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VIA FACSIMILE AND FEDERAL EXPRESS

June 2, 2004

Information Quality Guidelines Office
Mail Code 28220T, U.S. E.P.A.
1200 Pennsylvania Avenue, N.W.
Washington, D.C. 20460

Re: Request for Correction of Information and to Prevent EPA's Approval of Air Credits and State Implementation Plan Amendments that Violate EPA's Data Quality Guidelines

Dear Information Quality Guidelines Staff:

This is a Request for Correction of Information and to prevent EPA's anticipated violation of federal law through approval of certain State Implementation Plan ("SIP") revisions. This request is submitted on behalf of the National Paint and Coatings Association ("NPCA") and The Sherwin-Williams Company ("Sherwin-Williams") (sometimes jointly referred to as "Petitioners"). Petitioners object to the approval and dissemination of important and influential information by EPA that is in violation of the Data Quality Act and fails to meet the criteria of EPA's "Guidelines for Ensuring and Maximizing the Quality, Objectivity, Utility and Integrity of Information Disseminated by the Environmental Protection Agency" (the "Guidelines").

Petitioners requested informal consultation of the issues identified herein with EPA Regions II and III and forwarded correspondence in this regard on April 16, 2004. See **Exhibit 1**. Petitioners legal counsel, E. Donald Elliott, also requested an informal consultation to discuss the data quality deficiencies with Walter Mugdan, Director, Region II, on April 13, 2004. In response thereto, Regions II and III have declined further informal consultation of the data quality issues presented in these communications. See **Exhibit 2**.

Sherwin-Williams is one of the three largest paint manufacturers in the world. Its product lines include some of the most widely recognized brands of AIM Coatings, including the Sherwin-Williams®, Minwax®, Thompson's®, Pratt & Lambert®, Martin Senour®, Rust Tough®, Dutch Boy®, Cuprinol®, and H&C®. The NPCA is the trade association for the paint and coatings industry, representing over 400 companies and accounting for 95% of the paint and coatings sold in the United States.

Background

The 13 Northeast and Mid-Atlantic states in EPA Regions I, II, and III, which make up the Ozone Transport Commission ("OTC")[1], are in various stages of adopting regulations (the "Model Rule") that severely limit the amount of volatile organic compounds ("VOCs") in architectural and industrial maintenance ("AIM") coatings. EPA Regions II and III are currently reviewing proposed SIP amendments for New York, Pennsylvania and Maryland. Publication has been made in the Federal Register[2] and the Regions are reviewing public comments. The AIM coatings are used in residences, commercial buildings, factories, industrial infrastructures and include common products such as house paint, wood stains and varnishes and traffic paint.. The state Model Rule regulations are considerably more stringent than the "National Rule" adopted in 1998 by EPA to limit the VOC content in AIM coatings. The OTC claims the new, more stringent Model Rule is necessary to help reduce ground-level ozone in the Northeast and Mid-Atlantic United States. The OTC states also claim that the passage of the Model Rule is necessary to meet their VOC emission reduction goals set by EPA for the areas in the Northeast Ozone Transport Region (OTR).

Under the Clean Air Act §183(e)(9), any State which proposes regulations to establish emission standards other than the federal standards for products regulated under federal rules must first consult with the EPA Administrator. The Administrator is charged with establishing a clearinghouse of information, studies, and regulations proposed and promulgated regarding products covered and shall "disseminate" such information collected.

The Dissemination of Information Through the SIP Approval Process

After adoption of the Model Rule, each state will file or has filed with an EPA region an amendment to its SIP requesting certain VOC emission reduction credits that are claimed to be based upon emission reduction calculations done by a private consultant to the OTC -- E.H. Pechan & Associates. Under §110(a) of the Clean Air Act (42 U.S.C. §7410(a)), EPA must approve (or reject) all amendments to a SIP based upon criteria set forth in the Clean Air Act and its regulations. In addition, EPA must review and approve, reject or modify the request by the state for the quantity of ozone credits submitted. This requires an analytical review by EPA and a process for approval, including: publication in the Federal Register, notification, a public comment period, and creation of a record for the review process.

This process of review and approval involves the "dissemination of information" to the public that falls under the scrutiny of EPA's Data Quality Guidelines. Under the Guidelines, Section 5.3 states that "[I]nformation, for purposes of these Guidelines, generally includes any communication or representation of knowledge such as facts or data, in any medium or form." The Section further states that:

> "EPA initiates a distribution of information if EPA distributes information prepared or submitted by an outside party in a manner that reasonably suggests

[1] The Ozone Transportation Commission was established by Section 184 of the Clean Air Act, 42 U.S.C. §7511C.
[2] NY -- 69 Fed. Reg. 2557 (January 16, 2004); PA -- 69 Fed. Reg. 11580 (March 11, 2004); MD -- 69 Fed. Reg. 29674 (May 25, 2004).

that EPA endorses or agrees with it . . . . Agency-sponsored distribution includes instances where EPA reviews and comments on information distributed by an outside party in a manner that indicates EPA is endorsing it . . . , or otherwise **adopts** or endorses it." (emphasis added).

The SIP amendment approval process and the granting of pollution credits involve the acceptance of data and scientific analysis, and EPA's agreement with or endorsement of the data, its analysis and conclusions. A formal administrative record is created as part of the SIP review process whereby information is disseminated to the public. These acts by EPA fall squarely within the coverage of the Guidelines.[3]

Furthermore, pursuant to the Clean Air Act, the EPA is charged with establishing a clearinghouse of information and to "disseminate" that information. See § 183(e)(9). It is beyond cavil that such dissemination of information is precisely the type of information which is to be regulated under the Guidelines. With the inclusion of the Model Rule in the clearinghouse of information, EPA is approving and disseminating erroneous data. This must be corrected.

The Flawed Disseminated Data

The basis for the proposed SIP revisions (which is essentially OTC's Model Rule) and the claim for credits is a report prepared by E.H. Pechan & Associates ("Pechan") in 2001. Pechan used the results of two separate, unrepresentative and questionable surveys conducted in the early 1990s. Pechan used a spreadsheet (the "Spreadsheet") which was created to demonstrate the calculated emission reductions from each coating category at various VOC limits. The Spreadsheet contains data quality problems so significant that it fails EPA's data quality standards.

These data flaws are enumerated and identified in the sworn testimony of Madelyn K. Harding, a corporate manager of product compliance with Sherwin-Williams, before the Maryland Department of the Environment in its hearing on Maryland's version of the Model Rule on January 28, 2004. A copy of the transcript from that hearing which specifically identifies the flawed data analysis is attached as **Exhibit 3**. The exhibits that Ms. Harding presented at that hearing showing the actual flaws are attached as **Exhibits 4** and **5**.

Ms. Harding demonstrates that the emission reductions shown in the Spreadsheet are in obvious error. Among other problems with the Spreadsheet, she points to many instances where: (1) when VOCs are increased in a product, the emissions decrease; (2) where a slight increase in a limit produces an absurdly large reduction; and (3) introducing a limit results in a **negative** emission reduction. All of these defy logic, scientific method and accepted statistical methodology. See, **Exhibit 3** at pp. 28-33.

In one of the many examples of these errors in the Spreadsheet, under the category "primers," when the VOC upper limit is increased from 200 to 250 (under the constant solids assumption), according to the Spreadsheet there will be a two-fold increase in emission reductions, from 9,999,800 pounds per year to 18,452,542 pounds per year. This is an obvious

[3] The SIP approval process clearly is not one of the types of activities excepted from the Guidelines under §5.4.

error in the data. If you increase a limit, there should logically be **less** emission savings, not more! In other examples, **negative** emission reductions appear throughout the Spreadsheet. See, quick-dry primers (SB) at 300 limit; opaque stains (WB) at 50, 100 and 250 limits; and sealers (WB) at 200 and 250 limits, for example. These cannot logically be. These are substantial flaws and cannot be ignored. All attempts to correct these errors and find the source of the flaws have failed. The flaws are irreconcilable.

The Data Is Not Reproducible and The Methodology Is Not Transparent

In an attempt to reconcile and correct these substantial and serious data errors, the Petitioners have attempted to obtain the original survey data from the individual who prepared the 1991 Industry Insites Survey. The Petitioners learned that the data is not available for various reasons, including record keeping issues. All attempts to reproduce the erroneous numbers in the Spreadsheet have failed.

Obtaining the raw survey data would have enabled Petitioners to investigate the errors and possibly correct them. It would also have answered other questions regarding the objectivity, quality and utility of the data in the Spreadsheet. For example, since the surveys were voluntary, obtaining the underlying data would tell which kind of companies responded. The larger companies produce more waterborne products. If the responses were primarily submitted from the larger companies, the survey would be biased and under-predict the amount of VOCs produced. However, we do not know which companies responded or whether the Spreadsheet needs further adjustment to reflect "real world" conditions.

In OMB's Guidelines for Ensuring and Maximizing the Quality, Objectivity, Utility and Integrity of Information Disseminated by Federal Agencies[4] (the "OMB Guidelines") each federal agency responsible for disseminating influential scientific, financial or statistical information shall include a high degree of "transparency" about the data and methods to facilitate the reproducibility of such information by qualified third parties. "Reproducibility" of data is an indication of transparency according to the OMB Guidelines.[5]

With regard to analytical results, as in the calculation of ozone credits, OMB Guidelines state that guidelines "shall generally require sufficient transparency about data and methods that an independent reanalysis could be undertaken by a qualified member of the public."[6] The OMB Guidelines rely heavily on peer review as a means of ensuring high quality data. There is a strong presumption in favor of peer-reviewed information in the OMB Guidelines by noting that "[I]f data and analytic results have been subjected to formal, independent, external peer review the information may generally be presumed to be of acceptable objectivity." Id. at 377. The peer review safeguards enacted by OMB are absent in the state AIM rules. There is no peer review of the Pechan report whatsoever.

As an example that appropriate peer review would have identified the data quality problems inherent in the Pechan report, the Petitioners hired an eminently qualified member of

[4] 67 Fed. Reg. 8452 (January 3, 2002).
[5] Id. at 8460.
[6] Id.

the public, Douglas Splitstone, an advisor to the EPA on data quality issues. Mr. Splitstone was hired as an expert consultant for this matter specifically to review the underlying quality of the data upon which the OTC relied for its Model Rule because of the problems with the data noticed by Ms. Harding.

Mr. Splitstone has been a consultant to the EPA's Science Advisory Board and consulted with EPA on the implementation of EPA's data quality Guidelines. Mr. Splitstone's analysis demonstrates that the Model Rule fails to meet the data quality criteria required of EPA for utilizing and disseminating data. Mr. Splitstone notes in his report (a copy of which is attached hereto as **Exhibit 6**), that the actual numbers in the Spreadsheet used to determine the emission reductions for each category cannot be reproduced and do not follow the required logical progression. He confirmed the Ms. Harding's findings and the flaws in the Spreadsheet. Mr. Splitstone shows that the figures in the Spreadsheet defy logic. He highlights many examples in which the proper values in the Spreadsheet, when aggregated, do not total the actual estimated emissions in the Spreadsheet, as they logically should. Mr. Splitstone concludes that the OTC's proposal does not meet EPA data quality standards and must be rejected. Mr. Splitstone's report and credentials were filed, and are official parts of the record of proceedings before the Maryland Department of the Environment in "Proposed New Regulations .01-.14 Under A New Chapter, COMAR 26.11.33, Architectural Coatings," January 28, 2004. Mr. Splitstone's report and credentials are attached hereto as **Exhibits 6** and **7**, respectively.

The Spreadsheet and its flaws are not "reproducible," and are not based upon "transparent" logic, as required by the OMB and EPA Guidelines. Mr. Splitstone has given his sworn testimony and written opinion of the lack of compliance of the Model Rule with OMB's and EPA's data quality requirements. His testimony before the Maryland Department of the Environment at the hearing on Maryland's AIM rules on January 28, 2004 is attached as **Exhibit 3**.

The Results of the Error

In its simplest terms, EPA's granting of credits to the states for adoption of the Model Rule is based upon data that is in error and fails to meet the Guidelines' criteria for objectivity, quality and utility. The result is that the states are receiving far fewer credits than those to which they are entitled. Pechan's analysis of the flawed data relied upon for the determination of credits claims that the adoption of the Model Rule will result in a 31% reduction in VOC emissions. In fact, if Pechan had used the available, supportable data, the states adopting the Model Rule would receive considerably more credits based upon a 54% or greater reduction in emissions.

The Record For Review Violates the Guidelines

Each state is using the Pechan Report as the basis of its calculations for its rulemaking. The Pechan Report relied entirely on the Spreadsheet information to calculate and draw conclusions regarding how much emission savings would occur from the adoption of the Model Rule.

The record being created by the Regions for their SIP review process contains documents that reference the Pechan Report's analysis or are based upon Pechan's analysis of the Spreadsheet data. One particular focus in the Guidelines is on the integrity of the data relied upon by federal agencies to generate a decision. In all cases, the information the Regions must rely upon to determine that the calculation by the states of their requested credits must be correct and accurate. This information must meet the criteria in the Guidelines.

Certainly the only manner in which EPA can legitimately evaluate whether the Guidelines are met is when the data itself is subjected to scrutiny. All of the data on which the SIP amendments are based, including the Pechan Report and the Spreadsheet would have to be provided by the submitting states to EPA in order for the EPA to evaluate whether the information complied with the Guidelines. If the underlying data (Spreadsheet and Pechan analysis) is not provided by the states in the SIP review record, EPA cannot conduct a legitimate review because EPA will not be able to determine how the states calculated their requested credits and whether the methodology was appropriate.

