State of California
AIR RESOURCES BOARD

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

PUBLIC HEARING TO CONSIDER THE ADOPTION OF ONBOARD REFUELING VAPOR RECOVERY STANDARDS AND TEST PROCEDURES AND MODIFICATIONS TO EVAPORATIVE TEST PROCEDURES APPLICABLE TO 1998 AND SUBSEQUENT MODEL-YEAR PASSENGER CARS, LIGHT-DUTY TRUCKS, AND MEDIUM-DUTY VEHICLES

Public Hearing Date: June 29, 1995
Agenda Item No.: 95-6-3

I. GENERAL

This rulemaking was initiated by the publication on May 12, 1995 of a notice of public hearing to consider the adoption of onboard refueling vapor recovery (ORVR) standards and test procedures and modifications to the evaporative standards and test procedures applicable to 1998 and subsequent model-year passenger cars, light-duty trucks, and medium-duty vehicles. The staff report: Initial Statement of Reasons for Proposed Rulemaking ("staff report"), released May 12, 1995, was made available for public inspection and is incorporated by reference herein. The staff report gives an extensive description of the rationale and necessity for this proposal. The proposed action consisted of adoption of section 1978 Title 13, California Code of Regulations (CCR) and the incorporated "California Refueling Emissions Standards and Test Procedures for 1998 and Subsequent Model Motor Vehicles;" and amendment of section 1976 Title 13, CCR, and the incorporated "California Evaporative Emission Standards and Test Procedures for 1978 and Subsequent Model Motor Vehicles."

On June 29, 1995, the Air Resources Board (ARB or "the Board") conducted a public hearing at which it received written and oral comments on the regulatory proposal. At the conclusion of the hearing, the Board approved the regulatory amendments by adopting Resolution 95-28 ("Resolution"). As approved, the adopted and amended regulations include a few modifications to the originally proposed text, reflecting suggestions made by the staff at the June 29, 1995 hearing. The most significant suggested modification was that the proposed Subpart B, in the refueling emission standards and test procedures, be changed. Originally, staff proposed the option to use the Federal ORVR test procedures or a California-version ORVR test procedure, specific to the California evaporative regulations. Due to manufacturer concerns of increased complexity, the Board directed staff to work with the regulated community to align California procedures as closely as possible with the federal procedures. In the Resolution, the Board directed the Executive Officer to incorporate the approved suggested modifications into the originally proposed text with such conforming amendments as may be appropriate. In accordance with Government Code section 11346.8(c), the Resolution directed the Executive Officer to then make the modified regulatory text available to the public for a supplemental comment period of 15 days. He was thereafter directed

either to adopt the modified regulations with such additional modifications as may be appropriate in light of the comments received, or to present them to the Board for further consideration if he determined such an action was warranted by the comments.

The modified text of the regulations and the test procedures were made available for a 15-day comment period by issuance of a "Notice of Public Availability of Modified Text," Mail-out #96-09, on March 22, 1996. The text contains conforming modifications that were made by the Executive Officer subsequent to adoption of the Resolution, and that were specifically identified in the 15-day Notice. Written comments were received from one commenter. After considering these comments, the Executive Officer issued Executive Order G-96-026 adopting section 1978 and amending section 1976 and their incorporated test procedures.

The amended test procedures are incorporated by reference in Title 13, CCR section 1976(c) and 1978(b). The test procedures, in turn, incorporate certification test procedures pertaining to evaporative and refueling emissions that have been adopted by the U.S. Environmental Protection Agency (U.S. EPA) and are contained in Title 40, Code of Federal Regulations (CFR), Part 86.

Title 13, CCR sections 1976(c) and 1978(b) identifies the incorporated ARB documents by title and date. The ARB documents are readily available from the ARB upon request and were made available to the public as an attachment to the staff report. The CFR is published by the Office of the Federal Register, National Archives and Records Administration, and is therefore reasonably available to the affected public from a commonly known source.

The test procedures are incorporated by reference because it would be impractical to print them in the CCR. Existing ARB administrative practice has been to have test procedures incorporated by reference rather than printed in the CCR. These procedures are highly technical and complex. They include "nuts and bolts" engineering protocols and have a very limited audience. Because the ARB has almost never printed test procedures in the CCR, the affected public is accustomed to the incorporation format. The ARB's test procedures as a whole are extensive and it would be both cumbersome and expensive to print these lengthy, technically complex procedures with a limited audience in the CCR. Printing portions of the ARB's test procedures in the CCR when the bulk of the test procedures are incorporated by reference would be unnecessarily confusing to the affected public.

