "California Procedures for Evaluating Alternative Specifications for Phase 2 Reformulated Gasoline Using the California Predictive Model" are listed in Section II of Attachment A. The modification identified in Section II.A. is nonsubstantive because it simply clarifies Table 6 by defining the table entries more consistently, reflecting a suggestion made during the 15-day comment period. Specifically, the entries in the first row within Table 6 under the heading "Oxygen Content for Candidate Fuel" should read [$\geq 1.8, \leq 2.2$] under both of the subheadings (minimum, maximum). While the change is not necessary, it does make Table 6 internally consistent in defining the appropriate conditions. See also Comment 38 of the Final Statement of Reasons.

The changes identified in Section II.B. thru II.H. were made to simplify the equations presented in the procedures and are also nonsubstantive. The modifications involve substituting a value for 7.00 wherever the RVP variable was listed. The changes do not in any way affect the results of the model. While the changes were not necessary, they do simply the equations. See also Comment 39 of the Final Statement of Reasons.

3. Revisions to Comment 3 and the Accompanying Agency Response

To correct the inadvertent omission of a comment made during the 45-day notice period, revise Comment 3 of the Final Statement of Reasons to read as follows.

Comment 3: Some commenters suggested that the minima and maxima predicted by the model in certain cases were artifacts of the functional form used to represent the response, and not reflective of true vehicle emissions responses to fuels. One commenter suggested that the location of the minimum for RVP in the hydrocarbon equation was not correct. One commenter suggested that the staff should use linear extrapolation to correct counter-intuitive model trends whenever possible. (Unocal, WSPA)

Agency Response: The functional form of the predictive model equations can result in squared terms for some fuel properties. The presence of a squared term for a fuel property will result in minima or maxima when the change in the value of that fuel property is plotted over a sufficiently large range of values. In our review of the model predictions, we became concerned

about the model's response, particularly for low values of T50, T90, RVP and oxygen. Several of the response curves showed minima or maxima which we did not believe that we could support without additional data. Therefore, a flat line linear extrapolation technique was employed to "flatten-out" the response of T90, T50, RVP, and oxygen. Specifically, we used the flat line linear extrapolation technique to: 1) adjust the T50 and T90 responses in the hydrocarbon equation for Tech class 4, and 2) adjust the RVP*Oxygen response in the oxides of nitrogen equation for Tech class 4. We believe that linearization of these equations does not adversely affect the predictive power of the model. In all other cases, we are confident that the California predictive model's responses are supported by the data and use of the linearization or other techniques is not warranted.