Approving SIP amendments without sufficient documentation and information in the record to support the approval violates both the DQA and the federal Administrative Procedures Act ("APA"). It violates the DQA through the EPA Guidelines because the Region cannot reproduce and scrutinize the methods and data used by the states to arrive at their requested credits. This violates the "objectivity" standard, which requires transparency in the methodology so that the information can be reproduced and checked for accuracy. There is no way EPA can check the accuracy of the data being disseminated from the SIP amendment records in its possession.

The APA requires agency decisions of this nature to be supported by sufficient documentation in the record. As stated, EPA cannot scrutinize or render any rational conclusions about the correctness of the calculations of the credits being requested. They also cannot scrutinize the data that was utilized by the states to see if it meets Guideline standards. EPA must conduct that scrutiny because it will disseminate to the public at the end of the SIP amendment review process a decision approving or rejecting the amendment. How can it make a rational decision without having and scrutinizing the underlying information? It cannot. That is because they do not have in the record sufficient information to make this decision. This seems particularly true in light of the grave deficiencies that have been demonstrated to exist with the Pechan Report's analysis upon which the Regions exclusively rely for their calculations of VOC emission reductions.

Both the import of these regulations, and the potential impact on consumers and industry, warrant EPA initiating its peer review process. The peer review process has recently gained more focus from the OMB, indicating that it has been under-utilized by agencies generally. Such a review would confirm that the Pechan study did not utilize information that meets the qualitative criteria in the Guidelines. Therefore, we are also submitting to OMB a request for peer review of the OTC Model Rule for VOCs for AIM Coatings as a highly influential scientific assessment under OMB's Information Quality Bulletin for Peer Review. See **Exhibit 8**.

These Data and Analytic Errors Can Be Corrected by Utilizing
Another More Reliable Methodology to Calculate Emission Reductions

Because of the flaws in the data, Ms. Harding investigated whether there was a source of more reliable data that met EPA Guidelines criteria. She looked at the data from surveys in California by the California Air Resources Board ("CARB") where periodic, mandatory, representative surveys have been conducted for decades. Mr. Splitstone reviewed the California surveys and the methodology used to conduct the surveys. He found them to be a much more reliable source of data for determining AIM rule emission reductions than the Insights Surveys. See, Splitstone Report, **Exhibit 6**.

These California surveys are the best, most reliable sources of AIM coatings VOC data anywhere. As Mr. Splitstone states in his report, responding to the surveys is mandatory in California, unlike the surveys used for the Spreadsheet. The California surveys are periodically conducted so that the most recent data can be used. The CARB also retains the survey data so that any analysis will be transparent and reproducible. The CARB survey data is unbiased since all sources must respond. There is also follow-up to nonresponders. Clearly, the quality of the CARB data compared to the Spreadsheet data is objectively of better quality and passes muster under the DQA while that of the Spreadsheet does not. Why Pechan did not use the CARB survey data is not known, but it should have been at the very least part of a sensitivity analysis or other method to check if its conclusions made sense. Conducting a sensitivity analysis and other scrutiny of scientific conclusions, especially when they involve calculations, is standard procedure for data analysis, and it was not done by Pechan, the OTC staff, or any of the states in adopting the Model Rule.

Because of the quality of the CARB survey data, Ms. Harding used the findings from CARB's analysis of its surveys, adjusted for the OTC rule limits, and found that the results were quite different from Pechan's analysis. The overall VOC emission reductions from this method were considerably more than estimated by Pechan. Pechan estimated the VOC emission reduction from the OTC AIM Model Rule to be 31% from the National AIM Rule. Using information from the California survey data and CARB analysis, adjusted for conditions in the Northeast and Mid-Atlantic states, an actual VOC emission reduction of 54% would be expected.

This was calculated simply by taking CARB's estimate of the total number of pounds per year per person in VOCs that will be emitted from AIM coatings after the adoption of California's equivalent to the Model Rule, which is 2.48 lbs. (see **Exhibit 9**) and first adjusting it for the industrial maintenance limit difference between California and the OTC states. That would bring the per capita emission up slightly to 2.51 lbs. To determine the total emissions per person in a state after the adoption of the Model Rule one would then multiply the 2.51 lbs. per person times the population of the state or area affected. Pechan reported that before the adoption of the Model Rule the per capita emissions in the OTC region was 5.36 lbs. The reduction in emissions per person after the adoption of the Model Rule would be 2.85 lbs (5.36 minus 2.51 = 2.85). This results in a 53% reduction in emissions after the adoption of the Model Rule (2.85 divided by 5.36 = .53). See **Exhibit 3** at pp. 33-38; see also **Exhibit 6** and **Exhibit 9**.

This further demonstrates the unreliability of Pechan's analysis and conclusions. Pechan's conclusions cannot be verified for accuracy by checking them against the most reliable and complete source of AIM information and data -- the California surveys.

Mr. Splitstone reviewed Ms. Harding's methodology and underlying data and concluded that it meets EPA Guidelines and generally accepted statistical methods. Unlike the flawed and incomplete surveys used by Pechan, the use of which Mr. Splitstone is quite critical, Mr. Splitstone concludes that the use of the California survey data was supportable and a reliable method for estimating actual emission reductions as a result of the adoption of the Model Rule. See **Exhibit 3** at 47; see also **Exhibit 6**.

Petitioners and the Citizens are Directly and Adversely Affected

This failure to give proper credit to the OTC states directly and adversely affects the Petitioners because the regulations require the reduction of VOCs to the point where some popular products with no suitable substitutes will fail to perform for their intended use. If the proper data were used and calculated, it would calculate significantly higher emission reductions. This would allow the subject products to meet performance standards for which they were intended.

For example, interior solvent-based wood stains would have VOC limits so low under the Model Rule that they will not meet application, handling and performance standards for many of their intended uses. Waterborne substitutes do not perform well, and have problems of grain-raising and lapping, among others. In effect, the citizens in the OTR (approximately one-quarter of the U.S. population) will not be able to stain large areas of fine interior wood surfaces, except with waterborne, high-solids or exempt solvent formulas that are either completely unfit for such uses or present increased health or safety risks.

Conclusion

In conclusion, the SIP revisions are based upon data that EPA cannot accept under the Data Quality Act and EPA's formally adopted Guidelines. The states conducted no independent peer review of the data itself. They relied entirely upon the OTC and Pechan's flawed data and analysis. It has been demonstrated by sworn testimony in state administrative proceedings that the OTC method and data are wrong and that there are other, more reliable sources of data to estimate properly the actual emission savings from the SIP revisions. Bad science leads to bad rules. Bad rules hurt everyone. The record in the SIP amendments submitted to Regions II and III should be ordered to be corrected, and if not, the SIP amendments and request for credits should be rejected.

Sincerely,

E. Donald Elliott

cc: Kimberly Nelson, Assistant Administrator and Chief Information Officer, OEI
Jeffrey Holmstead, Assistant Administrator, Office of Air and Radiation
Anne Klee, Acting General Counsel, Office of General Counsel
Paul Noe, Office of Management and Budget
Jane Kenny, Regional Administrator, Region II
Donald Welsh, Regional Administrator, Region III
Kenneth von Schaumburg, Acting Deputy General Counsel, OGC
William Wehrum, Counsel to the Assistant Administrator, OAR
Karl Mazza, Science Advisor, OAR
Walter Mugdan, Director, DEPP, Region II
Raymond Werner, Chief, Air Programs Branch, Region II
Makeba Morris, Chief, Air Quality Planning Branch, Region III

EXHIBIT 1

WILLKIE FARR & GALLAGHER LLP

E. DONALD ELLIOTT
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April 16, 2004

VIA FACSIMILE & U.S. MAIL

Ms. Makeba Morris
Chief, Air Quality Planning Branch
Mailcode 3AP21
United States Environmental Protection Agency
Region 3
1650 Arch Street
Philadelphia, PA 19103

Mr. Raymond Werner
Chief, Air Programs Branch
United States Environmental Protection Agency
Region 2
290 Broadway
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New York, NY 10007

Re: Proposal to Approve Revisions to the Pennsylvania and New York State Implementation Plan, Control of Volatile Organic Compound Emissions from AIM Coatings

Dear Ms. Makeba and Mr. Werner:

This letter is submitted, on behalf of The Sherwin-Williams Company ("Sherwin-Williams"), as a supplement to the record for the State Implementation Plan ("SIP") revisions being proposed by Regions 2 and 3 concerning additional control of volatile organic compounds through the various Architectural and Industrial Maintenance ("AIM") Coatings rules.[1] This letter serves as further support for our position that the SIP revisions are based on data that have not been disclosed and are not part of EPA's rulemaking records and, therefore, pursuant to the Administrative Procedures Act ("APA"), 5 U.S.C. § 553(c), the agency must reopen the records and provide opportunity for comment on the data underlying the States' SIP revisions. We request a meeting to discuss this issue with your staff. Further, because these proposed SIP revisions involve common issues currently before several

[1] The revision to the Pennsylvania SIP was proposed on March 11, 2004. 69 Fed. Reg. 11,580. The revision to the New York SIP was proposed on January 16, 2004. 69 Fed. Reg. 2557.

regions, Sherwin-Williams will be requesting a meeting with the EPA Office of Air and Radiation ("OAR").

The rulemaking records for the AIM rules do not provide adequate notice of the factual and scientific bases for the proposed rules as required under the APA, 5 U.S.C. § 553(c). The SIP revisions are based on data that have not been disclosed and are not part of EPA's rulemaking records. Therefore, there has not been adequate opportunity for notice and comment. This failure of adequate notice is particularly true when, as here, the conclusions reached by the State differ from conclusions drawn from other sets of data, as discussed in our comments submitted to Region 2 on February 17, 2004, Letter from Randall M. Lutz, submitted on behalf of Sherwin-Williams, to Mr. Raymond Werner, Re: Proposal to Approve Revision to the New York State Implementation Plan (1-Hour Ozone Attainment Demonstration SIP), 69 Fed. Reg. 2557, and to Region 3 on April 12, 2004, Letter from John W. Carroll, submitted on behalf of Sherwin Williams, to Ms. Makeba Morris, Re: Proposal to Approve Revision to the Pennsylvania State Implementation Plan, Control of Volatile Organic Compound Emissions From AIM Coatings, 69 Fed. Reg. 11580, March 11, 2004. For example, in *Endangered Species Comm. v. Babbitt*, 852 F. Supp. 32, 37 (D.D.C. 1994), the court recognized that where different analyses reach different conclusions and reason exists to doubt the validity of the study on which the Agency relies, that Agency must make the underlying data available to interested parties.

Under Section 553(c) of the APA, 5 U.S.C. § 553(c), an agency must provide adequate notice to interested persons to permit them to comment on a proposed rule. Appellate courts have expanded the concept of adequate notice under the APA to encompass notice of the factual and scientific bases for a proposed rule by requiring that both the essential factual data on which a rule is based and the methodology used in reasoning from the data to the proposed standard be disclosed for comment at the time a rule is proposed. *See, e.g.*, *Portland Cement Ass'n v. Ruckelshaus*, 486 F.2d 375, 393 (D.C. Cir. 1973) *cert denied*, 417 U.S. 921, 933 (1974) ("It is not consonant with the purpose of a rulemaking proceeding to promulgate rules on the basis of inadequate data, or on data that, [to a] critical degree, is known only to the agency."); *United States v. Nova Scotia Food Prods.*, 568 F.2d 240 (2d Cir. 1977) ("To suppress meaningful comment by failure to disclose the basic data relied upon is akin to rejecting comment altogether.").

In conclusion, the SIP revisions are based on data that have not been disclosed and are not part of EPA's rulemaking records. Therefore, EPA should reopen the records and provide opportunity for comment on the data underlying the States' SIP revisions.

Sincerely,

E. Donald Elliott

cc: Jeffrey R. Holmstead, Assistant Administrator for Air and Radiation, EPA
Steve Page, Director, Office of Air Quality Planning and Standards, EPA
Lydia Wegman, Director, Air Quality Strategies and Standards Division, OAQPS, EPA

EXHIBIT 2

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
REGION 2
290 BROADWAY
NEW YORK, NY 10007-1866

MAY 13 2004

E. Donald Elliott, Esq.
Wilkie Farr & Gallagher, LLP
1875 K Street, NW
Washington, DC 20006-1238

Dear Mr. Elliott:

This is in reply to your letter of April 16, 2004 addressed to me and to Ms. Makeba Morris, Chief of the Air Quality Planning Branch in Region 3 of the U.S. Environmental Protection Agency (EPA).

On behalf of the Sherwin-Williams Company (SW) you asked for a meeting with our two Regional offices and with the Office of Air and Radiation (OAR) at EPA Headquarters. The purpose of the requested meeting would be to discuss further SW's concerns about federal rulemaking with respect to promulgation by several states of the Architectural and Industrial Maintenance (AIM) coatings rules. We have considered your request carefully, and have decided not to schedule a meeting at this time.

As you know, in Region 2 the public comment period on the proposed approval of the New York AIM rule as part of its State Implementation Plan (SIP) closed prior to the date of your letter. In Region 3, the public comment period on the proposed approval of the Pennsylvania AIM rule as part of its SIP also closed prior to the date of your letter. Final action on both proposals is currently pending.

Under these circumstances, we believe that a written submission from SW would be a more appropriate means for the company to bring to our attention any new or additional information beyond that already provided in its extensive written comments submitted during the public comment period.

Although any such further written submission would be untimely submitted, it would be within our discretion to consider it.