The test procedures incorporate portions of the CFR because the ARB requirements are substantially based on the federal regulations. Manufacturers typically certify vehicles and engines to both the federal and state emissions standards and test procedures. Incorporation of the federal regulations by reference makes it easier for manufacturers to know when the two sets of requirements are identical and when they differ.

The Board has determined that this regulatory action will not result in a mandate to any local agency or school district the cost of which

is reimbursable by the state pursuant to Part 7 (commencing with section 17500), Division 4, Title 2 of the Government Code.

The Board has further 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 and less burdensome to affected private persons than the action taken by the Board.

II. SUMMARY OF COMMENTS AND AGENCY RESPONSE

During the development of the proposed ORVR regulations, written comments were received from the public during the 45-day and 15-day comment period. Also, oral comments were received at the public hearing. During the 45-day comment period, the Board received written comments from the American Automobile Manufacturers Association (AAMA), the Association of International Automobile Manufacturers (AIAM), the Western States Petroleum Association (WSPA), the American Petroleum Institute (API), Gilbarco, and the American Suzuki Motor Corporation (Suzuki). At the public hearing, oral comments were provided by the AAMA and AIAM. One comment was received by the Ford Motor Company (Ford) during the 15-day comment period.

Most of the comments were supportive of the adoption of the refueling regulations and the amendments to the evaporative regulations that were suggested by staff at the hearing. The statements of support are not summarized below.

Comments Received During the 45-Day Public Comment Period and at the Hearing

1. Comment: The AAMA and AIAM support the ARB and U.S. EPA efforts to align the California and federal evaporative test procedures. Nevertheless, there remains an important difference in regards to test fuel and test temperature conditions for the evaporative test procedure. Currently, the ARB and U.S. EPA have different test fuels and test temperatures for their evaporative testing. Hence, manufacturers are required to perform additional testing for certification to accommodate both agencies differing requirements. We suggest that both agencies decide on one set of testing conditions to alleviate manufacturer's testing burden by eliminating duplicate tests. (AAMA/AIAM)

Agency Response: We concur with AAMA's and AIAM's suggestion that both the ARB and U.S. EPA should align the evaporative test procedures, including fuel and temperature requirements, to the extent that equivalent protection of the environment is provided by the process. Currently, the U.S. EPA requires the use of 9.0 pounds per square inch (psi) Reid vapor pressure (RVP) fuel and 95 degree F testing temperature, and the ARB requires the use of 7.0 psi RVP fuel and 105 degree F testing temperature. At the time of the hearing, limited data were available for assessment of the relative stringency of the two sets of testing conditions. Both agencies have subsequently conducted limited test programs comparing the amount of vapor generation between the two sets of conditions. Preliminary findings show that the U.S. EPA conditions result in greater vapor generation. The modified evaporative regulations, as adopted by the Board, allow for alternative test procedures with advance Executive Officer

approval if the alternate procedure is demonstrated more stringent that the current evaporative test. Therefore, under this provision, the ARB agrees to accept certification data based on the U.S. EPA fuel and temperature test conditions. The ARB staff still plan to continue testing under current California testing conditions to investigate the effects of higher test temperature, such as 105 degree F, on in-use vehicle evaporative emissions.

2. Comment: We recommend that the ARB and U.S. EPA develop a single evaporative emission testing procedure that is streamlined, reducing the redundancy in the current test procedure. (AAMA/AIAM)

Agency Response: Since the Federal and California evaporative test procedures were developed at different times and by different agencies, some differences in test procedure requirements exist. The ARB has made a concerted effort with the U.S. EPA to align the evaporative test procedures. The only significant differences remaining between the two procedures were with the RVP of the test fuel and the test temperature. As a result of staff's analysis of available test data, the U.S. EPA testing conditions will be used for ARB certification purposes. (See also response to comment #1)

Furthermore, the ARB and U.S. EPA staff are working with industry to investigate other areas of the current evaporative test procedures that may be streamlined while maintaining the same test stringency. At this time, no additional redundancies have been identified. Further testing is needed to determine if they exist.

