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IRRC


From: Jim Sell [JSell@paint.org]
Sent: Wednesday, September 10, 2003 10:27 AM
To: IRRC


 AIM Oral
Statement.doc


 Composite TOS
PA-NPCA-SCM-OTC.


 NY AIM
Comments.doc


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comment.doc

 DEL CLOSING
ARGUMENT.doc

 scaqmd aim tech
status report ...

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final1.doc

 del final comments
cover doc.d...

 otc dec 11
submission.doc

Dear Sirs:

I have attached my testimony for the 9/12 hearing as well as supporting documentation. Previously filed testimony for other OTC states and with the OTC itself is included in that the Pa rule follows the OTC model.

I suggest you start with the first two documents below.

Thanks,

Jim Sell

<<AIM Oral Statement.doc>> <<Composite TOS EPA-NPCA-SCM-OTC-PA.doc>>

<<NY AIM Comments.doc>> <<OTC aug comment.doc>> <<DEL CLOSING
ARGUMENT.doc>> <<scaqmd aim tech status report comments.doc>> <<carb aim
comments final1.doc>> <<del final comments cover doc.doc>> <<otc dec 11
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September 10, 2003

**Remarks of the National Paint and Coatings Association
to the
Pennsylvania Independent Regulatory Review Commission
September 12, 2003**

**Jim Sell
Senior Counsel, NPCA**

NPCA is a voluntary, non-profit industry association established in 1888. It is comprised today of over 400 member companies which manufacture consumer paint products and industrial coatings, and the raw materials used in their manufacture. NPCA's member companies account for about 95% of the architectural and industrial maintenance (AIM) coatings sold in the United States. Consequently, we have a great interest in the proposed rule.

As the preeminent organization representing the paint and coatings industry in the United States, NPCA has been extensively involved in the development of environmental regulations affecting the industry.

Over the last twenty years, this involvement has increasingly included clean air issues.

However, it would be a mistake to assume that the industry had been idle in this connection prior to the establishment of clean

air regulatory requirements. Its efforts to reduce solvent materials from its coatings long predate the federal and state clean air regulatory regimes of the 1960s.

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

Additionally waterborne coatings are finding their way increasingly into industrial, commercial and oem coatings applications. The technology has made great strides since the end of World War II and is expected to continue to improve.

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, because of its low odor and ease of clean up.

Secondly, our members prefer to make it. Water costs a great deal less than solvent and reduces plant safety issues.

So even without the clean air requirements, these advances would have occurred.

The industry's R&D is a constant exercise to improve coatings' acceptability and competitiveness in the market. Our industry is intensely competitive with relatively low margins and with the overall demand for AIM coatings strictly tied to the population growth. Reduced solvent content is a major means for achieving product preference in this very tough market -- so long as it does not compromise coatings performance.

This last point about compromising product performance is a very, very important one. And it is an important one not only from the perspective of product warranties, but also from the perspective of improving clean air. It stands to reason that if a coating must be applied more often or does not last as long, there will be more repainting. And even if this is with a lower VOC coating, the net results will be an actual increase in VOC emissions because more of the coating is being used.

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

We believe that the proposed AIM rule does this – sacrifices key performance requirements of coatings in the pursuit of lower VOC coatings that will not deliver on net reductions in VOC emissions. Instead they will actually increase those emissions – and simultaneously impose higher costs on end users and the public.

For example, one of our members has developed a waterborne low temperature flat coating -- a waterborne flat coating that can be applied at low temperatures. Flat coatings is are high volume usage AIM coatings and are applied to exterior siding and trim and interior walls. The fact that this particular coating can be applied at low temperatures means that it can be used in the early spring and late fall, when there is no ozone formation. The flat coating VOC limit in the proposed rule is too low for this coating to be made and still achieve its performance requirements. In addition to imposing an economic hardship on painting contractors by limiting their painting season, more painting will have to occur in the summer at the height of the ozone formation season.

An example of where the rule combines to impose additional costs on end users and increased VOC emissions is its elimination of the higher quality water borne coatings. Valspar and NPCA member company makes a flat and low-luster water borne interior coating (American Tradition) that was recently identified by the July 2002 Consumer Reports as being excellent in all categories of performance, including toughness and hiding. These two features mean that fewer VOC emissions will occur in the use of this coating first in its initial application because less will have to applied to achieve hiding or coverage, and second in the long term because its excellent toughness means that it will hold up longer. The coatings cannot be made at the VOC limit specified in the Pennsylvania rule nor can it be

reformulated to achieve its excellent qualities at the specified limit.

The coatings I mentioned above are water borne coatings. This is the technology through which most VOC emission reductions have and will continue to be achieved. But their performance problems at the low VOC limits specified in the Pennsylvania rule demonstrate that there are limits to how far waterborne technology can be pushed.

There is an excellent article on this written by a manager from Rohm & Haas, an international supplier of paint raw materials and a company that has taken an aggressive development course for waterborne materials. Besides being a good basic primer on the ways and wonders of waterborne technology, it also is an honest assessment of the performance trade-offs that occur with the technology as it exists today and for the foreseeable future.

He discusses the softer binders required of low solvent waterborne coatings:

In contrast, formulating with softer binders forces low-solvent paint makers to make some difficult choices. If they obtain good hardness and block resistance through such mechanisms as heterogeneity and cross linking, low temperature film

formation may not be possible.” (That is the ability to apply the paint in relatively cold weather .)

Also he says the use of heterogeneity and a cross-linking mechanism typically has a detrimental effect on scrub resistance. (Scrub resistance is the ability of a coating to withstand hard scrubbing, such as occurs in kitchens and children’s rooms.)

He also notes that the absence of other solvents such as glycol makes freeze/thaw stability highly problematic, which is another issue of more concern in Pennsylvania. Freeze thaw stability is the ability of a waterborne coating to withstand freezing without being destroyed --- an issue for all waterborne coatings being moved and stored in this state during the winter. Some in our industry have decided to abandon this performance characteristic in order to use the limited solvent allowed under limits like those in the Pennsylvania rule to remedy other performance problems. What this means is that trucks carrying such coatings will have to be heated as will warehouses, etc. And this will impose added costs not only on the manufacturer/shipper, but on the end user too and on society in the form of more energy consumption. None of these costs or consequences are considered in the rulemaking.

The Rohm and Haas article concludes that progress over time will be made and the performance gap between conventional and low solvent chemistry will diminish.

I think that is an interesting choice of words --that it will diminish. Here is a knowledgeable individual with every economic incentive to want this difference to disappear completely but still predicts it only will diminish over time.

So these differences will stay with us.

Moving to the very low waterborne technology in the manner of the proposed Pennsylvania rule carries with it the potential acceptance of a number of trade-offs of the type discussed in the Rohm and Haas article.

None of these real world consequences are examined in the Pennsylvania rulemaking. Instead they are ignored or are assumed away. And they are assumed away largely on the basis of an uncritical adoption limits in of a rule that was adopted in California – a state with much more benign weather than Pennsylvania. 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 a coating under the yearly extreme temperature swings of this state are not an issue. In the high population centers of California –its coastline and non-mountainous areas there were no freezing cycles last year. In

contrast Pennsylvania had over 100. Also it is noteworthy that Rohm and Haas maintains two separate paint field testing and exposure stations for these areas precisely because of the radically different conditions. Time and time again, the Pennsylvania record reflects its reliance on the fact findings of the underlying California rulemakings, including the costs associated with the rule's limits. But surely even if one wishes to emphasize that indeed California has cold winters in its mountains and thus would affect coatings there, a common sense evaluation of the relative impacts of weather on coatings as between Pennsylvania and California in light of where most of the coatings are applied in these states would have to recognize a very large relative difference that matters – a difference that has tremendous implications for costs and clean air. This was not done in the rulemaking. 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 this state. Additionally, the reliance on California's assessment of the availability of coatings at the low VOC levels also ignores the fact that even in California there is a substantial amount of products that are bought at the higher VOC levels through exemptions and the like. No where in the record is there any examination of why such products are still used and demanded if in fact the coatings at the lower VOC levels meet all performance requirements. This is even more puzzling in the face of the widely recognized fact that all things being equal, consumers

greatly prefer using lower VOC water borne coatings. Also uncritically accepted in the Pennsylvania record is the so-called performance testing that was conducted in California for some of the coatings. We will have more to say about this in our written comments, but suffice it to say for now that the tests were poorly conducted and the conclusions reached on the basis of them were not supported by the facts, and in our view were preordained.