Sincerely,

Raymond Werner
Chief, Air Programs Branch

cc: Makeba Morris, EPA Region 3
Jeffrey R. Holmstead, EPA-OA
Steve Page, EPA OAQPS
Lydia Wegman, EPA OAQPS

EXHIBIT 3

MARYLAND DEPARTMENT OF THE ENVIRONMENT

Re:)
PROPOSED NEW REGULATIONS .01-.14)
UNDER A NEW CHAPTER COMAR 26.11.33)
ARCHITECTURAL COATINGS)

- - - - -

The hearing in the above-entitled matter commenced on Wednesday, January 28, 2004, commencing at 10:34 a.m., at the Maryland Department of the Environment, Aqua Conference Room, 1800 Washington Boulevard, Baltimore, Maryland, 21230-1720.

Reported and Transcribed by: Deborah Turner, CVR

C O N T E N T S

On Behalf of the Maryland Department of the Environment:

DEBORAH RABIN, REGULATIONS COORDINATOR
Air and Radiation Management Division
Maryland Department of the Environment
1800 Washington Boulevard, Suite 730
Baltimore, Maryland 21230 -1720
410-537-4414

P R O C E E D I N G S

- - - - -

MS. RABIN: Good morning. On behalf of the Department of the Environment and the Air and Radiation Management Administration, I would like to welcome you to this public hearing.

My name is Deborah Rabin and I am the Regulations Coordinator for the Air and Radiation Management Administration. I will serve as hearing officer for today's hearing.

I would like to ask all of you in attendance today to please sign in, if you haven't already done so. This will help us to keep an accurate record of the people who participate in the hearing. Also, copies of our regulation proposal, support documents, and the Department's statement are available on the table for your information.

This hearing concerns air quality regulations found in the Code of Maryland Regulations, Title 26, Subtitle 11 Air Quality. The Secretary of the Department proposes to adopt new regulations .01 through .14 under a new chapter COMAR 26.11.33 Architectural Coatings.

The purpose of this hearing is to give you the

opportunity to comment on this action. The opportunity for public comment for this proposed action appeared in the Maryland Register, Volume 30, Issue 26, Pages 1944 through 1954 on December 26th, 2003.

For the record, I'd like to make a change in the close of the comment period. We will close the comment period on Monday, February 2nd, close of business.

The hearing will proceed in the following order. First, Mr. Parker Dean will make a statement on behalf of the Air and Radiation Management Administration. After Mr. Dean is finished, I will call on any elected official or government official who wants to make a statement. Then, I will call upon anyone else who indicated on the sign-in sheet that he or she would like to make a statement.

When giving your statement, please come up front, identify yourself and your affiliation and give your statement loudly and clearly. Are there any questions? I will now call on Parker Dean.

MR. DEAN: My name is Parker Dean. I am Chief of the Regulation Development Division of the Air and Radiation Management Administration, Department of the Environment.

This public hearing is being held pursuant to the requirements of 40 CFR Section 51.102 and Sections 2-301 of the Environment Article, Annotated Code of Maryland. It is also being held in conformance with the State Administrative Procedures Act under the State Government Article, beginning at Section 10-101.

Notice of this hearing appeared in the Maryland Register, the Baltimore Sun, St. Mary's Enterprise, Cumberland Times-News, Frederick News-Post and Salisbury Daily Times on December 26th, 2003 and the Washington Post on December 18th, 2003. Copies of these notices were submitted for the record.

Copies of the proposed new regulations and supporting documents were submitted for review to the State Clearinghouse and are also submitted at this time into the hearing record. Copies of the proposed regulations and supporting documents were made available for public inspection at the Air and Radiation Management Administration offices in Baltimore, Cumberland and Salisbury, and at all local health departments or local air quality control offices.

The purpose of today's hearing is to give the

public an opportunity to comment on proposed new regulations, .01 through .14 under a new chapter of COMAR 26.11.33 Architectural Coatings.

The purpose of this rule is to reduce volatile organic compound emissions from architectural and industrial coating products used in Maryland in order to address shortfalls in achieving the one-hour ozone standard by 2005.

In December 1999 the United States Environmental Protection Agency informed Maryland and several other Northeastern and Mid-Atlantic states of the Ozone Transport Region that their air quality plans did not provide for emission reductions sufficient to obtain the one-hour ozone standard by 2005.

Maryland must promulgate measures that will achieve reductions of at least 13 tons per day of volatile organic compounds in the Baltimore nonattainment area. EPA stated that it would grant additional time to implement new measures if those states pursued regional strategies to control ozone and its precursors. In response to this EPA mandate the Ozone Transport Commission developed several VOC reduction measures that were formerly supported by the

OTC commissioners in March 2001.

Today's proposed action has been based on a regionally developed model rule prepared by a state-led workgroup of the OTC for AIM coatings, the cornerstone of which was existing rules developed by the California Air Resources Board.

In developing the OTC model the workgroup analyzed and modified the CARB rule to address VOC reductions in the OTR, the Ozone Transport Region. The workgroup conducted an extensive review of both the CARB record and other information and determined that the coating limits in the OTC model rule were viable with compliant products already on the market.

The Maryland Department of the Environment has completed a state version of the rule based on the provisions of the OTC model rule.

Additionally, in January 2003 EPA changed the nonattainment status of the Washington nonattainment area. Accordingly, this AIM proposal is also a necessary part of the Washington area state implementation plan as the nonattainment status changed from serious to severe.

The proposed rule sets specific VOC content limits

in grams per liter for 46 AIM coating categories. It require compliance with the limits by January 1st, 2005. In most cases these limits are more stringent than existing federal AIM rules adopted by EPA in 1998.

Compliance with these new limits would be achieved through either reformulating products or substituting products with complying coatings that exist on the market today. It should be noted that a substantial number of coatings exist that comply with the VOC content limits for each proposed category.

Therefore, while some product manufacturers may need to reformulate in order to comply with the VOC limits the OTC model rule upon which the proposed rule is based was developed at a level where a significant number of compliant coatings already exist in the marketplace.

The regulation will not apply to one, an AIM coating sold or manufactured for use outside the state or for shipment to other manufacturers for reformulating or repackaging; two, an AIM coating sold in a container with a volume of one liter or less; three, an aerosol product; or four, a coating manufactured before January 1st, 2005.

Manufacturers producing AIM coatings would be

responsible for developing and distributing compliant products for sale in the state at the wholesale level.

Painting contractors and government agencies specifying coatings are also responsible parties. A person who manufactures, blends, thins, supplies, sells, offers for sale, repackages for sale, applies or solicits the application of an AIM coating within the state may need to take action in response to these regulations.

The proposed action also contains several flexibility provisions which would facilitate compliance with the limits. These include a sell-through provision where products manufactured before the effective date of the rule can still be sold, a higher allowable VOC content for recycled coatings, an exemption for coatings sold in containers of one liter or less, and provisions for an opportunity for a person to request an alternative VOC content of a coating.

It has been estimated that these regulations will reduce VOCs in the Baltimore and Washington nonattainment areas by approximately eight tons and six tons per day respectively beginning in January 2005. The 1990 Baltimore and Washington inventory of emissions from such products

were estimated at 27 tons and 31 tons of VOC per day respectively.

These new regulations upon adoption will be submitted to the U.S. EPA as a revision to the Maryland State Implementation Plan. The Department will consider all comments before making a decision to adopt these regulations.

MS. RABIN: Would anyone like to comment on this proposed action?

MR. LUTZ: Yes.

MS. RABIN: Who would like to go first?

MR. LUTZ: Randall Lutz representing the Sherwin-Williams Company. We appreciate very much the opportunity to comment on these regulations. The Sherwin-Williams Company just for some background has a major manufacturing facility here in Baltimore City. As a matter of fact only -- probably less than a mile away. It also has numerous company stores around the state and employs over 700 Maryland citizens who work in those stores and the facility.

I just want to note for the record before we begin that the ice and snowstorm has kept people away from this

hearing. I know of three who wanted to be here and testify today but will not be here because of the weather. And I appreciate the Department's keeping the record open for an extra few days to accommodate them and have them supply their written testimony.

I believe that their presence would have been more impressive than their written testimony so I'm not sure that just keeping the record open for a few days is really sufficient to bring their point across. But it should also be noted that 20 out of the 24 school districts in the state are closed today. Many local governments are on liberal leave and there are many other closings.

The secondary roads are a major problem according to the announcements on the radio and I have to assume that there are other people who probably would have been here today if it were not for the weather. And so keeping the record open, I think, is a good thing but I'm not sure it's enough for those people who really wanted to be here and testify.

The people who are here with me today from Sherwin-Williams flew in from Cleveland the night before last so they didn't have to deal with the weather and they

stayed here last night.

Sherwin-Williams has electronically sent to the hearing officer its comments but in the event there is any problem with that submission I have a hard copy here that I would like to have placed into the record. I will deliver that to you now. (Handing documents.)

Sherwin-Williams has three witnesses who would like to testify today: myself, Ms. Madelyn Harding and Mr. Douglas Splitstone. We were planning on having another witness, Mr. Daniel Forestiere, Director of Regulatory Affairs of the Sherwin-Williams wood care group, but he could not make it here because of the weather from New Jersey.

As a general matter what I'd like to do is I'd like to make a few introductory comments, have Ms. Harding testify and then have Mr. Splitstone testify and I'd like to conclude with some closing comments from Sherwin-Williams comments.

As a general matter Sherwin-Williams objects to the regulations as proposed because of a number of reasons that are spelled out in our written comments but basically we are talking about issues that involve flaws in the

underlying rationale to the model rule based upon unsupportable and unreliable data, which you will hear about from both Ms. Harding and from Mr. Splitstone.

MDE has not conducted any independent assessment of this regulation before its proposal. It relied entirely on the Ozone Transportation Commission's analysis and their consultant, Pechan, which has major flaws in it.

And we believe it will be harmful to the citizens of Maryland overall if some relief is not given in some of the product categories. As I said, there are other reasons that are stated in our submittal that the Department should take note of.

However, Sherwin-Williams does appreciate the inclusion in the proposed rule of provision .01E that permits a person subject to the rule to request an alternative standard. And we intend to put information into the record today, sufficient to support what we believe is an alternative standard for several of the products for which there is no suitable substitute if the rule is adopted as proposed.

The modification we're requesting would amount to a very insignificant reduction of the emissions savings

from the rule and as you're going to hear today anyway the calculations done by the OTC in calculating what the emissions reduction was was grossly underestimated.

We believe that the true emissions reduction if this rule is adopted is almost twice as much as what is predicted by the Ozone Transportation Commission.

Madelyn Harding who's going to present next from Sherwin-Williams is a corporate manager in product compliance. She's out of the headquarters office in Cleveland. She is going to first address two very important flaws in the proposed rule. One is the problems and flaws with the rule's statistical basis. She will point those out and tell you why the underlying rationale for the rule and the computations make no sense.

She will also propose an alternative way of calculating emission reductions that demonstrates considerably more emission reductions than predicted by the OTC.

Then Ms. Harding will discuss the reasons why the rule will, in effect, ban certain popular and useful products for which there are no suitable substitutes and explain that making different standards, alternative

standards for these product will not subject Maryland to any enforcement action by EPA. Ms. Harding.

MS. HARDING: Thank you. Good morning. I don't know if you all were as cold as I was out there today. I sure hope you get a warm spell soon.

Actually, Mr. Lutz described my procedures slightly different than the way I have thought of it. I had thought I would start with the technical issues then consider the emission reduction calculations, both the ones that the OTC have used and that Maryland is basing it on and then an alternative emission reduction calculation and then hand it back to Mr. Lutz.

There are five technical issues that I will address very briefly. These are addressed more fully in our comments. These are on floor coatings, exterior wood primers, interior wood stains, those are clear and semitransparent, wood varnishes containing sealers, and the numbers you see on the slide are the VOC limits in grams per liter that we are recommending.

Floor coatings, and these are specifically of concern when you're dealing with exterior wood porches that might be found, for example, in century homes and they're

very prevalent here in the Northeast.

Typically one uses a solvent-borne product on these porches because they penetrate and they are highly durable. Penetration is really critical because when you have many layers of old paint you need to tie them down to the wood. And the waterborne systems don't have the capability of penetrating very far compared to a solvent one.

The OTC has relied heavily on studies out of California and the model rule or suggested control measure for CARB. The California Air Resources Board for floor coatings depended on studies that were done in Southern California by South Coast Air Quality Management District.

And those studies were only done on concrete so the concept that one can find equal performance might apply to concrete coatings for floors or for horizontal surfaces but it certainly didn't apply to wood, at least it hasn't been studied. So that's number one is the floor coatings.

The second issue is the exterior wood primer issue. In looking over our data sheets over many years what I have found is that for latex, exterior latex paints, we generally recommend the use of an alkyd primer when you

are applying to wood surfaces.

In addition, it's important to note that whenever you have had a problem with peeling paint, for example, the recommended procedure is to strip it down to bare wood and prime with an alkyd primer. This rule eliminates that ability for us to sell to those applications and for you people to purchase those.

Both real wood and composition boards have problems when you're talking with waterborne systems. We have done studies comparing our commercial exterior alkyd primer to our exterior waterborne primer on exposure and have found that when you are on Cedar, for example, the tannins will bleed through the wood and the general overall appearance of the topcoat is significantly harmed when you're using a latex undercoating.

When you're dealing with composition board it gets much more serious because when you put water in contact with composition boards you tend to have wax bleed through, surfactive leaching and swelling of the wood particles. And combined all of those activities on the part of the water cause a harm actually to the composition board that can be rather serious. The solution for those are also

alkyd products.