3. Comment: Although there has been an effort by ARB and U.S. EPA to streamline the evaporative test procedure, the testing process remains overly burdensome and resource intensive. Currently, test void rates are high, and total test time is long. Also, there are substantial redundancies in the test procedure. Many portions of the current test procedure provide no valuable information nor does it provide additional air quality benefits. (AAMA/AIAM)

Agency Response: Recent correspondence with industry indicates that the void rates and testing times are declining as industry develops experience with the test procedure and vehicle models being tested. This will result in significantly reducing the burden and resources experienced by industry. If void rates and testing time remain a significant concern, the ARB would be open to suggestions from industry as long as the same level of stringency is verified and maintained within the test procedures.

In regards to the comment that the current evaporative test is significantly redundant, the ARB disagrees. The current evaporative test procedure was designed to simulate real world conditions for California. During the original rulemaking, manufacturers helped design the current evaporative test procedure and provided support throughout the process. Once we gain experience with the testing procedure, opportunities may exist for further streamlining. This procedure, as it stands, is very beneficial and protective of the environment.

4. Comment: We agree with the staff's proposal that the federal ORVR test procedures should be used in California but we strongly oppose the

creation of an additional set of California ORVR test procedures that could be used by the automobile manufacturers for California certification. This action would necessitate the automobile manufactures to know both set of test procedures and would only add to the complexity and cost of vehicle testing.

Furthermore, the ARB will likely use the California test procedure for their vehicle testing which would require the automobile manufacturers to run duplicate testing, using the California procedure, to avoid any liability issues.

Also, the sheer complexity and length of the test procedure would make it likely that the Federal and California procedure would diverge with time, making things even more complicated without adding any environmental benefit. (AAMA/AIAM)

Agency Response: The ARB's reasoning behind creating the additional California ORVR test procedure was to allow the automobile manufacturers the flexibility in choosing their desired testing procedure. It was not intended to increase stringency, add complexity, add costs, or burden industry. Since manufacturers will not benefit from this added flexibility, the California ORVR test procedure option has been removed at the manufacturers' request, and thus manufacturers will be required to conduct the ORVR test according to the Federal ORVR test procedures.

5. Comment: We propose that Subpart B of the "California Refueling Emission Standards and Test Procedures for 1998 and Subsequent Model-Year Vehicles," as proposed by staff, be deleted and that the ARB should adopt the Federal ORVR test procedures, by reference, in Subpart B with the following language:

> "For 1998 and subsequent model-year vehicles, manufacturers shall use the Federal on-board refueling vapor recovery test procedures as set forth in section 86.107-98 through section 86.156-98, dated April 6, 1994."

We believe that these are non-substantial changes and that the few issues that require separate treatment, such as preconditioning procedures for hybrid electric vehicles, could be handled using the current language used in the "California Evaporative Emission Standards and Test Procedures for 1978 and Subsequent Model-Year Vehicles," section 4(j). (AAMA/AIAM)

Agency Response: After carefully evaluating all the options for the implementation of ORVR regulations, it was determined that the ARB could not simply reference the federal ORVR test procedures. However, the ARB procedures have been revised to reference the CFR, and issues such as hybrid electric vehicles, that are not addressed in the current federal test procedure, have been handled by adding or amending applicable sections of the CFR that are referenced within the California ORVR test procedure. Thus, the ARB procedures reference the Federal ORVR test procedure language, as proposed to the Board, and add or amend sections, as needed, for areas that are not addressed within the CFR or issues that are California specific.

6. Comments: The AAMA and AIAM recommends that the ARB allow ORVR phase-in to be based on projected national sales volume rather than the current California-only projected sales volume. This change would allow manufacturers the flexibility of implementing the sale of ORVR vehicles anywhere within the United States rather than a specific ORVR sales volume within California. Since California already has refueling emissions control throughout the state by the use of effective stage II refueling nozzles, this provision would have no adverse effects on California's environment. (AAMA/AIAM)

Suzuki would like to emphasize its serious concern with the phase-in requirement being proposed by the ARB. According to the ARB proposal, phase-in percentages would have to be met based on projected California sales volumes. However, Suzuki has already planned to comply with ORVR phase-in percentages based on the compliance options allowed by U.S. EPA, which require counting of federal certified vehicles. Due to the differences in product offerings between California and other states, Suzuki would not meet the ARB proposed phase-in percentages because the determination would be made based only on California projected sales volumes. Suzuki urges the Board to allow the same ORVR phase-in compliance options allowed by U.S. EPA. This option is greatly needed and would have no impact on air quality. (Suzuki)

Agency Response: The ARB agrees with AAMA, AIAM and Suzuki's assessment that the ORVR phase-in schedule will not affect the air quality in California because of the current use of stage II refueling nozzles throughout California. Thus, in order to provide manufacturers added flexibility in the implementation of ORVR, the ARB regulations have been revised to allow the use of projected national sales volumes.