The National Paint and Coatings Association has developed an alternative Table of Standards that also incorporates waterborne technology for many of the important large volume coatings such as flat and nonflat coatings. But our suggested table of standards minimizes these trade-offs while securing additional VOC emission 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 sealers.

It has been suggested that the VOC limits of the Pennsylvania rule are now going into effect in California and that if there are problems with coatings they will surface in sufficient time to make any needed corrections in the Pennsylvania rule which would go into effect in 2005. This is a false insurance policy. First, as noted, the impact of California weather is different. Second, the performance problems with which are concerned – durability – take more than two years to manifest themselves.

And finally, many of the higher VOC coatings will still be allowed through exemptions and averaging programs that will allow the sale of higher VOC noncompliant coatings, an averaging program that is not permitted under the Pennsylvania rule. So the “experiment” of how these lower VOC coatings perform will not be conducted in the hothouse environment of California. It will be conducted here in Pennsylvania with all of the potential problems no longer hypothetical but real and current.

The technology variance that is offered by the rule which the DEP relies upon as its last resort in answering all of these and other technology and cost effective concerns raised by the public and IRRC is not a substitute for fulfilling its obligations to identify technologically feasible and cost effective control technology. First the Pennsylvania DEP has already demonstrated through this very rulemaking that it’s application of the standard of what constitutes technologically infeasible will make it virtually impossible to meet –i.e., if there is a low VOC coating out there no matter what its performance limitations or costs, then by definition there is no need to grant the variance. Secondly, and more importantly from the perspective of clean improvements, we suspect that no one will apply because they will realize the futility of the exercise. Instead, coatings that are effective will be replaced by less effective ones and VOC emissions will increase not decrease.

Table
Volatile Organic Compound (VOC), Content Limits
For
Architectural Coatings
Comparing the AIM EPA Rule; CARB SCM; OTC; PA AIM Rule and NPCA Recommended Changes to PA AIM Rule

[Unless otherwise specified, limits are expressed in grams of VOC per liter of coating thinned to the manufacturer's maximum recommendation excluding the volume of any water, exempt compounds, or colorant added to tint bases.]

Coating Category	<u>US EPA</u>	<u>SCM</u>	<u>OTC</u>	<u>PA AIM Rule</u>	<u>NPCA</u> Revisions to NY Rule
Antenna coatings	530	530	530	530	530
Anti-fouling coatings	450	400	400	400	400
Anti-graffiti coatings	600	Eliminated	Eliminated	Eliminated	Eliminated
Bituminous coatings and mastics	500	Eliminated	Eliminated	Eliminated	Eliminated
Bituminous Roof Coating	----	300	300	300	300
Bituminous Roof Primers	----	350	350	350	350
Bond breakers	600	350	350	350	350
Calcimine recoater	475	Eliminated	475 [added 2/26/02]	475	475
Chalkboard resurfacers	450	Eliminated	Eliminated	Eliminated	Eliminated
Concrete curing compounds	350	350	350	350	350
Concrete curing and sealing compounds	700	Eliminated	Eliminated	Eliminated	Eliminated
Concrete protective coatings	400	Eliminated	Eliminated	Eliminated	Eliminated
Concrete surface retarders	780	Eliminated	780 [added 2/26/02]	780	780
Conversion varnish	725	Eliminated	725 [added 3/6/01]	725	725
Dry fog coatings	400	400	400	400	400
Extreme high durability coatings	800	Eliminated	Eliminated	Eliminated	Eliminated
Faux finishing/glazing	700	350	350	350	350
Fire-retardant/resistive coatings:					
Clear	850				
Opaque	450				
Fire-resistive Coatings	----	350	350	350	350

<u>Coating Category</u>	<u>US EPA</u>	<u>SCM</u>	<u>OTC</u>	<u>PA AIM Rule</u>	<u>NPCA</u>
Fire-retardant Coatings					
Clear	---	650	650	650	650
Opaque	---	350	350	350	350
<u>Flat coatings:</u>					
<u>Exterior coatings</u>	250	100	100	100	150
Interior coatings	250	100	100	100	100
<u>Floor coatings</u>	400	250	250	250	
<u>Waterborne (a)</u>					250
Solventborne					380
Flow coatings	650	420	420	420	420
Form release compounds	450	250	250	250	250
Graphic arts coatings (sign paints)	500	500	500	500	500
Heat reactive coatings	420	Eliminated	Eliminated	Eliminated	Eliminated
High temperature coatings	650	420	420	420	420
Impacted immersion coatings	780	Eliminated	780 [added 2/26/02]	780	780
Industrial maintenance coatings	450	250	340 [revised 3/6/02]	340	340
<u>Lacquers</u>					
<u>(including lacquer sanding sealers)</u>					
Lacquers, Clear Brushing	680	550	550	550	680
Low Solids (b)	---	680	680	680	680
Magnesite cement coatings	120	120	120	120	120
Mastic texture coatings	600	450	450	450	450
Metallic pigmented coatings	300	300	300	300	300
Multi-colored coatings	500	500	500	500	500
Nonferrous ornamental metal lacquers and surface protectants	580	250	250	250	250
<u>Non -Flat coatings:</u>					
Exterior coatings	870	Eliminated	Eliminated	Eliminated	Eliminated
Interior coatings	380	150	150	150	200
<u>Non-Flat High Gloss Coatings</u>					
Nuclear coatings	380	150	150	150	200
Pretreatment wash primers	---	250	250	250	380
Primer and undercoaters	450	Eliminated	450 [added 2/26/02]	450	450
	780	420	420	420	420
	350	200	200	200	200

<u>Coating Category</u>	<u>US EPA</u>	<u>SCM</u>	<u>OTC</u>	<u>PA AIM Rule</u>	<u>NPCA</u>
<u>Quick-dry coatings:</u>					
<u>Enamels</u>					
<u>Primers, sealers, and undercoaters</u>					
Recycled Coatings	450	250	250	250	380
Repair and maintenance thermoplastic ctgs	450	200	200	200	350
Roof coatings	---	250	250	250	250
Rust preventative coatings	650	Eliminated	Eliminated	Eliminated	Eliminated
<u>Sanding sealers</u>	250	250	250	250	250
(other than lacquer sanding sealers)	400	400	400	400	400
Sealers (including interior clear wood sealers)	550	350	350	350	550
Shellacs:	400	Eliminated	Eliminated	Eliminated	Eliminated
Clear	730	730	730	730	730
Opaque	550	550	550	550	550
<u>Specialty Primers, Sealers, and Undercoaters</u>	---	350	350	350	350 with modified definition (c)
<u>Stains:</u>					
All	---	250	250	250	250
Clear and semitransparent	550	---	---	---	550
<u>Opaque</u>	350	---	---	---	350
Low solids (b)	120	120	120	120	120
Stain controllers	720	Eliminated	Eliminated	Eliminated	Eliminated
Swimming pool coatings	600	340	340	340	340
Swimming Pool Repair and Maintenance Coatings	---	340	340	340	340
Temperature-indicator safety coatings	---	550	550	550	550
Thermoplastic rubber coatings and mastics	550	Eliminated	550 [added 7/24/01]	550	550
Traffic marking coatings	150	150	150	150	150
<u>Varnishes</u>	450	350	350	350	450
Waterproofing sealers and treatments	600	---	---	---	---
Waterproofing Sealers	---	250	250	250	250
Waterproofing Concrete/Masonry Sealers	---	400	400	400	400
Wood preservatives:	---	350	350	350	350
Below ground wood preservatives	550	---	---	---	---
Clear and semitransparent	550	---	---	---	---
Opaque	350	---	---	---	---
Low solids (b)	120	120	120	120	120

<u>Coating Category</u>	<u>US EPA</u>	<u>SCM</u>	<u>OTC</u>	<u>PA AIM Rule</u>	<u>NPCA</u>
Zone marking coatings	450	Eliminated	Eliminated	Eliminated	Eliminated

(a) NPCA's alternative recommendation is a 250 g/l limit for waterborne floor coatings and a 380 g/l limit for solventborne floor coatings.