Turning our attention to interior wood substrates, I would like to start by discussing the issue of stains and water. Typically, your proposal has a limit of 250 grams per liter for stains. This limit causes or results in only three possible technologies that will be available. One is waterborne, one is very, extremely high solids, and the third would be exempt solvent technologies.

Currently, there are no 250 grams per liter stains on the market that will meet the requirements of all applications. Waterborne stains cannot be applied to large surfaces without causing lap marks.

I would like to introduce into evidence a photograph of wood. This is a photograph of a wood panel. Half of it has been stained with Duraseal's penetrating finish which is a solvent-borne system and half has been stained using a competitive product by a company known as Fuhr. This is a waterborne wiping stain and is number 105. It is the wiping stain that Fuhr has which from their data sheets has the longest open time.

And what you will see, what we have done here is we have applied the stain to one strip and then waited

several minutes, I think ten, and then continued staining the next. Now, since stains are not done using rulers but rather they are wiped on you don't end up on one clean panel you end up around. And the overlap area will be between the boards, between the strips.

And what you will see -- I can pass this around and this is in fact for your record is that in the overlap area the appearance is darker and that is called lap marks. That occurs in the waterborne systems.

This is a particular problem on large surface areas like floors when you have a room about this size. If this was instead of being carpeted all wood and you went to stain it obviously you could not get all of the stain out and done in less than 10 minutes. You would be having these lapped areas and unless the open time of the product is extremely long without any drying occurring you will get lap marks.

Solvent-borne systems don't dry as rapidly. They certainly don't cure and you get to work in the second layer into the first layer and thus it spreads it out which is one of the reasons why you would not get lapping.

In addition, waterborne stains cannot be applied

to many species of wood without causing grain raising. Grain raising is where individual fibers of the wood have swollen and popped up above the level of the surface.

When you are not using a film-building topcoat that's a significant problem. I can talk from personal experience. My home has all natural woodwork and the moldings around the floors, the top molding and all around the windows has all been stained with cherry.

However, we do not have a top coat over it. It was simply stained. Had the stain been water-based stain then when I would touch that I would have fibers that I would feel. And you can't sand those down. The way you normally would fix that would be putting a one, two or three levels more above it of something like a varnish so you'd get a top thick coating and that way you have smoothed it out. If you try to sand something like that you get a nonuniform appearance. But in my house we didn't have varnish over it, we have just cherry-colored wood.

The third possible technology to solve the problem with stains is high-solids technology. To reach a 250 grams per liter, the solids would need to be over 70 percent which is extremely high and which will create

viscosity problems, dry time problems and application problems.

The final technology available for stains would be the use of exempt solvents. Currently, there are only two solvents that are even marginally useful in coatings that have been exempted by EPA. Those are acetone and PCBTF also known as Oxxol 100.

The acetone has significant problems with flammability. It has a very high vapor pressure and a very low flashpoint which the combination is extremely hazardous. And the PCBTF, the Oxxol 100 has increased inhalation toxicity issues associated with it. It also has a very bad odor that most customers would not like. So that summarizes our concerns with stains.

In the area of varnishes you will find that the records in other jurisdictions indicate apparent disagreements about the performances and appearances of waterborne varnishes compared to solvent-based clear wood finishes.

And we have done a good illustrative data -- this is real interesting. This was a study that we made of commercial products. This study was performed four years

ago so it had nothing to do with rule-making. This is one of the many types of things we routinely do.

Dater School is an elementary school in Ramsey, New Jersey where they actually have wood floors in their hallways. We received permission to apply six coatings to their wood floors and the children walked and did whatever children do in an elementary school with wood floors.

And we evaluated the gloss every week for five weeks. These six coatings, starting at the top which is an easy distinction, these are all commercially available coatings, half of them are commercially available from us.

The highest gloss retention coating was the oil-modified solvent-borne varnish. This is the material that we think it's important to maintain. The worst performing were the waterborne lacquers. There were two varieties. Those are the bottom.

And in the middle you find equivalent performance amongst or pretty equivalent performance amongst three products. One is an oil-modified waterborne varnish and then the other two are aziridine crosslinked waterborne varnishes. There are two of those. And those all have essentially equivalent performance.

Now, one of the things and what's critical about this is that generally one recoats a floor not because the film has disappeared, as in erosion, but because it's lost its appearance. And one of those appearance characteristics is the gloss.

At our house we have semigloss varnish on our floors and that's what we want it to look like and when they start getting dull looking we look at each other and say, well, I guess it's time to get someone out here to recoat the things. That's how you do it.

It's not that I'm going out there and saying oh, my, we don't have that thickness anymore. It's that the appearance has degraded. We're introducing this into evidence as well.

The performance requirements for varnishes can vary based on the application and the differences between the chemistries as I have shown you there.

Also, when it's applied to raw wood, especially darker species of wood, solvent-based varnishes will provide a better depth and warmth of appearance. I really wish I had real wood here to show you because it makes a dramatic difference and it has better grain contrast than

waterborne finishes.

Interestingly enough, even BonaKemi, who is a particularly vocal proponent of waterborne clear varnishes for wood floors, recommends an oil-based clear stain before applying a waterborne varnish for those darker type woods.

One of the other reasons why different people feel differently and report different results on varnishes has to do with the ways performance are measured and defined.

Lab tests are useful for screening but frequently will fail to predict performance in actual use. Frequently, people who use lab tests that have to do with abrasion resistance, which have very poor reproducibility according to ASTM, the percent reproducibility is very poor. And they can be misleading especially when you're looking at things that are highly cross-grained for example. Under no circumstances can you substitute for field testing like the Dater School test that we ran.

It's also important to note that the product we studied there, two of those which are the aziridine crosslinked waterbornes that we did we studied there and also the isocyanate crosslinked products. Both of those type of products really are only used by professionals.

There are toxicity issues associated with them being used by do-it-yourselfers.

The last subject in this technical section that I would like to discuss is sanding sealers. We discuss this fairly completely in our written testimony but just to remind you waterborne sealers can lead to panelization of wood flooring. This is where adjacent boards of a floor get glued together so strongly that other sections have cracks due to temperature and humidity changes.

Also, it's important to note that sealers when you're dealing with waterborne sealers those are usually thermoplastic. The term thermoplastic means it softens on heating. When you sand it that friction causes the heat and causes it so soften which means it gunks up and you can't really sand it. You can mush but you can't sand. It's essentially an oxymoron to say it is a thermoplastic sanding sealer because you can't do it. Thus, in summary, these are the limits that we are requesting and they are also in our written comments.

What I'd like to do now is to have help from Randy. All I need you to do is push the down arrow when I say now or next slide.

MR. LUTZ: That sounds simple enough.

MS. HARDING: Now, we're going to turn our attention to the emission reduction calculations. The OTC used a consultant named Pechan to do their emission calculation cost effectiveness work. And what's really scary is when we look at the data that Pechan was using what we find is that in some cases an increase in the limit surprisingly causes an increase in reductions.

This is contrary to what one would expect. You would expect you would increase the limit, you decrease the reductions. And I'm going to show you some very specific examples of that.

The other issue is that in some cases from this data the VOC limits will cause a negative emission reduction. That is that you introduce a limit and you now increased emissions, which is nonsensical. It makes no sense. For this reason, I sometimes think of it as it doesn't pass the laugh test. Next slide.

Here are some examples. I'm just giving you a few examples from the data. It's scary. First off, let's explain to you the columns. Here are the coating categories. This specific slide is sanding sealers. Here

is the technology, is it solvent-based or solvent-borne that would be SB, or waterborne that would be a WB.

Here is the VOC range for the data. The data is from an Industry Insights survey from the early '90s and the data was accumulated into ranges. So, for example, if a product had a VOC of 660 it would have been put into this range.

The upper limit of the range is, I think, pretty self-evident. This is simply the largest number so if a product is at 600 it would be in the range 551 to 600 and the upper limit is 600. A product at 601 would have been bumped into the next group with an upper limit of 650.

Then there are two assumptions broadly of which they are two sub-assumptions that are made in these calculations. These are attempting to calculate the emission reduction achieved by introducing a limit of 350, 400, 500, et cetera.

One is a constant gallons assumption. This assumes that all of the gallons that are above the limit an equivalent number are then put down to the limit which means at limit or that those gallons are spread over the curve, that is if the distribution of sales that there was

a bell curve and your limit was right at the top of the bell, then the distribution would be some of the products would be at the high point all the way down to the low point, essentially, the concept being that all of those gallons that were above the limit died, been discontinued and their sales were then picked up by all the other products that did comply. That's the concept of over the curve.

The concept of constant solids assumption is when instead of saying the gallons stay constant for all those gallons that were above the limit what you do is you say that the solids content stayed constant and you make the adjustment again at the limit or over the curve.

The black heavy mark around in this case the sanding sealers with an upper limit of 350 I have used to note that is the limit that is in the rule that is being proposed.

What is interesting is the yellow highlighted area where what you will see is that if you set the limit at 350 the emissions reduction would be at constant solids at the limit would be 671,000 pounds, approximately. However, if you set it at 400 grams per liter you get 2 million pounds

reduction.

Now, this goes contrary to what you would expect. You would expect that if you set the limit at a higher number you would get lower reductions. And the reason I'm highlighting this is that in fact the proposed limit is 350 and you can safely go, based on this data, to 400 and have even more reductions. Next slide, please.

Again, the format is the same so I'm not going to go through it again. This is again a solvent-based product. This is the general category known as primers. They are generally lumped as primers, sealers and undercoaters but there's not enough room to put all those words there.

MR. LUTZ: Madelyn?

MS. HARDING: Yes?

MR. LUTZ: All these numbers are from the Insight survey?

MS. HARDING: This is all from the Industry Insights database and this is the data that we believe Pechan has used to do his calculation of emission reductions.

I have again circled in big fat bold the limit

that is in the proposed rule. That limit is 200 grams per liter. You will see that constant solids at the limit the report suggests just a little bit shy of 10 million pounds will be the emission reduction.

However, if the limit was at 250 they would be an 18 million pound emission reduction. This has me real concerned. I think we're having problems not laughing.

The next slide then addresses the other issue which is that introducing a VOC limit produces a negative emission reduction. The category is quick-dry primers. It's again solvent-borne. The data extends from an upper limit of 300 to 750 grams per liter.

You will notice I have circled the top line. That would be the line that would have been used for the quick-dry primer category because that's the lowest data point they have and the limit actually in the proposal was 200 grams per liter but in the quick-dry primers the lowest point here is 300 grams per liter.

And what you'll notice is the constant solids at the limit you have an increase in VOCs of six million odd pounds, about six and a half million pounds actually which means it's costing you something to introduce VOC limits,

which makes no sense, folks.

I forgot to highlight also, there's a number there and there's also a number there, there's no way you can get a negative number by introducing a limit, not in practice. This doesn't make sense. This just doesn't make sense. Next slide.

Again, in my blue highlights some of the negative ones, not all of them, notice I highlighted a few more, these are opaque stains. These are waterborne opaque stains. The limit in the proposal is 250 grams per liter which results in constant solids, which is the way Pechan was doing it, with minus 10,000 pounds.

So you get a minus reduction which means you are increasing emissions by setting limits which makes no sense because, again, keep in mind that it is only that which is above the limit that one is adjusting. The assumption is that all products that were below the limits stay as they were in all these calculations. You will also notice that going to a 50 grams per liter you have an increase of emissions of 250,000 pounds which is really scary.

And finally, in the category known as sealers we have got all the problems illustrated all at once. What

you've got -- these are waterborne sealers. The range of VOCs are from 50 to 350. What you will find is if you were to have set the limits in the rule at 50 you would have, if you consider just constant gallons at the limit, have taken approximately 60,000 pound emission reduction but if you decided instead of 50 to go to 100 you would have had an emission reduction of a quarter of a million approximately, 249,000 in round numbers.

You, however, in the proposal have set the limit at 200 and in the constant solids number you will see that that produces a minus 100,000 pound reduction meaning you have now increased emissions by a 100,000 pounds according to this data.

It's for all of these reasons that we are real uncomfortable using the Pechan analysis to determine emission reductions. As some of you know in earlier comments I had said that there were some problems because the Pechan analysis only resulted, according to his calculation, in a 31 percent reduction from the national rule which doesn't make sense because California has claimed 20 percent and they were starting not at the national rule but with limits already in place. They had

already taken a lot of reductions.

So it didn't make sense and it hasn't. And this is why the result came out the way it did. You've got inconsistent numbers. You've got numbers that are not making sense. But when we use the spreadsheet that Dan Brinsko of New York had supplied to us we do get the 31 percent -- it's just sometimes he chooses zero.

In this case he would say there would be no reduction. He doesn't say it actually goes up. He simply says there's no reduction.

But this is a real problem. So what we decided is to look for a better data source with data that maybe will produce some results that are closer to reality. Next slide, please.

What we did is we looked at the California survey which was actually a good starting point since the OTC model rule is based on the California suggested control measure and in the report for the suggested control measure is where the State of California, the Air Resources Board says that they're going to get 20 percent reduction. So it is a good starting point.

I am, however, here using a more recent survey.

These are the results from the 2000 survey rather than the 1996 survey that California had had to use for the staff report because they were doing that prior to the completion of the year 2000.

This is somewhat of an overview slide. The emissions from that survey on a tons per day with thinning was 137. Tons per year is 50,000 approximately tons per year. The population is over 33 million which comes out to a per capita figure of 2.95.

After the emission reduction and this is after some adjustments we have to make to it and I'll discuss those in a minute the reduction would only be 14 tons per day, which would result in a 123 ton per day emission; tons per year around 45,000. Same population, 2.65 on a per capita basis.