7. Comments: The AAMA and AIAM believe that the ARB has underestimated industry's cost as a result of the ORVR regulation. (AAMA/AIAM)

Agency Response: The cost estimation used by the ARB in the staff report was based on estimates developed by U.S. EPA. Their cost estimate was $5 per vehicle for light-duty vehicles and trucks with a gross vehicle weight rating (GVWR) less than 8500 pounds. The cost-effectiveness for the adoption of the U.S. EPA ORVR rule was $0.40 per pound hydrocarbon, without the phase-out of Stage II systems. The ARB believes that U.S. EPA cost estimation methods, used in our cost evaluation, are conservative and reasonable. They are based on sound methods that have been used in determining accurate regulatory action costs in the past.

Futhermore, the automobile manufacturers indicated that the implementation of ORVR regulation in California would be more cost effective than a ban on the sale of ORVR-equipped vehicles. They would have to design and manufacture separate vehicles specifically for California that would be without ORVR systems.

8. Comments: Within the text of Mail-Out #95-17, AAMA and AIAM discovered discrepancies between the enhanced evaporative emission provisions described in Appendix B (ORVR) and the requirements described in Appendix C (EVAP). Also, there were discrepancies found in the ORVR test

procedures that cite sections in the CFR that did not have ORVR provisions. The following items are a list of discrepancies found:

a) The minimum road surface temperature requirements for fuel tank temperature profile (FTTP) testing, listed on pages 69 and 75 of Appendix B, are not the same as those listed on page 32 of Appendix C.

b) The allowance for three additional speed trace violations during FTTP testing, described on page 34 of Appendix C, is not listed on page 77 of Appendix B.

c) The model year requirements for hybrid electric vehicles and motor vehicles, listed on Page 78 of Appendix B, do not match the requirements of those listed on Page 36 of Appendix C.

d) There are discrepancies in the ORVR provisions within the ARB regulations. For example, Page 91: 86.153-98 "Vehicle and canister preconditioning; refueling test" and Page 92: 86.154-98 "Measurement procedure; refueling test" refer to the previous federal procedures without referencing the modifications that incorporate ORVR.

These discrepancies confirm that it will be difficult to maintain a common test procedure between ARB and U.S. EPA, and maintain internal consistency between ARB's ORVR and EVAP procedures unless the ARB simply reference the federal regulations. (AAMA/AIAM)

Agency Response: The ARB agrees with the AAMA and AIAM that creating a separate California ORVR provision is difficult. The discrepancies listed in items (a) through (d) were oversights resulting from this process. The modifications directed by the Board, at the Hearing, have resulted in the removal of the California-version ORVR test procedure, which include the listed items. These changes can be reviewed in the "Notice of Public Availability of Modified Text," Mail-out #96-09, released March 22, 1996.

9. Comments: We would like to clarify the manufacturers' suggestion of the 5 degree F per hour maximum heating/cooling requirement during fuel tank temperature stabilization found in the evaporative testing procedures. This criterion was to provide manufacturers protection against unrepresented heating/cooling during in-use testing, and that manufacturers may choose a general exemption from this requirement. It has been noted that natural heating of a vehicle may cause temperatures to increase at a rate faster than 5 degrees F per hour. (AAMA/AIAM)

Agency Response: The ARB appreciates the manufacturers' concerns with this issue. The current evaporative test procedures allow for the Executive Officer to approve higher heating rates if the 5 degree per hour heating rate is not sufficient to heat the fuel tank to 105 degree F within the allowed soak time period. This provision should be sufficient for allowing the manufacturers to perform the fuel tank temperature stabilization.

10. Comments: The U.S. EPA regulations allow either the 24 hour retention check (required for diurnal enclosures) or the 4 hour retention check (required for hot soak enclosures) to be used to satisfy the retention check requirements for the hot soak enclosure. This allows manufacturers to perform only one retention check for enclosures that are used for both hot soak and diurnal tests. We request the ARB to allow this in their evaporative regulations. (AAMA/AIAM)

Agency Response: The ARB evaluated this request and made the appropriate changes within the California evaporative test procedures to allow for this provision. These changes were incorporated before the Board hearing and can be found in the Mail-Out #96-09, noticed to the public on March 22, 1995, in the "California Evaporative Emission Standards and Test Procedures for 1978 and Subsequent Model Motor Vehicles," section (e)(2)(v).