(b) Units are grams of VOC per liter of coating including water and exempt compounds.

(c) NPCA recommended changes to the definition of **Specialty Primer** in Section 130.302 Definitions:

Specialty primer means a coating formulated and recommended for application to a substrate to block stains, **odors or efflorescence**; to seal fire, smoke or water damage; to condition excessively chalky surfaces; **or recommended for application to exterior wood or wood-based surfaces, or for highly alkaline cement, plaster, and other cementitious surfaces.** An excessively chalky surface is one that is defined as having a chalk rating of four or less as determined by ASTM Designation D 4214-98 Photographic Reference Standard Nop.1 or the Federation of Societies For Coatings Technology "Pictorial Standards for Defects"

NPCA Recommended changes are highlighted in **bold type**.

Prepared 5/3/03

May 8, 2003

Daniel S. Brinsko
New York State Department of Environmental Conservation
Division of Air Resources
625 Broadway
Albany, New York 12233-3251

Dear Dan:

The National Paint and Coatings Association appreciates the opportunity to file written comments on the DEC's proposed architectural and industrial maintenance (AIM) coatings VOC limits rule.

As you know, NPCA has been extensively and actively involved in the development of the OTC model AIM coatings rule which is the basis of the New York proposal. Comments provided by us during that process and during Delaware's adoption of the model rule that are relevant to the DEC proposal (the DEC proposal adopts the model limits as did Delaware) have been sent under separate cover as comments to the DEC proposal. The technological and economic feasibility issues raised in those comments are equally relevant here.

Our comments center on the technological and economic feasibility of the proposed limits. As we have said throughout this process, this industry does not oppose lower VOC products. Our members prefer to make low VOC products because customers prefer to use them. The industry's R&D is a constant exercise to improve coatings' acceptability and competitiveness in the market. Our industry is intensely competitive with relatively low margins and with the overall demand for AIM coatings strictly tied to the population growth. Reduced solvent content is a major means for achieving product preference in this very tough market -- so long as it does not compromise coatings performance.

But depending upon the needed application very low VOC products cannot serve all applications. Moreover, in a mindless demand for ever lower VOC products, performance characteristics of the coatings can suffer to the point where application becomes more difficult, more initial coats will be required to provide adequate coverage and hiding, and durability and surface abrasion resistance are lowered. All of these performance problems will result in more coatings being applied initially and earlier repainting of surfaces. All of this of course will result in higher costs for consumers and society, and increased not lowered VOC emissions.

Our detailed concerns about specific coatings are set out in our submission to Delaware that was sent under separate cover.

As you know, NPCA filed an administrative appeal to the Delaware rule, and your predecessor on behalf of the NYSDEC and OTC attended and appeared as a witness on behalf of the Delaware rule at the hearing. The summation of arguments at the hearing also were sent to you under separate cover. Though they are raised in the particular context of the Delaware rulemaking they are relevant to the New York rulemaking as well. This is especially true with respect the manner in which both rulemakings rely so heavily upon the rulemaking record of the California Air Resources Board (CARB).

As we stated in our oral testimony at the hearings held by the NYSDEC on its proposal (also sent under separate cover) none of the real world consequences of the performance issues created by the proposed limits are examined in the New York rulemaking. Instead they are ignored or are assumed away.

And they are assumed away almost exclusively on the basis of an uncritical adoption limits of a rule that was adopted in California – a state with much more benign weather than New York. 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 a coating under the yearly extreme temperature swings of this state are not an issue.

Time and time again, the New York record reflects its reliance on the fact findings of the underlying California rulemakings, including the costs associated with the rule's limits. But surely even if one wishes to emphasize that indeed California has cold winters in its mountains and thus would affect coatings in such areas, a common sense evaluation of the relative impacts of weather on coatings as between New York and California in light of where most of the coatings are applied in these states would have to recognize a very large relative difference that matters – a difference that has tremendous implications for costs and clean air. In this connection the potential relative impact of weather on the elimination of freeze thaw performance characteristics as well as shortening of painting seasons, and the durability of coatings in New York required more than being assumed away on the basis of a California rulemaking.

Because of these and similar deficiencies, we think the rulemaking is fatally flawed in its evaluations of costs on industry, the consumer, small businesses and its evaluation of environmental consequences for this state as required under Section 19-0303 of the New York Environmental Conservation Act. Additionally, the reliance on California's assessment of the availability of coatings at the low VOC levels also ignores the fact that even in California there are a substantial number of products that are bought at the higher VOC levels through exemptions and the like. In this connection the most recent survey of California AIM coatings demonstrates that in certain categories, e.g., stains and varnishes, there continues to be a substantial demand for higher VOC materials. No where in the record is there any examination of why such products are still used and demanded if in fact the coatings at the lower VOC

levels meet all performance requirements. This is even more puzzling in the face of the widely recognized fact that all things being equal, consumers greatly prefer using lower VOC water borne coatings.

Also uncritically accepted in the New York record is the so-called performance testing that was conducted in California for some of the coatings. As stated in previous communications with CARB and the OTC which are included in the material sent under separate cover, the tests were not properly conducted and did not include at any time a field application performance test. In responding to the results of the KTA-Tator test results referred to in and relied upon in the New York rulemaking, we said the following about that test and the earlier NTS study results:

The central problem that we have raised about the conduct and reported results of the NTS and KTA-Tator studies is that they do not comport with critically important basic approaches and methodologies that industry employs in determining whether a coating meets acceptable performance characteristics in order to justify its production and sale. It's axiomatic in the industry that development of a coating is a balance of key performance characteristics, and depending on the design of the coating, certain features may be emphasized over others. Costs of materials also figure into this balancing act.

Thus in evaluating a coating, industry makes a comparison with other like coatings across all of the desired performance characteristics to determine whether the new coating overall matches or exceeds these characteristics. This was not done by the SCAQMD studies. Instead, individual features of a low VOC coating were identified and these were the definition of what is considered sufficient to make a theoretical coating at the lower VOC level "available" and adequate. In some cases, critical aspects relating to the coating's performance were not reported, e.g., mil thickness, UV stability,

The problem with this of course is that a customer will not have access to this "theoretical" coating that is a mere construct of the staff and "combines" in one coating all of the favorable features found in several different coatings. Instead it will have available only real coatings that may have one or two of the good features of the staff's theoretical coating, but lack others.

Additionally, the NTS study did not include a critically important application study in which the coatings would be applied in real world conditions to determine the impact on the coatings. This is a test that is used by industry because the application environment directly affects the long term and short term performance of a coating and thus affects its utility to the end user. Moreover, so far as we know there never has been a

complete report of the NTS study made by the staff which raises and discusses concerns expressed by industry to some of the results. A key area here has been the dismal results of low VOC primers for wood and waterborne primers for metal surfaces. Another has been gloss retention of the lower VOC products. All of these points, and others have been raised by the TAC and have not been adequately responded to by staff.

In reviewing the test results and the conclusions reached based upon them, it must be noted that CARB has conducted none of these tests. Rather these tests have all been conducted by the SCAQMD. And here we have to state a belief that there was a tendency for the results and conclusions to be preordained. In virtually all cases the lower VOC materials were found to be "similar" to the higher VOC materials irrespective of the number or importance of performance tests in which they were deficient. Bear in mind that the SCAQMD staff which supervised the tests had some of their actions in the SCAQMD rulemaking to establish some of the limits at issue here characterized by a California appellate court as "sandbagging" a decisionmaking process that "could put whole companies out of business".