Using the post-national rule emission factor which is 5.36 which is from Pechan and which he got from starting with the national recommendation for a starting baseline and then took 20 percent off of that. So this is not based on any kind of survey data. This was based on the EPA proposal for that statement that that was how much he was going to have. So it's 5.36.

If you compare the 2.65 with the 5.36 you have a 51 percent reduction. That's starting to sound like a normal number. And now I can show you the details of this on the next slide.

Here are the adjustments I have made. And this was at the request of MDE where it's not just the specific categories or concerns of the Sherwin-Williams Company. We have incorporated the categories that we understood NPCA was concerned with. Here are, on the left, the limits that either we and/or NPCA were recommending with the exception of industrial maintenance where that 340 grams per liter is the difference between the OTC model rule and your proposal and the California Air Resource Board suggested control measure. That is something that the OTC changed. And that needed an adjustment as well.

You sum these all up, what you find is that we have an emission adjustment needed of eight tons per day. And so originally what that ends up being is originally it would have been approximately 22 tons per day but we lose eight of it and so after the reduction we have a 14 ton per day reduction in California if the Maryland rule was to be used in California. Hopefully that made sense.

Applying those to Maryland we are starting out here with the 51 percent that the California rule would give us after we made the adjustments we need to it. Maryland population is 5.3 million based on the post-national emission factor of 5.36 times the population you get tons per year of a little bit more than 14,000. That is currently what your emissions would be.

Pechan, his post-rule ends up with a factor of 3.70 on a per capita basis. So Pechan's emissions after his analysis would have been a little bit less than 10,000. However, we believe it is much more accurate, the 2.65 emission factor, post rule which would result in only 7,000 tons per year emissions.

The difference between these two is about 2800 tons per year or 7.6 tons per day. That's the increase in emission reductions that you're getting over what Pechan suggests in his report. That's the 51 percent. I believe that might be my last slide. Yes, that's my last slide. We don't need this.

In summary, in the area of emission reduction calculations I think that you are doing yourselves an injustice and doing the industry an injustice by depending

on data that is laughable. It doesn't make sense. And those were just selected because -- those specifics were selected because in fact the problem was right where your limits were.

But there are numerous examples if you go through that data over and over again of negative numbers appearing or of numbers where you get a larger reduction when you have a higher limit. And this makes no sense. That data should not be used in determining what your emission reductions are. Thank you.

MR. LUTZ: Thank you Ms. Harding.

MS. RABIN: Do you have these materials in hard copy to present?

MS. HARDING: Yes.

MS. RABIN: Okay.

MR. LUTZ: They are in our submittal I believe at Exhibit 6 and 7.

MS. HARDING: Or, if you want, I can give you copies of the slides as well.

MS. RABIN: That would be great.

MS. HARDING: The format is slightly different between the two.

MR. LUTZ: Now, when Ms. Harding came up with and recognized and saw these flaws in the spreadsheet and went over and over it again, and went over it with their attorneys and interior corporate people we decided that it would be best to have somebody independent take a look at this and see whether or not our conclusions about the data was, in fact, correct, that there were fatal flaws, et cetera.

Sherwin-Williams hired Mr. Douglas Splitstone who is an independent consulting statistician to conduct this independent assessment of the statistical base for the OTC model rule upon which the proposed regulation is based.

The reason we chose Mr. Splitstone is because of his impeccable outstanding credentials. He has more than 35 years of experience in the application of statistical tools to the solution of environmental problems.

One of the primary credentials that we relied upon was the fact that Mr. Splitstone is a consultant to the U.S. EPA's Science Advisory Board and having served on the Air Toxics Monitoring Subcommittee, the Contaminated Sediment Science Plant Review Panel and the Environmental Engineering Committee's Quality Management and Secondary

Data Use Subcommittee.

He also is a member of the task group on epidemiology and statistical methodology for the U.S. EPA's Center for Environmental Epidemiology at the University of Pittsburgh's graduate school. He's a member of the adjunct faculty at Penn State University and Indiana University of Pennsylvania. And he has received a distinguished achievement medal from the American Statistical Association for his work on statistics and the environment.

And I'd like to have Mr. Splitstone now comment on his review and assessment of the underlying data and rationale in the Pechan report and the OTC's rationale.

MR. SPLITSTONE: First, I'd like to thank Mr. Lutz for the kind introduction and it's going to be a large one to live up to. When I was asked to take a look at the calculations and data behind the Pechan report I thought first of the Data Quality Objectives Act and subsequent OMB guidelines that apply to the dissemination of information in the environmental arena as well as elsewhere in the government. In fact, it applies to everybody who is subject to the Paperwork Reduction Act.

And particularly in regard to the dissemination of

influential information which means that it is information that will have a clear and substantial impact on important public policies or important private sector decisions.

The OMB, Office of Management and Budget, in 2001 set forth some guidelines that one needs to consider, three of which I will mention today. One is the utility of the information. The other is reproducibility and the other that I will talk about is whether the calculations and logic are transparent to a reasonably educated individual.

It's my understanding that the Ozone Transport Commission's model rule for the architectural and maintenance coatings, it's found in the report mentioned before by Pechan and Associates, and the Pechan analysis is allegedly supported by survey data.

In fact, two surveys are mentioned in their report, one being the survey performed for the National Paints and Coating Association by Insights, Industry Insights, Inc. And in fact that is mentioned in the Pechan report as the basis for their emission reduction calculation.

Another survey was conducted by Pechan to assess the market impact of the proposed rule. This was a survey

of much smaller in scope. They chose I believe 32 companies from the list of companies mentioned in the California Air Resources Board surveys, added to that some companies that were regional with the cooperation of the National Paints and Coating Association and surveyed, sent out 32 surveys. Unfortunately, only 18 responded to the volunteer survey. And these 18 that responded are representative of mostly the larger companies, larger manufacturing companies in the Ozone Transport Region.

Given the low response and the fact that these larger companies are likely to manufacture lower emitting products one has to give some serious consideration as to whether the market impact analysis is really representative of all the companies that are selling products in the Ozone Transport Region.

Going back more to the point in terms of emission reduction calculations and looking at the Insights survey which initially approached 950 or identified 950 companies and sent out surveys to these companies, 173 responded which is only about an 18 percent response rate. And of those 114 admitted to manufacturing AIM products in 1990. This was the basis of the emission inventory that Pechan

used in attempting to estimate emission reductions.

Again, those companies responding are likely to be the major companies. This again was a voluntary survey and again would be companies that manufactured, perhaps manufactured, lower emitting products.

Now, it is well recognized in survey analysis that small responses are likely to produce biases in the results as well. So we have to consider that aspect according to accepted statistical practice the bias towards those responding companies and what share of the market they represent would again bring into question whether these companies are truly representative of those selling in the Ozone Transport Region, and are really representative of the whole market.

Given that one really has to wonder then whether this data is truly useful in determining emission reductions. We have to question then the utility. More serious, I think, is the fact that the information available from the Insights survey due to confidentiality considerations is incomplete so that to reproduce the classification that was shown in Ms. Harding's slides is not possible from the data available on the Insight survey.

I've had a couple of discussions with the National Paint and Coatings Association as well as Sherwin-Williams as to whether the raw information is available somewhere and apparently it is not.

So we are left with the hard copy of the survey with the confidentiality data gaps in it which does not then permit us to reproduce the distributions according to the categories in grams per liter that were shown on Ms. Harding's slides.

MR. SELL: Can I just interject here so it's clear to people how that came about? The NPCA did not conduct this survey. It sponsored it. So we hired as we always do in these sorts of things so we don't get a vision or an understanding of our own customers' market circumstances.

We had an outside group do this and as a result when they finish a survey like it is customary for them to have confidentiality concerns as well and to get rid of the data. So it wasn't that people deep-sixed this information. It was just in the normal course of what's done. Thanks.

MS. RABIN: I'm sorry. Can you give your name for the court reporter?

MR. SELL: I'm Jim Sell with the National Paint and Coating Association. Thank you.

MR. SPLITSTONE: I wonder if we could put us just one of your slides?

MS. HARDING: Give me one minute.

MR. SPLITSTONE: Any one. I just want to get the feeling of the spreadsheet.

MS. RABIN: Do you want to hold up one of these and pass it around or something?

MS. HARDING: I just turned it off. It's starting up.

MR. SPLITSTONE: We can go on if we can imagine the slide and there is --

MS. RABIN: We can pass these hard copies around and then just give it back to me again.

MS. HARDING: I don't know if you can remember what they look like. Which one did you want to see?

MR. SPLITSTONE: Any one. I just want to look at the form of the spreadsheet. We can just go with the hard copy. Pechan in their report clearly indicates that the basis for their emission reduction calculation was data from the Insights report. I already talked about the

difficulty and the impossibility of reproducing their classifications in terms of gallons pounds. The original spreadsheet which came from New York --

MS. HARDING: Yeah, Dan Brinsko.

MR. SPLITSTONE: Has a couple of other columns in it one of which contains at the bottom for each coating and base category a total emissions in pounds which is consistent with what is reported in the Insight survey.

Given that misstatement in the report one would be led to believe that the total emissions that could be reduced should be the total emissions from the Insights survey. Indeed, it's only that way in one case and that is bituminous coatings. Now --

MR. LUTZ: How many are not?

MR. SPLITSTONE: How many are not? All the rest, however many they have in there. But there's only one case where this top line which should be if you reduce everything should be the total emissions. Most of the time these values here are greater than the total emissions reported in the Insights survey.

So I set about trying to ascertain, ferret out the logic behind Pechan's distribution to these categories.

Based on the total gallons produced and making some assumptions I could at least attempt it for the exterior flats. Given a couple of tables in the Insight survey I was able to reconstruct by and large the distribution of gallons sold for the exterior flats category.

I then tried to by several means reproduce their calculations and their estimates of emissions reductions. And I found it was impossible to do through any accepted statistical calculations to reproduce the values that they have there.

I then inquired at the National Paints and Coating Association and with Ms. Harding as to whether they knew what the formulae were that were used for this and was told no. So we have a situation where certainly the estimation of emissions reductions is anything but transparent and apparently there is no one around or can be identified who actually did it and can describe the logic behind it.

Therefore, I conclude that the calculations presented in the Pechan report with regard to the coatings are of doubtful utility, certainly not reproducible and certainly not transparent and therefore do not meet the OMB guidelines for the dissemination of information for the

adoption of regulation.

Now, I have also reviewed the California Air Resources Board survey results, not all seven years or seven surveys but the last three and find that they have taken pains to reduce their nonresponse rate according to accepted methodology, have gone out and followed up on survey results. Therefore, any bias that might be introduced by nonresponse can at least be objectively looked at.

The calculations, although the reports still have the confidentiality problems, any of the calculations or data, because of a permanent staff existing at the Air Resources Board can be overcome. I'm sure that they can all be reproduced and I have looked at the calculations that Ms. Harding has performed and certainly can follow the logic and they are transparent.

So it's my conclusion that the Pechan report and subsequent estimation of emissions would not meet the OMB guidelines. The industry calculation is based on the California data would indeed meet the OMB guidelines.

MR. LUTZ: Thank you, Mr. Splitstone. I would like to introduce into the record four documents.

Actually, one of them is Mr. Splitstone's report which explains what he said is attached at Exhibit Number 5 to our submittal and I have here with me a copy of the guidelines for ensuring and maximizing the quality, objectivity, utility and integrity of information disseminated by the Environmental Protection Agency. I will give that to the hearing officer.

I also have the Federal Register dated February 22nd, 2003 which are the OMB guidelines that are to be followed by each federal agency in adopting regulations and a notice of Public Law 106554 which is the law that requires the Office of Management and Budget to adopt these regulations.

I would like to make a few closing remarks on behalf of Sherwin-Williams and point out one thing. I think the most important point anything the department should get out of Ms. Harding and Mr. Splitstone's testimony is that there is probably going to be as a result of this regulation not a 31 percent reduction in emissions of VOCs but a 51 percent reduction in emission of VOCs. Even if relief is given to the 12 categories that we have requested it's going to be around 50 percent not 31

percent.

That gives the Department considerably more leeway and flexibility with meeting its SIP requirements for the Baltimore and Washington metropolitan areas which is extremely important obviously. I'd also like to point out two more things that I don't think the Department has considered and should.

This basically has to do with what is going to happen to the citizens of the state of Maryland if this regulation goes into effect. Ms. Harding testified about the performance problems and the fact that there are no suitable substitutes and waterborne products just don't perform to the satisfaction of the customers and the appliers.

No consideration has been given to the thousand or more jobs in Maryland who are now being occupied by folks in the state of Maryland who install hardwood floors, sand them, stain them and finish them. No consideration has been given. And it may be more than a thousand. I mean, the three people who are not here who were going to testify were going to testify exactly about this. They were going to -- and the comments should be coming in -- were going to

confirm Ms. Harding's conclusions that waterborne substitutes are not suitable for doing floor staining and other uses that Pechan said there was no problem.

And there are a lot of people in this state. I mean, not only do they install the floors and stain them and finish them but as you all know, hardwood floors are becoming more and more popular. The finish on those hardwood floors do not last forever and people, citizens of the state of Maryland, will be demanding that they get refinished.

And if this regulation goes into effect no one will be able to refinish these floors basically even with the small quantity exemption that's in there. It's practically impossible. You're not going to use liter containers to do this. These are professional people who have jobs, who go about finishing and installing and staining and finishing floors.

So I expect that there will be written comments by those folks who were going to testify today. And of course, no consideration has really been given to the owners of the homes who want hardwood floors and want to have them refinished, want to have them installed, et

cetera. I did that myself very recently, had that done. And that should be something that should be taken into consideration because they will not be able to be repaired, maintained and refinished properly if this rule goes into effect.