11. Comments: At the request of AAMA and AIAM, the ARB adopted the Federal language on the evaporative test procedures. However, the language that the ARB adopted did not contain the EPA modified canister loading procedures contained in the draft EVAP Technical Amendments dated March 6, 1995. We request that the ARB adopt the same language as EPA's modified canister loading procedures. (AAMA/AIAM)

Agency Response: The ARB staff evaluated this request and have made the appropriate modifications to incorporate the U.S. EPA evaporative canister loading procedures. This change is reflected in Mail-Out #96-09, noticed to the public on March 22, 1996, in the "California Evaporative Emission Standards and Test Procedures for 1978 and Subsequent Model Motor Vehicle," section (4)(g)(iii)(C).

12. Comments: We were surprised and shocked to see that the plan to change the fuel-pipe specifications were dropped as a result of ORVR implementation in California. Good fill-pipe designs can achieve up to a 98% transfer efficiency, where as poor designs are as low as 70%. This is significant and was the basis for making the proposed design changes at the March 1994 workshop. We request that the ARB staff reevaluate their decision to drop fill-pipe specification changes proposed at the workshop. We are aware that Nissan has volunteered to make their needed fill-pipe changes but problems with other manufactures still exist and need to be addressed. (Gilbarco)

Agency Response: The ARB has carefully evaluated the issue involving relatively low refueling transfer efficiencies due to poor fill-pipe designs. It was determined that only a small number of vehicles models were responsible for the majority of the problem. The majority of the concerns were with a few manufacturers, Nissan being one of them. Initially, the ARB staff proposed fill-pipe specification changes to prevent poor fill-pipe designs. Fill-pipe design changes were proposed and discussed in workshops during the development of the regulations. However, in the course of the development of the regulations, the need for a fill-pipe design change was reevaluated. The ARB staff determined that the additional cost placed on the automobile manufacturers, in light of the ORVR regulations, would not be a cost effective measure for reducing emissions.

Therefore, rather than creating an additional regulatory burden on manufacturers, the ARB mailed out a Manufacturer Advisory Correspondence (MAC) letter to the manufacturers describing the problem and requesting that they make the necessary fill-pipe design changes on non-ORVR equipped vehicles. Furthermore, the MAC stated that if problems with fill-pipe design continue the ARB will then consider regulatory revisions on this issue.

13. Comments: We understand that ORVR implementation will eliminate the problems associated with fill-pipe transfer efficiency but there is a phase-in schedule for ORVR, which means that many cars manufactured without ORVR systems will continue to have poor transfer efficiencies. Even the ARB staff state that full penetration of ORVR will be delayed due to California's 25 year vehicle fleet turnover rate. We would recommend that the Board direct staff to propose the needed changes to fill-pipe specifications on all vehicles not equipped with ORVR systems. (Gilbarco)

Agency Response: The ARB staff has evaluated the fill-pipe transfer efficiency issue and has considered the effects of the phase-in schedule for ORVR implementation. The implementation of fill-pipe design changes would also require a phase-in period, allowing manufacturers sufficient time to make the necessary changes. Therefore, the ARB determined that the implementation of fill-pipe design regulations concurrently with ORVR regulations would be an ineffective way of handling this issue. Only a small number of vehicles models currently have significantly poor refueling transfer efficiencies with their fill-pipe designs. The ARB has issued a MAC to all automobile manufacturers describing the problems and requesting fill-pipe design changes be made on those vehicles. The automobile manufacturers have indicated a willingness to make the appropriate changes to their fill-pipe designs.

Also, the phase-in schedule is very rapid for ORVR implementation. Full implementation of the ORVR requirements will be required by the 2000 model-year for passenger cars, by the 2003 model-year for light-duty trucks, and by 2006 model-year for medium-duty vehicles under 8501 pounds GVWR. Thus, despite the 25 year vehicle turn-over rate, the 1998 and subsequent model-year non-equipped ORVR vehicles would be a significantly small portion of the vehicle population within California. (See also response to comment #12)

14. Comments: There are no plans to include ORVR systems in medium and heavy-duty vehicles with a GVWR greater than 8500 pounds, which represents nearly 12% of all vehicles. This fact further illustrates the need for fill-pipe design changes. (Gilbarco)

Agency Response: It was determined by ARB staff that there are no significant concerns that currently exist with heavy-duty vehicles on this issue. The concerns associated with poor fill-pipe design are occurring with passenger vehicles, light-duty trucks, and medium-duty vehicles that are subject to the ORVR regulation. Therefore, no fill-pipe design changes are being proposed for heavy-duty vehicles.