A clear example of where the rule combines to impose additional costs on end users and increased VOC emissions is its elimination of the higher quality water borne coatings. Valspar, an NPCA member company, makes a low-luster water borne interior coating (American Tradition) that was recently identified by the July 2002 Consumer Reports as being excellent in all categories of performance, including toughness and hiding. These two features mean that fewer VOC emissions will occur in the use of this coating first in its initial application because less will have to be applied to achieve hiding or coverage, and second in the long term because its excellent toughness means that it will hold up longer. The coating cannot be made at the VOC limit specified in the New York rule nor can it be reformulated to achieve its excellent qualities at the specified limit.

The National Paint and Coatings Association has developed an alternative Table of Standards that also incorporates waterborne technology for many of the important large volume coatings such as flat and nonflat coatings. But our suggested table of standards minimizes these trade-offs while securing additional VOC emission 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 sealers. The rulemaking does not even evaluate the suggestion thus ignoring the requirements of Section 19-0303(4) of the New York Environmental Conservation Law to analyze the cost-effectiveness of reasonably available alternatives to the proposed rule. The rulemaking is also deficient for not providing a rationale for why New York has determined to go beyond federal standards also as required by Section 19-0303(4).

It has been suggested that the VOC limits of the New York rule are now going into effect in California and that if there are problems with coatings they will surface in sufficient time to make any needed corrections in the New York rule which would go into effect in 2005. This is a false insurance policy. First, as noted, the impact of California weather is different. Second, the performance problems with which are concerned – durability – take more than two years to manifest themselves. And finally, many of the higher VOC coatings will still be allowed through exemptions and averaging programs that will allow the sale of higher VOC noncompliant coatings, an averaging program that is not permitted under the New York rule. As a result of the averaging, many coatings that would be banned under the New York rule, will continue to be available in California during the “experiment.”

So the “experiment” of how these lower VOC coatings perform will not be conducted in the hothouse environment of California which will further mask deficiencies with the continued availability of the higher VOC coatings through averaging.

Instead it will be conducted here in New York after the rule becomes effective --- with all of the potential problems no longer hypothetical and in the future but real and current and unhidden by a balmy climate and an averaging program.

Sincerely,

Jim Sell
Senior Counsel

August 21, 2000

Rob Sliwinski
Section Chief
Stationary Source Planning
Division of Air Resources
New York State Department of Environmental Conservation
50 Wolf Road
Albany, NY 12233-3250

Dear Rob:

At our meeting on July 11, we agreed to provide information concerning our reservations about the Staff Report underlying the Suggested Control Measure for architectural and industrial maintenance (AIM) coatings adopted by the California Air Resources Board (CARB).

In undertaking this task, it must be recognized that this is not intended to be a comprehensive critique of the Staff Report. There is much in the document that reflects exercise of judgment in the face of an array of information and data which does not lend itself to scientifically certain answers nor refutations. The main thrust of the document is to make judgments about likely future coatings technology developments taking into account current information and development plans of the industry. It goes without saying that we do not agree with many of the conclusions reflected in the Staff Report about the likely outcomes of future technology developments or the commercial feasibility of anticipated developments. Our purpose here is to share with you our thoughts so as to better inform your judgment about the implications of the information in the Staff Report for adopting the same or similar limits for the northeastern United States.

The practicality of following the SCM in the Northeast: As an initial matter, the OTC should examine the requirements of the SCM to determine if it suits the northeastern United States. For example, the SCM contains a provision relating to the industrial maintenance coatings category which is crucial for the protection of the infrastructure in the Northeast. The SCM calls for a general VOC limit of 250 grams per liter for this category by 2004. However, for areas "located within the North Central Coast, San Francisco Bay Area, or North Coast Air Basins" a higher limit is specified. The reasons for this higher limit is the inclement weather conditions (high humidity, persistent fog, and cold temperatures) of these areas. (See Staff Report at page 150.) These are weather conditions common to most of the northeastern and mid-Atlantic states. The practicality of drawing distinctions on the basis of weather in the areas making up the jurisdiction of the OTC would be very difficult, if not impossible. This provision of the SCM demonstrates that "weather matters" even in California.

A general comment concerning the methodology: It should be recognized that predicting future technology and commercial feasibility is not an exact science and obviously an agency attempting to do this should be given some latitude.

For example, at page 69 of the Report, the following is said about the feasibility of low-VOC technology for formulating flat coatings: "The high market shares that already comply with the proposed limit demonstrate widespread use of existing low-VOC technology for formulating flat coatings." Later at page 104 in answer to a comment that the complying market share of a high gloss coating amounted to only 2.6 percent, the Report states: "The marketshare of complying products is just one element we considered in our evaluation of the feasibility of the proposed VOC limit. We also evaluated product information from manufacturers, laboratory performance tests, and information on available resin technology." While the decision was made to grant a higher VOC limit in this case, it was done for enforceability reasons and not technological feasibility reasons.

The point is that the process involved here is not an exact science and there can be a variety of factors that have to be taken into account in making a decision.

Staff is given a certain latitude in picking which aspects of its factual record it chooses to emphasize for one conclusion and not for another.

But because of this, we believe that it would behoove your group in evaluating the limits offered by the SCM to independently examine the evidence that the Report relies on for selecting the SCM limits to determine independently whether you weigh the incomplete information the same way as CARB staff did and can arrive at the same conclusions based on it.

Limits still being evaluated for technological and commercial feasibility: As you know, the SCAQMD was the first to adopt in May 1999 the limits that were subsequently adopted by CARB in the SCM on July 22, 2000. In adopting the limits, the SCAQMD Board directed staff to continue to evaluate the future limits to determine their feasibility and report to the Board periodically and before the limits are to become effective to ensure that they are in fact feasible. The CARB Board gave the CARB staff a similar instruction when it adopted the SCM on July 22, 2000. I raise this point because the SCM itself makes no mention of this. At page 13 of the Report, it is stated that "staff believes all of the VOC limits proposed in the SCM are technologically and commercially feasible by the effective dates of the SCM." (Emphasis added.) But the Report then goes on to note that despite that the staff "believes that all of the proposed limits are technologically and commercially feasible, ARB staff will conduct technology reviews of the proposed limits that are lower than current limits, prior to their implementation."

The Report also states:

“Our survey results demonstrate that for nearly all the coating categories, products are currently available that comply with the proposed limits. For the 11 categories for which we are proposing lower limits than the predominant limits in existing district rules, the complying marketshares range from 13 to 74 percent..... The complying marketshares vary widely with each coating category because the proposed limits were developed after considering a variety of factors unique to each category. These factors include the availability of reformulation options that may not be used in current products, the variety of product types in a given coating category, patents that may restrict some reformulation options, and economic issues.”

Again this language in the Report suggests that there are good reasons for independent technological assessments, despite the staff's belief that the proposed limits are feasible.

In answer to the question “Will the reformulated products perform similar to existing products?”, the Report states, “Yes.”

The Report then justifies this as follows:

ARB staff concludes that the overall performance of the reformulated products will be similar to the performance of their higher VOC counterparts. This conclusion is based on: (1) the current availability of complying products in the marketplace; (2) ARB staff's analyses of each product category, as detailed in Chapter VI; and (3) the results of performance studies conducted by independent laboratories (the “National Technical Systems (NTS) Study” and the “Harlan Associates Study”). The NTS study showed that when compared to conventional coatings, currently compliant, low-VOC coatings available today have similar application and performance characteristics, including blocking resistance, mar resistance, adhesion, abrasion resistance, and corrosion protection. The raw data from the Harlan Associates study was published in 1995. Although somewhat dated, the information generally supports the results of the NTS study.

As you will see in our attached April 7 submission to the staff concerning its draft version of the Report, we believe that there are serious questions concerning the confidence one can have in the conclusion's reached by the staff based on the information it relied upon.

To take but one example, as noted the staff reviewed the NTS study's results and concluded that “The NTS study showed that when compared to conventional

coatings, currently compliant, low-VOC coatings available today have similar application and performance characteristics....”

An examination of the of information concerning the NTS results for “industrial maintenance primers” shows why OTC staff should look behind the assertions of the CARB Staff Report.

In Appendix E of the Staff Report, SCAQMD (Phase II Assessment Study), eleven performance characteristics are evaluated for Industrial Maintenance Primers. Of these eleven, four demonstrated that low VOC coatings exhibited lower performance characteristics compared to high VOC coatings.