In summary, we do not believe that the agency has done what it really needs to do, conduct its own independent analysis of this rule to see how it will affect the citizens of this state.

The Department has basically taken a model rule that was supposed to be utilized for all the states in the Northeast but there are vast differences between what happens in the Northeast in terms of temperature, humidity, et cetera, and what the weather and everything else is like in California, which is one of the bases for the SCM. It's California's SCM but things in California are a lot different than they are in the northeast United States.

We think the much better approach is to look at the reliable data that Mr. Splitstone testified to and extrapolate what the real emissions savings are going to be as a result of using the reliable data and we think the State will find that its emissions savings are considerably

more than what was predicted by OTCs consultant, Pechan. If there any questions we'd be happy to answer them. If there are no questions, thank you, very much.

MS. RABIN: Thank you, very much. Would anyone else like to comment?

MR. SELL: I would. Hearing officer, my name is James Sell. I'm senior counsel with the National Paint and Coatings Association and I want to provide some background information about a number of the coatings that are at issue here this afternoon. I endorse what Sherwin-Williams said. They are members of the NPCA and we work closely with them throughout this process. Just by way of background information NPCA is comprised of approximately 400 member companies throughout the United States and also internationally.

And a number of these coatings manufacturers manufacture consumer paint products and industrial maintenance coatings. Also, we have members who provide the raw materials for these coatings. So we have a fairly good handle on how these coatings are made, their performance characteristics and the technology necessary to have them perform adequately.

Also, we have a great interest in the proposed rule obviously. As the preeminent organization representing the coatings industry in the United States, NPC has been extensively involved in the development of environmental regulations affecting the industry.

Over the last 20 years this involvement has increasingly included clean air issues. It would be a mistake however to assume that the industry had been idle in this connection prior to the establishment of the clean air regulatory developments. Its efforts to reduce solvent materials from coatings long predate the federal and state clean air regulatory requirements.

Beginning with the end of World War II this industry began to introduce latex and waterborne coatings. The coatings now represent over 80 percent, over 80 percent of the architectural or residential coatings applied today in the United States.

Additionally, waterborne coatings are finding their way increasingly into industrial and commercial and OEM coatings applications. In other words, the technology has made great strides since the end of World War II and moreover it is expected to continue to improve in the

future.

There are very simple economic reasons for this movement aside from regulatory demands for lower solvent paint. First and foremost our customers prefer to use it for among other reasons of low odor and also its ease of cleanup.

Secondly, our members prefer to make it. Water costs less than solvent and you don't have the flammability issues in your plants when you're using water as opposed to solvent material. So even without the Clean Air Act requirements these advances would have occurred.

More importantly, this industry's R and D is a constant exercise to improve a coating's acceptability and competitiveness in the market. Our industry is intentionally competitive with relative low margins and with the overall demand for coatings strictly tied for the most part to population growth. Reduced solvent content is a major needs for achieving product performance in this very tough market so long as it does not compromise coatings performance.

Ms. Harding has given you a number of examples of where the VOC limits in this proposed rule, in fact,

compromise coatings performance. There are other examples which she did not allude to because she was concentrating on a particular sector, the Sherwin-Williams coatings market, but the issues that she is raising for those particular coatings also apply to a number of other coatings in the rule.

This last point about compromising product performance is an extremely important one and it is important not only from the perspective of product warranties but also from the perspective of improving clean air itself. It stands to reason that if a coating must be applied more often or does not last as long -- all performance characteristics Ms. Harding alluded to and pointed out -- there will be more recoating.

Even if this is with a lower VOC coating the net result will be an actual increase in VOC emissions because more of the coating is being used.

The expectations of regulations can sometimes exceed the realistic possibilities of a coating's technology where too low of a VOC limit can actually eliminate better performing, viable low VOC waterborne coatings.

We believe the proposed AIM rule does this, sacrifices key performance characteristics of coatings in the pursuit of lower VOC coatings that will not, in fact, deliver a net reduction in VOC emissions. Instead they will increase VOC emissions and simultaneously impose higher costs on the end users and the public.

Let me give you an example in addition to the ones that Madelyn provided. one of our coatings manufacturers has developed a material that was identified in July 2002 Consumer Reports as being excellent in all categories of performance including toughness and hiding.

These two features mean that this particular coating has fewer VOC emissions both in the application of the coating because of the high coverage capability and also in the recoating because it is more durable. These coatings cannot be made at the VOC limit specified in the Maryland proposed rule.

I'm concentrating on waterborne coatings in this discussion because this is the technology through which most of the VOC emissions reductions have and will continue to be achieved by our industry. But the performance problems that the low VOC limits specified in the Maryland

rule demonstrate that there are limits as to how far the waterborne technology can be pursued or pushed.

Included in our materials is an excellent article written by a manager from Rohm & Haas which is an international supplier of paint raw materials. And this particular company has taken an extremely aggressive development posture with respect to developing waterborne resins and materials to make these coatings.

Besides being a very good basic primer on the ways and wonders of waterborne technology it also contains a very honest assessment of the performance trade-offs that will occur with the technology as it exists today and for the foreseeable future.

He discusses, for example, the soft binders required of low solvent waterborne coatings and states that in contrast when you formulate with a waterborne softer binders it forces low solvent paint makers to make some very difficult choices. These choices can be as between to obtain good hardness and block resistance low temperature film formation may not be possible.

And that's an important statement. In order to get the durability factors low temperature film formation

may not be possible. What he's talking about there is the ability to apply that coating in a relatively cooler environment in your late fall periods and in your early spring periods.

That has a direct impact on ozone formation because as we all know ozone only gets formed in the hot months during the summer. So what he's trying to indicate here is that some of these coatings if you push them too far will not be able to be used in these low temperature months and are now going to be crowded into the high temperature months where, in fact, there is ozone formation.

He also talked about some of the detrimental effect on scrub resistance which is crucial in kitchens and children's rooms and the like. He also notes that the absence of other solvents such as glycol makes freeze-thaw stability highly problematic. That's a central issue in this part of the country because freeze-thaw of waterborne coatings if they're exposed to weather conditions below freezing and they don't have sufficient solvent in them they will actually go south in such a way that you cannot use the material at all.

Now, there have been companies within our membership and elsewhere that have made a determination that they're going to, to some degree, jettison some of their freeze-thaw stability in order to preserve these other crucial aspects of the coatings because the materials in the VOC levels that are being specified by these rules are forcing those kinds of hard choices.

We have raised that issue but it's never been examined in terms of what is the impact upon the energy consumption and the energy usage where you now have to heat trucks more often when they're traveling in the winter. You have to heat your warehouses more often.

Those kinds of things we think would have been examined in a well-thought-out rule that evaluated all of the costs and the consequences of going to some of these lower VOC materials but unfortunately that did not occur in the CARB survey. It did not occur at the OTC level and it didn't occur here in Maryland.

Another important aspect of this article and I really recommend that you read it the manager concludes that progress over time will be made into performance gap between conventional and low solvent chemistry will

diminish. The term he uses is diminish. I think that's a very interesting choice of words. Here is a knowledgeable individual with every economic incentive -- his company after all is making these materials -- to want to really push them.

And he has every economic incentive to say that this difference will in fact disappear completely but still because he's an honest broker of information says they're going to diminish over time. So these differences are going to stay with us between waterborne and solvent-borne technologies.

Moving to the very low waterborne technology in the manner of the proposed rule of Maryland carries with it the potential acceptance of a number of these trade-offs of the type described and discussed in the Rohm & Haas article and also the type that Madelyn mentioned.

None of these real world consequences were examined in the Maryland rule-making. Instead they are ignored or assumed away. And they are assumed away largely on the basis of an uncritical adoption of limits in a rule that was adopted in California, a state with much more benign weather than Maryland, a state in which freeze-thaw

is not an issue in its most populated areas, a state in which cold temperature applications and durability of coating under the yearly extreme temperature swings in this state are not an issue.

In the high population centers of California, its coastline area and nonmountainous areas, there are no freeze cycles at all. Last year there were none. In contrast Maryland had over a hundred.

Also, it's noteworthy that Rohm & Haas maintains two separate field testing and exposure stations in these areas, one in California and one in the Northeast precisely because of the radical different climatic conditions.

The Maryland rule-making reflects its reliance on the fact findings of the underlying California rule-makings including the cost associated with the rule's limits.

But surely even if one wishes to emphasize that indeed California does have cold winters in its mountainous areas and thus could affect coatings there a common sense evaluation of the relative impacts on the coatings because of weather conditions between Maryland and California would have to take into account that most of these coatings are being applied in an area where they have no freeze

temperatures at all, would have to recognize the very large relative difference, a difference that matters, a difference that has tremendous implications for the cost of these coatings and also for the clean air that's going to result.

This was not done in the rule-making. Consequently, we think it is fatally flawed in its evaluations of costs on industry, the consumer, small businesses and its evaluation of environmental consequences for the state.

Additionally, the reliance on California's assessment of the availability of coatings at the low VOC level also ignores the fact that even in California there is substantial amount of product that are bought at the higher VOC levels that are not reflected in the rule and this results because they have exemptions and they have averaging programs out there.

The averaging program is not allowed under the Maryland rule. Nowhere in the record is there any examination of why such products in California are still used and demanded if, in fact, the coatings at the lower VOC levels meet all of the performance requirements that

are needed.

This is even more puzzling in the face of the widely recognized fact that all things being equal, consumers greatly prefer using lower VOC products, primarily waterborne.

Also uncritically accepted in the Maryland record is the so-called performance testing that was conducted in California for some of these coatings. We will have more to say about this in our written comments but suffice it to say for now that these tests were poorly conducted and the conclusions reached on the basis of them were not supported by the facts and in our view in many cases were preordained.

They wanted to find the lower VOC coatings worked in fact. They conducted tests in a way that a coatings manufacturer would not conduct a test and bring a coating to market under those circumstances. And frankly, if you take a look at the conclusions that were reached they cherry-picked in many of these instances.

In addition to that, never have they ever performed through any of the tests one of the most crucial tests a coatings manufacturer will do in bringing a coating

to market and that is to actually take the coating and apply it field conditions. That's essential, particularly for outside coatings applications. And as Madelyn pointed out, too, they actually have a school where inside applications in which there was a field test.

The reason it is important that the coating be applied in the environmental conditions that it is going to be used under is that those environmental conditions can drastically affect the performance of the coating. If they take it out and they apply it in a certain day where there's a lot of humidity in the air and it's a waterborne coating that can have an impact on dry times. It can have an impact on the adhesion of the coating and the like.

If you simply take an apply a coating under the pristine conditions of a lab, which is what they did, and allow those lab -- those boards to cure for six months and then take it outside and expose it to the elements that's not what a paint manufacturer would do. And they certainly wouldn't make 10,000 gallons and go to the public with that kind of test behind it.

The National Paint and Coatings Association has developed an alternative table of standards that also

incorporates waterborne technology for many important large volume coatings such as flat and nonflat coatings but our suggested table of standards minimizes these trade-offs while securing additional VOC emissions reductions beyond those achieved by the National AIM Coatings VOC rule.

Additionally, our proposal would continue the use of solvent-borne materials for stains and certain primers and Cedars. Our limits we estimate would secure in excess of the emissions purportedly secured by the Maryland rule even under the assumptions used by Maryland.

In considering this issue we ask that you read the submission made by Sherwin-Williams and the information that was provided to you today in which the issue of the Pechan report has come up and upon which the OTC in Maryland has relied to estimate the VOC emission reductions it expects from the OTC model rule.

I think Sherwin-Williams has convincingly demonstrated that the emission reductions calculated in the Pechan report upon which Maryland relies for the efficacy of its proposed rule understates the actual emissions that will be achieved.

The data if properly calculated supports

acceptance of our table of standards and suggests that the emissions reductions resulting from the implementation of our table of standards will definitely exceed the 70 percent plus figure we have provided.

It has been suggested that the VOC limits of the Maryland rule are now going into effect in California and if there are problems with these coatings they will surface in sufficient time to make any needed corrections in the Maryland rule which will go into effect in 2005.

This is a false insurance policy. First, as noted, the impact of California weather is radically different. Second, the performance problems with which we are concerned, such things as durability, take more than two years to manifest themselves.

And finally, many of the higher VOC coatings as I mentioned earlier will still be allowed through exemptions and averaging programs that will allow the sale of the higher VOC noncompliant coatings, an averaging program which I again emphasize is not permitted under the Maryland rule.

So in point of fact this so-called experiment or real test of these lower VOC coatings will not be performed

adequately in California. It will occur in the hothouse environment of California. Instead it's going to be conducted here in Maryland in 2005 with all the potential problems no longer hypothetical but real and current.

For those reasons we would ask Maryland to reconsider its proposal and to go back to the drawing board, incorporate some of the suggestions we have made, our table of standards, evaluate them realistically in light of the kind of information that has been provided by Sherwin-Williams concerning the calculation of the VOC emission reductions and essentially give this more time and take a closer look at it and really evaluate it truly in the context of a coating from California, limits that are going to be applied here in Maryland as opposed to limits that were established in California. That concludes my remarks. I'll be glad to take any questions.

MS. RABIN: Thank you very, Mr. Sell.

MR. SELL: Thank you.

MS. RABIN: If those present would like the Department could reconvene this meeting, this public hearing this Friday, January 28th at 10:00 a.m. to accommodate those who were not able to attend today.

MR. LUTZ: Can I get back to you later this afternoon on whether or not at least the people that I was told are willing to attend? Randy Lutz for the record.

MS. RABIN: Let the record reflect that we will be trying to reconvene on Friday January 28th at 10:00 a.m.