15. Comments: We believe that refueling transfer efficiency is a serious problem for California. To determine an appropriate course of action on this issue will require a detailed analysis of ARB's Compliance Division data.

It is our assessment that, in addition to problems with fill-pipe designs, problems exist with the design of some tank vent tube location and with the entrance angle of the auxiliary vent with respect to fill-pipe axis. Also, the effects of the lead restricter plate should be investigated.

Given the available data and resources within the ARB, we believe that a thorough examination of the proposed problems will result in the discovery of a significant source of emissions that will require an appropriate response to these issues. (Gilbarco)

Agency Response: It is ARB's assertion that the commenter's concerns have been appropriately addressed to the extent possible in the current regulatory proposal. However, the ARB staff is currently performing further testing and evaluating testing data on refueling and evaporative emissions. If problems are discovered, such as the ones suggested by Gilbarco, the staff intends to propose appropriate action to rectify the situation.

16. Comments: The ARB staff have proposed to make minor modifications to California's test procedure to align the ORVR and evaporative test procedures. We note that such changes are appropriate if they will result in ORVR systems that are as protective of the environment as systems developed under Federal ORVR and evaporative test procedures. (WSPA/API)

Agency Response: The ARB staff appreciates WSPA's and API's concerns. It is the intent of this ORVR regulation to provide protection of the environment. The minor modifications to align the ORVR and evaporative test procedures were made for compatability and practical reasons and in no way impact their effectiveness compared to the Federal ORVR and evaporative test procedures.

17. Comments: In the Initial Statement of Reasons, ARB staff referred to possible problems associated with the interaction of ORVR equipped vehicles with Stage II systems. WSPA and API note that no such interaction effects have been verified. Even if such interaction effects are demonstrated in the future, ARB will have many years to evaluate any environmental impact and develop a cost effective solution due to the phase-in period for ORVR controls. If such effects are demonstrated in the future, they should be addressed by examining both vehicles and fueling equipment, and modifying either or both based on cost effectiveness. (WSPA/API)

Agency Response: The ARB concurs with WSPA's and API's comment. ARB staff is currently conducting tests to evaluate the effects of ORVR and Stage II interactions. If concerns are discovered, the ARB staff will determine, in cooperation with representatives from industry and U.S. EPA, the best and most cost effective solutions.

Comments Received During the 15-Day Public Comment Period

18. Comments: At industry's request, section 4.e.(e)(2)(v) of the "California Evaporative Emission Standards and Test Procedures for 1978 and Subsequent Model Motor Vehicles" was revised to allow the calibration procedure for diurnal enclosures to be used for hot soak enclosures. However, the Mail Out #96-09 modifications also eliminated the four hour retention check at 105 degrees F as a possible calibration procedure for hot soak enclosures. Ford has dedicated hot soak enclosures that do not have variable volume capability and can not perform the 24 hour diurnal retention check. Therefore, Ford requests that the following language permitting either calibration method be included in the regulation:

> "The hot soak enclosure calibration shall be conducted according to the method specified in section (e)(1) with a retention check of 4 hours at 105 degrees F or the method specified in section (e)(2)(iv). If the hot soak enclosure is also used for diurnal testing, the 4 hour retention check at 105 degrees F may be replaced by the 24 hour diurnal retention check."

Agency Response: The ARB agrees with the commenter's concern. In order to reduce manufacturers' testing burden, section 4.e.(e)(2)(v) was originally modified in response to AAMA/AIAM 45-day public comments to allow either the 24-hour retention check or the 4-hour retention check for the hot soak enclosure. However, the ARB acknowledges that the modification to the test procedure text noted in Mail Out #96-09 did not adequately specify that the use of either retention check would be allowed. Thus, the commenter's proposed language has been incorporated into the regulation. Staff believes this further clarification is consistent with staff's intent to allow either the 24-hour or 4-hour retention check. (See also response to comment #10)