Despite this, the assessment states, “Overall, low VOC coatings exhibited similar performance compared to high VOC coatings.”

As an initial matter, it is difficult to justify a conclusion that one product is substantially similar to another when it fails to meet over thirty-six percent (36%) of the performance characteristics of the other product. More importantly, the characteristics for which the low VOC coating exhibited lower performance are crucially important in terms of the long term performance of the coating.

The four characteristics for which the low VOC coating showed lower performance were 1) “Dry Time -- Dry to Touch” ; 2) Dry Time --Dry to Hard; 3) Contrast Ratio --Hiding Power; 4) Taber Abrasion Resistance. All of these are important initial application performance characteristics.

- Dry To Touch -- If it takes a coating longer to dry to touch, it is subject premature failures from overnight dew or rain at any time.
- Dry to Hard -- Only when the primer is finally hard is it ready for the subsequent coating.
- Contrast Ratio- Hiding Power involves the issue of how much coating must be applied to cover and protect the surface. This result implies that more of the lower VOC coating will have to be applied to achieve the same coverage as the higher VOC coating.
- Abrasion resistance as it name implies has a lot to do with how long the coating will hold up to abrasion, contact from wind, hail, dirt, etc.,

A common sense understanding of these characteristics shows that they are among the most important initial application characteristics of a coating from the perspective of coating performance.

I suppose, following the way similar points were handled by the Staff Report, the Report would answer this with something along these lines, “We base our

conclusions on a number of factors, the NTS Study is only one factor. For example, coatings manufacturers are currently working to solve these problems with the lower VOC products.”

But a good question one might ask in weighing such information is: if you knew about the four areas of sub par performance, would you nonetheless purchase the lower VOC coating for your home or agency on the assurance that, despite these shortcomings, “overall” the coating is “similar to coatings” that do not have the shortcomings? Or would you enter a binding contract to purchase the coating in the future on the assurance that the manufacturer would have all of the lower performance problems solved by that time?

All of this suggests that you should look behind the conclusions of the Staff Report and information relied on to reach them.

Finally, you should note that the long term durability performance characteristics such as loss of gloss, color retention, chalking, blistering, etc., have not yet been evaluated under the NTS study and await future evaluations.

In concluding, Rob, we realize that time is of the essence for you.

We are prepared to meet with you and your staff to discuss in more detail our reservations about the Staff Report for the SCM. We also have submitted for your review some suggestions on where we believe that VOC limits might be lowered below the national limits.

Sincerely,

Jim Sell
Senior Counsel

ATTACHMENT

April 7, 2000

Ms. Janette Brooks
Stationary Source Division
California Air Resources Board
2020 L Street
Sacramento, CA 95812

Subject: Comments on the Draft Program Environmental Impact Report (EIR) for Suggested Control Measure (SCM) for Architectural and Industrial Maintenance (AIM) Coatings

Dear Ms. Brooks:

On behalf of the National Paint and Coatings Association (NPCA), we are providing comments concerning the Draft Program Environmental Impact Report for Suggested Control Measure (SCM) for Architectural and Industrial Maintenance (AIM) Coatings (February 2000). A number of our member companies will also be submitting comments.

The NPCA is a voluntary, nonprofit trade association representing some 400 paint and coatings manufacturers, raw materials suppliers and distributors. As the preeminent organization representing the paint and coatings industry in the United States, NPCA's primary role is to serve as ally and advocate on legislative, regulatory and judicial issues at the federal, state and local levels.

We estimate that over 80% of the volume of AIM coatings sold in California and which are at issue under the SCM are manufactured by NPCA members.

I. GENERAL COMMENTS

NPCA has been extensively involved in development of VOC control regulations for AIM and other coatings in California since the inception of clean air programs in California, beginning in the 1960s. Our record in this regard has always been one of constructive cooperation. We recognize the obligations of the industry to contribute its fair share in coatings technology improvements to help with the clean air problems of California. The industry even without regulatory prodding has consistently lowered the VOC content of its coatings. We seek by our participation to impart to regulatory decisions our frank and best estimates of what is technologically feasible and the associated consequences and costs of selecting certain technologies.

Most recently we have been extensively involved in the development of the current draft SCM, including assisting CARB in obtaining responses to its various requests for information in connection with the development of the SCM. We encouraged our members to forthrightly respond to the CARB survey that is part of the factual basis for the SCM, and we encouraged members to meet with CARB staff in an effort to provide a better understanding of the complexity of the technology issues that are inherent in this regulatory effort to lower the VOC content of AIM coatings. NPCA staff and member companies have met with staff on a number of occasions in efforts to provide information that would provide a sound basis for developing an effective SCM for AIM coatings.

As a general comment we have to say that we are disappointed with the process utilized to adopt the SCM in this case and in the lack of adequate fact finding.

The importance of this undertaking cannot be over emphasized. The SCM will stand as a presumptively valid decision about what are cost effective, commercially viable, and technologically productive coatings for usage in the thirty plus air districts in California. At issue here are the millions of homes in those areas and important infrastructure, such as bridges and chemical storage facilities, related to the convenience and safety of the people in those areas. In making these critical comments, we hope you recognize that NPCA represents the full spectrum of AIM coatings manufacturers in the United States, including companies that specialize in the development and manufacture of low VOC coatings.

NPCA does not have (indeed could not have) a position that only high VOC coatings technology is presently or foreseeably available. Aside from being a demonstrably inaccurate statement, it would cause us to lose those members that manufacture and sell low VOC coatings. Rather the position of the NPCA is as follows:

A low VOC product technology may be successfully used currently to meet the performance requirements of one particular application and exposure environment of a general class of coatings. However, there must first be a thorough evaluation of this technology before it can be mandated as being feasible for all or even most of the application, performance, and exposure requirements of the general class of coatings to which it belongs. For example, an expectation that currently available low VOC industrial maintenance coatings could effectively replace all other industrial maintenance coatings currently in the market place is completely at odds with the history of advances in coatings technology. Reliance on such an expectation to guide the Staff's inquiry would be dangerously misguided. There is no substitute for a thorough, open minded, and objective evaluation of existing and reasonably foreseeable

coatings technologies in setting future VOC limits. We do not believe that this has occurred here.

It is important to note here that some of the NPCA member companies that are most concerned about the proposed limits are companies that manufacture low VOC coatings and emphasize the sales of their low VOC coatings because of their profitability.

We note the EIR characterizes the SCM as follows: "To fulfill [its] statutory mandates, the ARB often provides guidance and other assistance to the districts, including the development of model rules, such as the Suggested Control Measure for Architectural Coatings." (Draft Program EIR at page I-2)

The SCM thus carries great weight with the individual air districts, which as staff has noted throughout this process are the agents that ultimately have to formally adopt the limits and requirements of the SCM as district rules before they can be effective. In this sense, however, the SCM may be better conceived of as a "suggestion" from a reviewing authority that ultimately has the authority to disapprove plans from the districts that do not achieve the progress thought achievable by CARB. As a practical matter, therefore, districts do not deviate greatly if at all from CARB SCMs, even in cases where they might have reservations about their conclusions.

The EIR under discussion here is an instrumental document in the SCM adoption process as well as in the adoption of individual district rules that are based upon it. As noted by staff in the Draft Program Environmental Impact Report for Suggested Control Measure (SCM) for Architectural and Industrial Maintenance (AIM) Coatings:

"This Draft Program EIR has specifically and comprehensively addressed the environmental impacts associated with the Architectural Coatings SCM in accordance with CEQA, so that the districts, if they choose to do so, may rely on the analysis in the Program EIR when adopting or amending their architectural coatings rules." (Draft Program EIR at page I-3)

Consequently, it is important for the Program EIR to be as accurate as possible in that districts may rely upon it without further consideration. It will in short become a presumptively valid document that will not lend itself readily to subsequent questioning or criticism by the district.

It is for these reasons that we remain deeply concerned about what we consider to be fundamentally flawed conclusions about the technological and economic feasibility of many of the VOC limits that are the basis of the analysis of the EIR. If the staff is in error about the technological feasibility of the limits that it has

specified in the SCM, then the environmental impacts assessed in the EIR are equally flawed.