MR. LUTZ: It would nice if the Department could post on their web site or somewhere some notice of that because I may not -- the people who contacted me may not be the only people who wanted to be here and those who otherwise may have wanted to be here I think would look to see whether or not there are additional opportunities. I appreciate that.

MS. RABIN: I'm sorry. Friday the 30th. Correction. This portion of this meeting is now concluded.

(Whereupon, the hearing was adjourned at 12:13 p.m.)

CERTIFICATE OF REPORTER

I, Deborah Turner, CVR, do hereby certify that the foregoing proceedings were electronically recorded by me via audiotape and reduced to typewriting under my supervision; that I am neither counsel for, related to, nor employed by any of the parties to the action in which these proceedings were transcribed; that I am not a relative or employee of any attorney or counsel employed by the parties hereto, nor financially or otherwise interested in the outcome in the action.

DEBORAH TURNER, CVR

My commission expires: 02/01/2006

EXHIBIT 4

Increase in limit => increase in emission reductions

Coating	Base	VOC Range	Upper Limit	Constant Gallons Assumption		Constant Solids Assumption	
				At the Limit	Over the Curve	At the Limit	Over the Curve
Sanding Sealers	SB	301 to 350	350	1,098,835	1,175,573	671,165	671,165
Sanding Sealers	SB	351 to 400	400	797,464	1,158,560	2,023,654	1,002,151
Sanding Sealers	SB	451 to 500	500	197,803	255,245	700,275	703,430
Sanding Sealers	SB	501 to 550	550	20,384	26,778	71,543	73,337
Sanding Sealers	SB	551 to 600	600	10,044	21,506	54,619	62,307
Sanding Sealers	SB	601 to 650	650	3,498	19,166	52,598	58,899
Sanding Sealers	SB	651 to 700	700	1,359	4,920	9,758	13,748
Sanding Sealers	SB	701 and Abo	750	0	0	0	0

Increase in limit => increase in emission reductions

Coating	Base	VOC Range	Upper Limit	Constant Gallons Assumption		Constant Solids Assumption	
				At the Limit	Over the Curve	At the Limit	Over the Curve
Primers	SB	0 to 050	50	32,179,490	37,009,982	37,065,802	37,065,802
Primers	SB	101 to 150	150	22,290,907	35,763,450	30,065,344	36,309,142
Primers	SB	151 to 200	200	17,313,324	21,745,815	**9,999,800**	**26,255,854**
Primers	SB	201 to 250	250	12,377,511	14,575,436	**18,452,542**	**20,584,427**
Primers	SB	251 to 300	300	7,725,934	11,425,909	16,181,155	17,304,263
Primers	SB	301 to 350	350	4,543,494	6,526,545	8,803,733	9,617,325
Primers	SB	351 to 400	400	2,426,909	4,769,765	5,350,151	7,395,238
Primers	SB	401 to 450	450	1,085,863	3,042,817	3,690,160	5,252,259
Primers	SB	451 to 500	500	507,182	1,481,127	1,403,048	2,531,065
Primers	SB	501 to 550	550	203,979	1,025,678	798,240	1,782,821
Primers	SB	551 to 600	600	79,480	273,892	268,290	470,038
Primers	SB	601 to 650	650	41,083	173,095	209,894	305,801
Primers	SB	651 to 700	700	19,534	152,452	145,964	269,404
Primers	SB	701 and Above	750	0	0	0	0

VOC reductions =>negative emission reductions

Coating	Base	VOC Range	Upper Limit	Constant Gallons Assumption		Constant Solids Assumption	
				At the Limit	Over the Curve	At the Limit	Over the Curve
Quick-dry Primers	SB	251 to 300	300	4,162,547			
Quick-dry Primers	SB	301 to 350	350	2,698,270	2,247,529	3,786,233	2,824,345
Quick-dry Primers	SB	351 to 400	400	1,301,649	2,052,301	1,792,405	2,601,080
Quick-dry Primers	SB	401 to 450	450	(12,055)	1,480,357	1,181,820	1,938,055
Quick-dry Primers	SB	451 to 500	500	116,240	212,779	407,475	416,632
Quick-dry Primers	SB	501 to 550	550	75,269	122,096	224,080	247,871
Quick-dry Primers	SB	551 to 600	600	54,503	121,996	213,452	247,701
Quick-dry Primers	SB	601 to 650	650	33,810	119,633	(977,395)	240,733
Quick-dry Primers	SB	701 and Abo	750	0	0	0	0

VOC reductions =>negative emission reductions

Coating	Base	VOC Range	Upper Limit	Constant Gallons Assumption At the Limit	Constant Gallons Assumption Over the Curve	Constant Solids Assumption At the Limit	Constant Solids Assumption Over the Curve
Opaque Stains	WB	0 to 050	50	[redacted]	[redacted]	197,481	197,481
Opaque Stains	WB	051 to 100	100	[redacted]	[redacted]	5,708	40,686
Opaque Stains	WB	101 to 150	150	113,410	16,781	191,194	158,307
Opaque Stains	WB	151 to 200	200	(16,959)	(14,636)	4,513	10,223
Opaque Stains	WB	201 to 250	250	[redacted]	[redacted]	[redacted]	8,598
Opaque Stains	WB	251 to 300	300	2,579	1,645	993	1,955
Opaque Stains	WB	301 to 350	350	0	0	0	0

Increase in limit => increase in emission reductions AND VOC reductions => negative emission reductions

Coating	Base	VOC Range	Upper Limit	Constant Gallons Assumption		Constant Solids Assumption	
				At the Limit	Over the Curve	At the Limit	Over the Curve
Sealers	WB	0 to 050	50	59,207	58,647	246,561	246,561
Sealers	WB	051 to 100	100	248,952	223,939	240,044	240,993
Sealers	WB	101 to 150	150	112,329	141,807	160,965	176,329
Sealers	WB	151 to 200	200		14,659		28,737
Sealers	WB	201 to 250	250				13,816
Sealers	WB	251 to 300	300	2,933	2,505	4,720	5,165
Sealers	WB	301 to 350	350	0	0	0	0

EXHIBIT 5

CALCULATION OF EXPECTED EMISSION REDUCTION PERCENTAGE

	Emissions (tons/day)	Emissions (tons/yr)	2000 Population	Emissions per capita (# /yr)	Emission Reduction (%)
California Survey of 2000 Sales of Architectural Coatings	137	50,002	33,871,648	2.95	
CA statewide net emission reduction after emission reduction adjustments	14				
CA statewide net emission post proposed rule	123	44,895	33,871,648	2.65	
Post-national rule emission factor				5.36	
Final emission reduction percentage (after emission reduction adjustments)					51%

CALCULATIONS OF EXPECTED EMISSIONS REDUCTIONS

	Total Emissions with Thinning (tons per day)	Total Emissions with Thinning (tons per year)	Total 2000 Population	Emissions per capita (pounds per year)	Emission Reduction (Percentage)
California Survey of 2000 Sales of Architectural Coatings	137	50,002	33,871,648	2.95	
California emissions after SCM	115	41,975	33,871,648	2.48	
Maryland					
Population			5,296,486		
MD current emissions, based on Pechan's post-national rule factor		14,195		5.36	
MD should expect emissions after the rule of		6,568		2.48	54%
Correction for industrial maintenance limit difference MD vs CA		6,477		2.45	54%
Emission Reduction Adjustments to CARB rule (using CARB 2000 survey data)					
FLOOR - SOLVENTBORNE		40			
PRIMERS -- FOR EXTERIOR WOOD SUBSTRATES		0			
SANDING SEALERS*		0			
STAINS		119			
CLEAR & SEMITRANSPARENT		0			
VARNISHES*		0			
TOTAL emission adjustment		159			
Maryland - with Industrial Maintenance Limit & Sherwin-williams Issues Satisfied					
Net emissions with rule		6,637		2.51	53%

CALCULATION OF EXPECTED EMISSION REDUCTIONS

	Total Emissions with Thinning (tons per day)	Total Emissions with Thinning (tons per year)	Total 2000 Population	Emissions per capita (pounds per year)	Emission Reduction (Percentage)
California Survey of 2000 Sales of Architectural Coatings	137	50,002	33,871,648	2.95	
Emission Reduction Adjustments to CARB rule (using CARB 2000 survey data)					
FLATS -- EXTERIOR ONLY	0.34				
FLOOR - SOLVENTBORNE	0.70				
INDUSTRIAL MAINTENANCE LIMIT DIFFERENCE (CARB vs OTC)	1.54				
LACQUERS	1.87				
NONFLAT-HIGH GLOSS*	0.00				
NONFLATS - LOW AND MEDIUM GLOSS	0.43				
PRIMERS -- FOR EXTERIOR WOOD SUBSTRATES	0.00				
QUICK DRY ENAMELS	0.68				
QUICK DRY PRIMERS SEALERS UNDERCOATERS	0.32				
SANDING SEALERS*	0.00				
STAINS	2.09				
CLEAR & SEMITRANSPARENT					
OPAQUE					
VARNISHES*	0.00				
TOTAL emission sacrifice	8				
CA statewide net emission reduction after reduction Adjustments	14				
CA statewide net emission post proposed rule	123	44,895	33,871,648	2.65	
Pechan's Report shows a post-national rule emission factor				5.36	
Final emission reduction percentage					51%
Maryland					
Population			5,296,486		
MD current emissions, based on Pechan's post-national rule factor		14,195		5.36	
MD emissions, based on Pechan, post-proposed rule		9,798		3.70	
MD emissions, based on this analysis, post-proposed rule		7,018		2.65	
ADDITIONAL EMISSION REDUCTIONS, even after reduction Adjustments	7.6	2,781			

*CARB claimed 0 reduction -- NPCA recommended limit matches majority of the data

Emission Reduction Adjustments to CARB rule (using CARB 2000 survey data)

Limit	Rule Categories	Emissions (tons/day)
150	Exterior flats	0.34
380	Solventborne Floor Coatings	0.70
340	Industrial Maintenance (Limit difference OTC vs. CARB)	1.54
680	Lacquers	1.87
380	Nonflats - High Gloss*	0.00
250	Nonflats - Low and Medium Gloss	0.43
350	Primers - Exterior Wood Surfaces	0.00
380	Quick Dry Enamels	0.68
350	Quick Dry Primers	0.32
550	Sanding Sealers*	0.00
	Stains	2.09
550	Clear & Semi-transparent	
350	Opaque	
450	Varnishes*	0.00
	TOTAL Emission Adjustment	8
	CA statewide net emission reduction after reduction adjust	14
	CA statewide net emission post-proposed rule	123

*CARB claimed 0 reduction -- NPCA recommended limit matches majority of the data

EXHIBIT 6

MARYLAND DEPARTMENT OF THE ENVIRONMENT

In the Matter of Proposed new Regulations .01-.14 under a new chapter,

COMAR 26.11.33 Architectural Coatings

WRITTEN COMMENTS OF DOUGLAS SPLITSTONE

REGARDING

CONCERNS WITH PECHAN DATA RELIABILITY

January 28, 2004

CONCERNS WITH PECHAN DATA RELIABILITY

D. E. Splitstone
Principal
Splitstone & Associates

In the Data Quality Objectives Act, P.L. 106-554, Congress required the Office of Management and Budget (OMB) to issue government-wide guidelines that "provide policy and procedural guidance to Federal agencies for ensuring and maximizing the quality, objectivity, utility and integrity of information (including statistical information) disseminated by Federal agencies." In accordance with that directive, the OMB set forth the requirements for agencies, defining the term "objective" to mean that, "[w]here appropriate, supporting data should have full, accurate, transparent documentation, and error sources affecting data quality should be identified and disclosed to users." 66 FR 49718. (OMB, September 28, 2001). The regulation continues:

> B. In addition, "objectivity" involves a focus on ensuring accurate, reliable, and unbiased information. In a scientific or statistical context, the original or supporting data shall be generated, and the analytical results shall be developed, using sound statistical and research methods.

In compliance with the OMB's directive, in October 2002 the EPA issued comprehensive Guidelines for Ensuring and Maximizing the Quality, Objectivity, Utility, and Integrity of Information Disseminated by the Environmental Protection Agency. EPA/260R-02-008. The stated purpose of the EPA's Guidelines is to ensure that the agency achieves its mission of protecting human health and the environment by utilizing and disseminating "quality information," which is information that comports with EPA's high standards of Aobjectivity, integrity, and utility." Id. at §§ 2.1, 5.1. The data and methods used pursuant to these standards must be both transparent and reproducible, among other qualities.

Utility

It is my understanding that the basis for the Ozone Transport Commission's (OTC's) Model Rule for architectural and industrial maintenance (AIM) coatings is found in the report entitled Control Development Support Analysis of Ozone Transport Commission Model Rules prepared by E. H. Pechan & Associates (Pechan, 2001) and Pechan's analysis of survey data supporting the conclusions of that report. The survey data relied upon by Pechan is apparently the result of two separate surveys. The results of one survey conducted in 1992-93 by Industry Insights (1993) for the National Paints and Coating Association (NPCA) were employed in estimation of the volatile organic compound (VOC) emissions reduction associated with the proposed rule (Pechan 2001, p. 15). To attempt to assess the market impact of the OTC Model Rule Pechan conducted a survey in 2000-2001 apparently to investigate potential compliance of products on the market at that time.

Neither survey employed a random selection of participants, and each relied heavily on a volunteer response. Therefore, the "representativeness" of the results in regard to the industry and/or any geographical area is in question. Accepted statistical principles and practices require that there

be a random selection of subjects from the target population or sub-population of interest in order to support any claim of representative results.