II. DUE PROCESS/INTERSTATE COMMERCE ISSUES -FEDERAL AND STATE

Serious federal constitutional due process and interstate commerce issues can arise in the development of an SCM if it is not handled properly. As noted, the SCM is intended to serve as a consensus template for the districts to adopt without having to expend the time and resources that otherwise would be required of them. There is nothing inherently wrong with this approach and if implemented as intended, it can result in a more efficient development of reasonable regulatory requirements, saving both the regulators and the regulated community time and money. Problems can arise, however, if insufficient time and effort is afforded to ensure a full airing of issues. The potential for a classic "Catch-22" inheres in the process. The SCM is only guidance, so therefore it need not comport with the requirements of a rulemaking. The formal protections of rulemaking are intended by the process to be afforded when the districts consider adopting the SCM. But because the SCM supposedly reflects already vetted technology, districts are encouraged to rely upon the fact findings of the SCM for their fact findings. If in fact the SCM technology is not truly consensus technology, then the public never really has a realistic opportunity to a full airing of its concerns-- the SCM is conducted without the requirements of administrative legally sufficient fact findings and the districts in turn are not required to reconsider the findings except as their discretion dictates. This raises concerns about the potential for denial of due process under the federal and California constitutions as well as the potential for unconstitutional interference with interstate commerce as the resulting regulation may impose disproportionate burdens on out of state manufacturers.

III. INFORMATION RELIED UPON BY THE EIR

The staff has relied upon the following for its conclusions in the EIR:

- Results of laboratory tests from the NTS study and other results from the 1995 Harlan Study
- What the EIR characterizes as an "extensive" review of compliant coatings product data sheets.
- Results from the CARB 1998 AIM survey that the EIR characterizes as indicating that a large percentage of coatings already meet the proposed limits.

- Information on “foreseeable coatings technologies “ obtained from resin suppliers and coatings manufacturers data sheets and (promotional) magazine articles

We discuss each of these and their inherent limitations below.

A. The EIR’s Treatment of Test Data

The EIR’s treatment of available test data manifests fundamental misconceptions about the effective use of such information by the industry.

Coatings manufacturers extensively test new coatings before introducing them to the market. These test include two and three year field exposure tests because it is only under such real world conditions that new coatings’ performance characteristics can be assured.

As mentioned in the EIR document, a number of the low VOC coatings that would be mandated by the SCM are the subject of a study being conducted by the SCAQMD pursuant to revisions to its AIM rule in May 1999. The EIR states,

“In addition to the laboratory results, accelerated actual exposure, real time actual exposure, and actual application characteristics studies are continuing. The results of the study are an important part of our technical evaluation of these six coating categories (see Appendix D, Description and Technical Assessment of the Coating Categories). The purpose of the NTS study was to test the application and durability performance of very low-VOC, low-VOC, and just-compliant coatings for the following six coating categories:

- Industrial Maintenance Coatings
- Nonflat Coatings
- Primers, Sealers, and Undercoaters
- Quick-Dry Enamels
- Quick-Dry Primers, Sealers, and Undercoaters
- Waterproofing Sealers”

(Emphasis added) (Draft Program EIR at page II-24)

While the EIR states that the results of the study are an important part of the staff’s technical evaluation for the six coatings categories, it must be noted that what the industry consider to be the most important tests - real time actual exposure, and actual application characteristics studies - have not been completed. Consequently, it will be necessary for the districts to evaluate the technology of the limits for these coatings before accepting them as technologically feasible. In this regard, we also note that in Appendix D of the EIR, there is language suggesting that these tests are not really necessary to warrant the conclusions reached in the EIR about the technological feasibility of

the coatings at issue. As indicated, therefore, the SCM will be issued without the benefit of the most crucial results of the most important of these tests. Apparently, the staff believes that in some respects the laboratory results of the NTS study are sufficient to justify its conclusions:

“The ARB staff has analyzed the impact of allegedly ineffective low-VOC coatings. There is a wide range of commercially available coatings that meet the proposed VOC content limits in the SCM. Additionally, the results of the SCAQMD’s NTS study support these findings. The laboratory results of the SCAQMD’s NTS study reveal that there are currently available coatings that comply with the proposed VOC content limits and with coating and durability characteristics comparable to existing high-VOC coatings.” (Emphasis added) (Draft Program EIR at page C-21)

We disagree with this and believe that any decisions about the technological and economic feasibility of the limits proposed in the SCM for the six categories under consideration must await the final results of the study which will include real time actual exposure, and actual application characteristics studies.

In rejecting our request to formally commit to a technical assessment of the SCM limits prior to their becoming effective, the staff stated the following which suggests that it too believes that the final word is not in on its conclusion that the SCM proposes technologically and economically feasible coatings limits.

“Even though the ARB staff believes that compliant coatings are available to meet the SCM limits, we are committed to working with the SCAQMD, other interested districts, and the architectural coatings industry as they conduct technology assessments of the future VOC limits..... Since the ARB staff will be conducting the assessments, we do not believe that it is necessary to include a technology assessment provision in the SCM After each technology assessment the ARB staff will Report the results to the staff of each district, and district staff can then Report to their District Governing Boards as to the appropriateness of maintaining the applicable future VOC limits.” (Draft Program EIR at pages C- 7-8)

These statements taken as a whole indicate that the conclusions of the staff about the feasibility of the limits and coatings the SCM proposes are suspect and will require further analysis.

Additionally, it is our position that the NTS study laboratory results that are available are suspect in their own right as has been explained to staff in a letter from Christine Stanley, Vice President of Technology, of Ameron Coatings. See also NPCA’s letter to Jim Nyarady on this subject.

With respect to the Harlan Study there are several issues.

It is an incomplete Report, providing only raw data. The Abstract of the study states:

“ Data were compiled for each product evaluated and is presented in this Report. No comparison of the properties or performance of the samples was required by this contract.” (Emphasis added) (Harlan Study at page 4)

The evaluation of the raw data was left to the ARB staff and not to the contractor who was the coatings expert.

The Report consists of a series of summary tables and test Reports for individual coatings. Information on individual coatings (such as recommended use and application of each of the coatings tested) is NOT included in the Report. This makes it very difficult to evaluate and compare the data in the summary sheets .

The Report was not peer reviewed. Without some industry involvement or review of the testing and Reporting of the data, the conclusions based on the Report are suspect.

Blind samples were used making any verification or comparison to other test results impossible. On the other hand when other testing groups, like Consumer Reports Magazine, do coatings testing, the products and manufacturers are identified so that any inconsistent or erroneous results can be spotted and challenged.

Different contractors were involved. Many of the tests performed in the study are very subjective types of tests, in which the results can vary markedly from technician to technician, e.g., pencil hardness, block resistance, application properties adhesion.

There is no indications of what if any QA/QC procedures were used. Nothing is mentioned about the qualification of the laboratories or their personnel and their QA/QC procedures.

The Appropriate Way to Make Coatings Technology Comparisons

With respect to making comparisons of low VOC coatings with higher VOC coatings Table IV-2 in Chapter IV of the EIR does so on the basis of the following characteristics of a coating

- Range of VOC
- Average VOC Content
- Average Solids by Volume
- Average Coverage

- Average Dry Time
- Average Pot Life
- Average Shelf Life

All of the above are interesting but relatively insignificant properties of a coating. They do not really tell one anything about the performance and durability characteristics of the coating or its suitability for a particular job .

A true comparison of coatings characteristics must take into consideration the following factors:

- Performance - how does the coating perform – What type of exposure was coating formulated to withstand, e.g., acid- base; waste water, high temperature? What are its real performance characteristics? Performance is more than cure time and shelf life. It includes durability under real life/field conditions.
- Application latitude – What type of equipment is need for application? Is highly sophisticated spray equipment required? Are there any limits on the application temperature or atmospheric (humidity) conditions under which it can be applied? What film thickness does it have to be applied at in order to meet the required performance characteristics?
- Surface latitude – What type of surface can the coating be applied to and what type of surface preparation MUST be done to insure a proper job? Surface preparation is crucial if an acceptable job is to be completed.
- Cost effectiveness -- An important and crucial factor that could tip the decision on whether a coating job is undertaken. Cost effectiveness includes the review of the service life of the coating, its application costs and required surface preparation, as well as the cost of the coating itself.
- Waste considerations: Will the use of a particular coating generate a high amount of waste product and will any special surface preparation cause the generation of additional solid or hazardous waste, e.g., old heavy metal containing coating that MUST be totally removed before the application of the new highly sophisticated coating 2K product.