According to the "Final Draft Report" prepared by Industry Insights (1993) for NPCA, survey forms were mailed to 950 companies identified as possible manufacturers of AIM products. A total of 173 companies responded, only an 18 percent response rate, and of those, 114 admitted to manufacturing AIM products in 1990. The claim is made that this represents 76.6 percent of the total gallons of AIM products produced in 1990. However, while these results may comprise 76.6 percent of the total volume of sales, its representation of the total quantity of VOC emissions is in question. It is likely that the larger manufacturers did respond. They are the producers of lower VOC products, thus perhaps biasing the results toward lower VOCs emitted from existing products than actually occurs.

The market survey conducted by Pechan began with the selection of the "top 31 national manufacturers" for eleven categories of coatings based upon the results of surveys conducted by the California Air Resources Board. Regional manufacturers were added to the target list of companies based upon consultation with NPCA. Thirty-two companies were apparently sent requests for information regarding VOC content and sales volume of their products. Only eighteen of those companies responded. These responses were then used to compare the degree of compliance in the ozone transport region (OTR) with that observed in California. One must question just how representative the 32 companies on the target list are of all manufacturers selling products in the OTR. In truth the target population for this survey is that defined by the sample selected. They are the larger manufacturers. Inferences regarding the percent compliance must be limited to this population.

Apparently no attempt was made in either survey to deal with the widely recognized survey sampling issue of "nonresponse." Although I do not claim to be an expert in survey sampling, I am aware that a nonresponse bias often exists and it is a function of the proportion of nonresponse (See for instance Cochran 1963, pp 355-389). Given the lack of specificity in clearly defining the population for which inferences from these surveys can be made and the possible existence of nonresponse bias one must question the utility of these results to the AIM rule-making process.

Reproducibility and Transparency

Pechan indicates that the 31 percent VOC emissions reduction claimed for implementation of the AIM Coatings model rule was computed using information from data provided by the Industry Insights Survey (Pechan 2001, p.15). The link between the claimed reduction and the data is allegedly provided by a spreadsheet identified as AIMCalc.wk1 transmitted to Mr. Bob Nelson of NPCA as an email attachment by Mr. Daniel S. Brinsko of NYSDEC on May 15, 2001.

Based upon my review of this spreadsheet, review of the Insight Survey, and telephone discussions with Mr. Bob Nelson and Ms. Madelyn Harding, the following is my understanding of the content of this spreadsheet. The block defined by rows 12 through 113 and columns A through Z provides a lookup table giving various control scenarios. Rows 133 to 708 contain the calculation of VOC emissions reduction by coating (column A), base (column B) and regulatory VOC range in 50

grams per liter (g/l) increments. The actual VOC emissions in pounds per year (lbs/yr) for each coating as reported by the Insights survey are given in column D. The upper limit of each VOC range is given in column F.

It is my understanding that the estimated possible cumulative emission reduction in lbs/yr for each VOC range and emission scenarios identified as "At the Limit" and "Over the Curve" under the "Constant Gallons Assumption are given in columns F and G, respectively. Similarly, the estimated possible cumulative VOC emission reduction for "At the Limit" and "Over the Curve" under the "Constant Solids Assumption" are given in columns, H and I respectively.

The estimated VOC reductions in lbs/yr given a control scenario are presented in columns K through N for the corresponding emission scenarios presented in columns F through I. The estimated VOC reduction given in column K through N is simply the selection of that value of cumulative emissions reduction from the corresponding column F through I and that row where the upper bound of the regulatory VOC range is less or equal to the limit specified by the proposed control scenario.

I have discussed the calculation of the cumulative emission reductions presented in columns F through I with Mr. Bob Nelson and Ms. Madelyn Harding. Their understanding of what was done together with my review of the various reports and information available leads me to conclude that the logic behind these calculations is anything but transparent. Logically the maximum emission reduction for any scenario would be the total estimated emissions. Therefore, one would logically expect at least one of the values in columns F through I and the first row of a coating/base combination to be the same as the actual estimated emissions for that coating/base combination. The only time this is true is for Bituminous Coatings/Solventborne.

Given the possibility that the previous logical expectations were false, I have tried to reconstruct the cumulative emission reduction for the "Constant Gallons Assumption" (columns F and G) for the Exterior Flat/Solventborne category. Given the data presented in the Industry Insights report this category seemed the least troubled by gaps due to confidentiality consideration. Various scenarios were considered including all gallons estimated at the low, or alternatively the high, limit of the VOC range. None of these attempts to reproduce the results have come close to the numbers presented. The logic used to derive these estimated cumulative emission reduction remains unknown. Indeed what ever reasoning was employed defies logical expectation as it has resulted in negative emission reductions in several instances. This is notable for column "H" for lines 397, 433, 467, 468, 547 and 623 which serve as the basis for Pechan's emission reduction claim for the Model Rule.

In addition to the lack of transparency in estimating the VOC emission reduction, it is indeed doubtful that the results could be reproduced from the available information even if the methods of calculation were known. The confidential nature of the Insights survey data resulted in not reporting data when it might compromise that confidentiality. Thus there are various data gaps which may never be filled and/or overcome due to the fact that the persons or persons responsible for the data storage and summarization are no longer available according to Mr. Bob Nelson of the NPCA. The NPCA retains only a hard copy of the report of the survey results prepared by Industry Insights, Inc.

My review of the Industry Insight survey report tables revealed several instances in which the sales weighted "Actual VOC" emissions in pounds per gallon were not consistent with the VOC ranges given. These ranges are based upon the regulatory VOC content in grams per liter that subtracts the volume of water and exempt solvents from the denominator volume. Because the volume of water and exempt solvents is not subtracted from the denominator in calculating the sales weighted "Actual VOC" emissions the "Actual VOC" emissions must always be less than the regulatory VOC content when the units are consistent.

There are several cases within the tables presented in Volume I where the sales weighted "Actual VOC" emissions are greater than the upper limit of the regulatory VOC content range in which they appear. This obviously brings into question the quality assurance employed in the data tabulation of the Industry Insights survey report. Obviously, some anomalies regarding the emission classification of products occurred. The effects these potential mis-classifications have on the estimation of emission reductions based upon the Model rule is anyone's guess.

AIM Surveys Conducted by the CARB

The California Air Resources Board (CARB) has conducted surveys of the Architectural Coatings Industry at least seven times between 1976 and 2001. The California surveys include all sales of all products. It is apparent from their report that CARB conducted some follow-up on the nonresponding companies. These follow-up contacts solicited the reason for not responding. They included: 1) The company did not manufacture architectural coatings; 2) The company had no sales in the State of California during 2000; or their sales were reported by another company. The response rate for the 2001 survey was 75 percent as compared to an 18 percent response rate for the Industry Insights survey. The response rate to the 2001 CARB survey represents an increase over previous CARB surveys. The multiple surveys permit an objective assessment of the effect of nonresponses on the results.

Because the CARB staff has conducted multiple surveys and remains custodians of the resulting data, it is quite likely that calculations performed employing data generated as a result of these surveys are well documented and reproducible by the CARB staff or an independent party. Of course, said independent party must be subject to the confidentiality restrictions acceptable to the CARB and effected industry. The bottom line is that the utility of the CARB survey results can be objectively assessed and these results appear to be reproducible. Any data summarization has been well documented and transparent.

Sherwin-Williams' Estimate of Emission Reduction

I have reviewed the calculation of estimated emission reduction prepared by Sherwin William's staff and submitted as part of the record and found them to be well documented and based upon the use of credible survey results. The translation of the CARB survey results from California to the OTR using per capita emission rates is fully supported by EPA guidance (Radian 1995).

Summary Comment

It is my professional opinion that the supporting evidence for the OTC Model Rule for the AIM coatings provided by the Pechan report does not meet the criteria specified by the OMB for information to be used in rule-making. Specifically, the utility of the results is in question. How the resulting estimated emission reductions were achieved is anything but transparent. Even if they were, the data are not available so that an independent party could reproduce the results. The results of the Sherwin-Williams' proposed alternative instead of calculations of emission reductions is reproducible, transparent and its utility can be objectively assessed.

Respectfully submitted,

/s/

Douglas E. Splitstone

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EXHIBIT 7

DOUGLAS E. SPLITSTONE

CREDENTIALS

Douglas E. Splitstone, Principal of Splitstone & Associates, has more than 35 years of experience in the application of statistical tools to the solution of environmental problems. He has served as a member of the Task Group on Epidemiology and Statistical Methodology for the USEPA's Center for Environmental Epidemiology at the University of Pittsburgh's Graduate School of Public Health; a member of the Peer Review Group, Salt Host-Rock Portion of the Department of Energy's Civilian Radioactive Waste Management Program for Argonne National Laboratory; a faculty member of the 1992 Health Physics Society's Annual Summer School; and a member of the adjunct faculty at The Pennsylvania State University and Indiana University of Pennsylvania. He has been a consultant to the USEPA's Science Advisory Board having served on the Air Toxics Monitoring Subcommittee; the Contaminated Sediments Science Plan review panel and the Environmental Engineering Committee's Quality Management and Secondary Data Use Subcommittees. His efforts in the application of statistical techniques to environmental problem solving were recognized by the American Statistical Association in 1993 with the award of the Distinguished Achievement Medal by the Section on Statistics and the Environment. He holds the degree of Master of Science in Mathematical Statistics awarded by Iowa State University in 1967.

TESTIMONY PRESENTED IN THE PAST

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DeBaca, et al. v. ASARCO, Inc., Civil Action No. 97CV6180, District Court, City and County of Denver, State of Colorado.

United States of America v. WCI Steel, Inc., Case No. 4:95CV1442, U.S. District Court, Northern District of Ohio

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Nu-Car Carriers, Inc. v. Nutshell, Ltd., Civil Action No. JH-89-2676, U.S. District Court, Maryland.

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EXHIBIT 8

WILLKIE FARR & GALLAGHER LLP

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June 2, 2004

VIA FACSIMILE (202-501-0986)/FEDEX

Jeff Holmstead
Assistant Administrator
Office of Air and Radiation
U.S.E.P.A.
Ariel Rios Building
1200 Pennsylvania Avenue, N.W.
Washington, D.C. 20460

Re: Request for Peer Review of the Ozone Transport Commission Model Rule for Volatile Organic Compounds for AIM Coatings as a Highly Influential Scientific Assessment Under OMB's Information Quality Bulletin for Peer Review

Dear Mr. Holmstead:

This letter is submitted, on behalf of The Sherwin-Williams Company ("Sherwin-Williams"), to request that the Environmental Protection Agency (EPA) undertake a peer review of the highly influential scientific Model Rule by the Ozone Transport Commission (OTC) that revised the standards for Architectural and Industrial Maintenance (AIM) Coatings. Various States have used the Model Rule as the basis for their State Implementation plans (SIPs) revising standards for the volatile organic compounds (VOCs) for AIM coatings and for the state rules submitted in support of such revisions. The data analysis underlying the Model Rule and thereby the SIP revisions, relies upon flawed data analysis. We request peer review of the information submitted in support of the Model Rule, including the analysis and data found in the report prepared by E.H. Pechan & Associates in 2001 (the "Pechan Report").

The Information Quality Bulletin for Peer Review released by OMB this April requires that each agency have a "peer review conducted on all influential scientific information that the agency intends to disseminate." *See* Bulletin for Peer Review at § II. 1. The Model Rule is a highly influential scientific assessment in that it "could have a clear and substantial impact on important public policies (including regulatory actions)." *Id.* at § III. 1. Consequently, the agency must adhere to specified peer-review procedures. Additionally, the peer reviewers must prepare a report that

describes the nature of the review as well as their findings and conclusions. *Id.* at § III. 5. The agency must then prepare a written response to the peer review report, and the agency must make both documents available for public review and include the documents in the administrative record for any related agency action. *Id.*

EPA has not undertaken a peer review of the Model Rule, and no State has independently reviewed the data underlying the Model Rule. Moreover, under Section 183(e)(9) of the Clean Air Act, EPA must consult with States prior to the adoption of State regulations and must place rules and other information in support of such rules into a "clearinghouse" for dissemination to States. We believe that a peer review and consultation by the agencies will serve to identify the information quality issues related to the Model Rule and meet the goals of Section 183(e) to promote consistent national treatment of interstate consumer products, such as the paints, stains and varnishes, impacted by the Model Rule. Further, such peer review will seek to resolve information quality issues *before* the SIP is approved and required to be "disseminated" pursuant to the "clearinghouse" provisions of Section 183(e)(9).

Clearly, the Model Rule is highly influential scientific information, whereby States are seeking to impose numerous emission limitations that will be more stringent than the corresponding limits in EPA's regulation. Therefore, I request that OMB require a peer review of the Model Rule and its underlying data to ensure that the quality of data meets the standards of the scientific community.

Sincerely,

E. Donald Elliott

cc: Paul Noe, Office of Management and Budget
Jane Kenny, Regional Administrator, Region 2
Don Welch, Regional Administrator, Region 3

EXHIBIT 9

CALCULATION OF EXPECTED EMISSION REDUCTION PERCENTAGE

	Emissions (tons/day)	Emissions (tons/yr)	2000 Population	Emissions per capita (# /yr)	Emission Reduction (%)
Post-national rule emission factor				5.36	
California Survey of 2000 Sales of Architectural Coatings	137	50,002	33,871,648	2.95	
California emissions after the SCM	115	41,975	33,871,648	2.48	
Emissions after correction for industrial maintenance coatings	116.5	42,537	33,871,648	2.51	
Emission reduction per person after correction (5.36-2.51=2.85)				2.85	
Emission reduction percentage (2.85*100/5.36-53%)					53%

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