These are the essential issues that have to be addressed when evaluating whether one coating can be substituted for another. For industrial maintenance coatings and other high performance coatings this is a very complex task.

It is obvious from a reading of the EIR that CARB did not consider these five very important factors in its review of product data sheets. These are the key factors that any knowledgeable coatings formulator, specifier or applicator would

consider crucial in deciding whether a particular coating is suitable for a particular application.

It is our position that before any district could reasonably adopt the limits of the proposed SCM, it should undertake an evaluation of these factors with respect to the coatings at issue.

B. Review of Compliant Coatings Product Data Sheets

It appears that too much reliance has been placed upon product data sheets for the staff's conclusions. This is particularly troublesome in light of the fact that product data sheets often require review by a coatings expert in order to be fully comprehended. An example of the basis for our concerns is seen in the following statement from the EIR:

"ARB staff evaluated hundreds of conventional and low – VOC coatings product data sheets. The product data sheets indicated that low-VOC coatings do not require substantially different surface preparation, including power washing, than conventional coatings." (Draft Program EIR at page C-15)

This statement is completely at variance with what is commonly known within the industry and in fact is implemented in training and education by such organizations as Paint and Decorating Contractors of America and the Society of Protective Coatings, i.e., more attention to proper surface preparation is required of the newer two pack high performance coatings than conventional coatings. It is also true that instructions for conventional coatings require adequate surface preparation. But the staff's equating the degree of surface preparation required by two types of instructions that are associated with radically different coatings gives us concern that it does not fully comprehend the greatly differing consequences associated with using these two different coatings systems.

Staff's reliance on the product data sheets also apparently convinced it that there are no pot life problems associated with multi-component systems:

" Regarding pot life, the ARB staff's review of currently available, multi-component low-VOC coatings revealed that pot-life problems are not anticipated." (Draft Program EIR at page C-18)

This too is completely at variance with the real world experience of the industry, notwithstanding individual product data sheets that may minimize the problems or state that they are not substantial if "instructions for use" are closely followed. As explained in comments being submitted by Ameron Coatings concerning the EIR, the pot life issue is an extremely significant and complex issue affecting the cost of application.

C. Results from the CARB 1998 AIM Survey

With respect to the results from the CARB survey, we again caution that low VOC product technology may be successfully used currently to meet the performance requirements of one particular application and exposure environment of a general class of coatings. However, there must first be a thorough evaluation of this technology before it can be mandated as being feasible for all or even most of the application, performance, and exposure requirements of the general class of coatings to which it belongs.

D. Information on “Foreseeable Coatings Technologies” from Promotional Materials of Resin and Coatings Manufacturers

Caution should be exercised in relying on information from resins and coatings manufacturers and their promotional materials that are published in trade journals that are not peer reviewed. Statements about the properties of a resin starting formula are just that -- where the coatings formulator begins to determine whether an adequate cost effective coating may be developed based on it.

E. Appendix E Tables

As numerous industry commenters have pointed out, many of the coatings products listed in the tables in Appendix E do not belong in the coatings category in which they are listed. For example: over 30 percent of the products listed as lacquers are in reality polyurethane varnishes.

IV. DISCUSSION OF SPECIFIC COATINGS CATEGORIES

A. Floor Coatings

Originally as this category was developed under the national AIM rule it was defined as:

“an opaque coating with a high degree of abrasion resistance that is formulated and recommended for application to flooring including, but not limited to, **decks, porches, and steps**, in a residential setting”

During the discussions surrounding the development of the revisions of SCAQMD’s Rule 1113, the reference to residential setting was dropped in order to expand the use of the coatings to commercial and institutional settings.

CARB now would expand the definition to cover floors exposed to extreme environmental conditions which historically have been covered by industrial maintenance coating category. In so doing, it would prevent the use of higher VOC industrial maintenance coatings on floors in settings that require such coatings. This would mean that the conditions would allow for use of the

industrial maintenance coatings on walls, but only lower VOC materials could be used on the floors exposed to the same conditions.

The data sheets that CARB is relying on to make their decision concerning the VOC limitation cover a wide variety of product types and hodge-podge of coatings technologies. These products range from simple latex porch and deck enamels used by home owners (which have very limited applications and uses) to "exotic" 2-K materials that require complex mixing and application equipment and special surface preparations (only available to trained professional applicators) or which pose safety concerns. These materials often are accompanied by such warnings as,

" For industrial use only by professional applicators"; or " An eye wash and safety shower should be nearby and ready for use."

Others are elastomeric floor coatings that require film build of over 22- 24 mils in order to be effective. And others have severe use limitations, e.g., they are not recommended as exterior topcoats or are not be applied to horizontal surfaces that become slippery when wet.

Additionally, a number of the products cited by the EIR for the low VOC floor coatings only represent raw material suppliers best "suggested starting formulas" and are not commercially viable products.

Also, several of the coatings listed as floor coatings do not belong in the "floor coating" category, e.g., "semi clear concrete sealers and safety and zone marking paint."

It should be obvious from the wide variety of products currently being sold as floor coatings, that no single product or technology is able to satisfy all of the varying application conditions and performance requirements covered by this category. The ARB's decision to totally rely on high end 2-K or polyurethane technology that is normally marketed for industrial application only by professional painters is flawed and does not reflect the true market place needs for floor coatings in all situations such as residential, institutional and commercial.

We recommend that the definition for "*floor coating*" be revised to read:

"Floor Coating: An opaque coating formulated and recommended for application to flooring including, but not limited to, decks, porches, and steps, for the purposes of abrasion resistance."

Also the definition for "*Industrial Maintenance Coatings*" should be revised to remove the phrase "*excluding floor coatings but*".

B. Non Flat Coatings; Primers, Sealers and Undercoaters; Stains; Industrial Maintenance Coatings; and Lacquers

Through out this process, NPCA has attempted to bring in the coatings experts from its membership to discuss the technological and economic feasibility issues that are involved with the proposed SCM limits. We are particularly concerned about the coatings identified above and we urge CARB to consider the comments and information that have been provided by our members and other coatings experts. In doing this we believe that CARB should rely on the consensus judgement of the experts.

C. Categories Not Proposed for Inclusion in SCM

There are sixteen categories of coatings that are recognized by the national AIM coatings rule which are rejected for inclusion in the SCM. Among the reasons cited for this decision in the EIR are the following:

“With the exception of antigrffiti coatings, these categories are not generally included in any of California’s district architectural coatings regulations. The products under these categories are currently either: (1) subject to other coating categories in district regulations; (2) sold only under the small container exemption; or (3) not sold in California (at least in areas with architectural coatings rules). Nevertheless, we researched each of these categories because they were included in the U.S. EPA’s architectural coatings regulation, and because in many cases these products will be subject to lower VOC limits under the proposed SCM compared to current district regulations. In researching these categories we considered a variety of factors, including: (1) the VOC limit they would be subject to under the proposed SCM; (2) the potential for reformulation as demonstrated by similar products already complying with the VOC limits in the proposed SCM; (3) the availability of products that do not fall under the category as defined in the national rule, but fulfill the same basic function at a lower VOC content; and (4) the extent to which products under the category are used in California. As explained in the following sections, we do not believe it is necessary to incorporate a new category and VOC limit for any of these categories.” (Draft Program EIR, Appendix D, at page 178)

We understand that staff is reconsidering its initial decision to exclude the concrete protective coatings and now plans to incorporate the “concrete protective coatings” category recognized by the national AIM coatings rule at a VOC limit of 400 grams per liter in the SCM. In doing so, the staff appears primarily to rely upon on the information provided by Textured Coatings of America, an NPCA member. NPCA fully endorses the position of Textured Coatings and the inclusion of this category.

Another coating at issue here is the thermoplastic rubber coatings and mastics coating. (Draft Program EIR, Appendix D, at page 205) Inland Coatings, an NPCA member provided information to staff requesting this coating as defined by the national AIM coatings rule at a limit of 550 grams per liter of coating. It has provided information to justify its inclusion, and is prepared to provide more to staff in this connection. Discussions with staff about the exchange of information between Inland Coatings and staff indicate that there may have been some miscommunication. Staff stated that the company failed to provide sufficient information that demonstrated that its thermoplastic rubber products are more durable, and result in less emissions over time than comparable bituminous roof products or latex roof products. "We have no data to substantiate that thermoplastic rubber roofing products outlast their bituminous counterparts. We also note that latex roofing products are available." Staff also rejected the company's claim that its thermoplastic rubber products work in situations where water-based or bituminous products fail, e.g., they adhere well to single-ply membranes and adhere well when exposed to ponding water. "We have no data to substantiate these performance claims." The EIR concludes this discussion by stating, "...since thermoplastic rubber products are not used in California, we assume that other roofing products can be used to address these situations."

It is our understanding that the company has attempted to respond to these points and is prepared to provide more information on this matter. For example, with respect to the issue of durability, it is generally accepted information within the industry that coatings like Inland's dramatically outlast bituminous coatings. The nature of bituminous coatings is that they are of limited durability, and must be repaired and refurbished on a fairly regular basis. Inland Coatings can demonstrate single application, no repair histories for its coatings extending over several years. If this information was not provided in a manner that staff found sufficient, the company is prepared to provide more information. The same is true of its claims about single-ply membranes, with one of the major manufacturers of singly ply membrane coatings recommending Inland Coatings for repair of its product. Finally concerning the fact that the company's product is not used in California, this has occurred only because the company has refused requests from distributors to carry its product for unregulated areas in California simply from concern that through no fault of its own, the materials might wind up in a regulated area where they would be noncompliant. It is ironic that Inland's conscientiousness about California's clean air requirements now work against it for a reason that is wholly unrelated to issues of technological efficacy and more efficient methods for reducing over all VOC emissions from coatings.

Another coating that falls into this category is nuclear coatings about which Ameron Coatings, an NPCA member, has provided comments. The point being raised by the company is that the proposal would require the use of coatings that would be astronomically more expensive than existing systems and this added expense is grossly disproportionate to the minuscule amounts of VOC emissions

that result from the small usage of the existing coatings systems. We urge you to consider the company's comments.

NPCA also believes that the staff should reconsider its decision to exclude the other categories. In particular, we do not believe that the staff has had an opportunity to receive or fully review all of the information that would be necessary in order to make a sound decision on these coatings. It must be recognized that the process to date has necessarily focused on the larger coatings categories and the manufacturers of the coatings at issue here, many of which are niche market coatings, are often small businesses that need more time to respond. We request that this be given some consideration and that staff keep the door open for additional information about these coatings.

In reviewing data and technology for this area we suggest that the following general principles be considered. It should be recognized that coatings are developed for certain purposes. In this highly competitive industry, if a lower VOC product can cost effectively serve the same coatings requirements of a higher VOC product, it is selected over the higher VOC product. The U.S. Environmental Protection Agency in developing the national AIM coatings rule recognized this and the fact that many of these coatings were low volume niche coatings that previously fell under the general category of industrial maintenance coatings. They had to be specifically identified and broken out as coatings in their own right when the industrial maintenance coating category was lowered to VOC levels that were below the levels needed for these coatings.

The EIR is very cursory in its discussion for excluding these coatings, often stating little more than assumptions that are based upon the general coatings category of industrial maintenance coatings. Data concerning these coatings may not have been Reported under the category. For example, with respect to chalkboard resurfacing coatings, the EIR reflects that only a very small portion of the coatings Reported in the CARB AIM survey were identified as chalkboard resurfacing coatings. It is likely that some of the volume used in California was Reported as general industrial maintenance coatings.

Consequently, CARB should consider the possibility that information developed later in the rulemaking will demonstrate that indeed a higher VOC limit is required for these coatings. Like comments apply to the other excluded coatings categories. In any event, NPCA plans to continue to track this area during this rulemaking and to provide additional information on these excluded coatings as it becomes available to the NPCA .

V. REGULATORY ALTERNATIVES

A. Averaging

We are concerned that ARB has not chosen to include an Averaging Compliance Option in the proposed SCM or at least retain the placeholder Statement on Averaging that appeared in the December 1, 1999 draft of the SCM. Last December, the ARB formed a joint committee with SCAQMD to develop a workable averaging program. While we agree there are clearly differences between industry, SCAQMD and ARB on how to design a workable averaging program, ARB has chosen not to move forward with trying to resolve these difficulties. Instead the ARB has placed a lower priority on developing this program by indicating "... but the existence or absence of averaging does not affect either the ARB's analysis of the technical feasibility of the VOC limits in the SCM, or the ARB's environmental analysis for the SCM." (Draft Program EIR at page V-159)

We disagree with this position. In fact, averaging will be required to make some of the requirements feasible.

The ARB's proposed SCM is nearly identical to the SCAQMD's revised Rule 1113, a rule which was developed for the only district in the country ranked as severe ozone non-attainment area. Without an averaging provision, ARB's proposed SCM is more restrictive than the SCAQMD's revised Rule 1113.

B. Extended Compliance Deadlines

In of Chapter V. Project Alternatives, the ARB discusses four regulatory alternatives. Alternative B would extend all of the effective dates for the VOC content limits to January 1, 2004 with the VOC content limits for the affected coatings being identical to those in the February 11, 2000 draft. The ARB staff has rejected this alternative saying that any delay in achieving these emission reductions is not technically or economically justified. We disagree with this conclusion and urge the ARB to review their decision in light of industry's comments on the technical merits of the ARB's SCM development.

VI. MODEL FORMULAS TO ESTIMATE POTENTIAL MATERIALS COSTS

There are fundamental problems with the use of model formulas to estimate potential material costs.

The approach carries the inherent assumption that only one coating technology (resin technology) will be used to meet the lower VOC limits. Said another way, the approach implies that one technology will meet all the requirements of a category. This is unlikely and therefore the approach will not accurately estimate associated reformulation costs.

The model formulas are simplistic. Generally one cannot simply substitute a low VOC resin for a high VOC resin without changing other important components of the coating.

To obtain anything close to approximating a realistic estimate using this approach would require the use of real world formulas.

A more straightforward and more accurate way of estimating and comparing raw material costs of high and VOC coatings would be to compare only the cost of the high VOC resin to the low VOC resin on a WEIGHT OR VOLUME SOLIDS basis. By doing this one would at least get an idea of the magnitude of the cost difference, e.g., 1.5 time or 2 times more costly.

To obtain a better cost comparison beyond this, one would have to have actual formulas for the current high VOC product and the low VOC replacement.

Also it is important to note that raw material cost are only one factor in calculating the total cost of reformulating coatings. Additional costs include packaging costs, direct R&D labor, etc.

VII. CONCLUSION

We appreciate the opportunity to provide comments on the EIR. We will continue to work with staff in the development of the SCM with a view to providing it with our best judgments about the technological and economic feasibility of the coatings technology decisions it is contemplating. But ultimately, the issue of whether Californians will continue to have access to cost effective, productive coatings rests with CARB and the districts. Our goal is to ensure that we have provided the decision makers with our best technical information and judgement.

Sincerely,

Jim Sell
Senior Counsel

Robert J. Nelson
Director Environmental Affairs

**BEFORE THE ENVIRONMENTAL APPEALS BOARD
FOR THE STATE OF DELAWARE**

Appeal of National Paint & Coatings Assn. et al of :
DNREC Air Regulation No. 41 : Appeal No. 2002-03

APPELLANTS' CLOSING ARGUMENT

PARKOWSKI, & GUERKE, P.A.

By: JEREMY W. HOMER, ESQUIRE
(Delaware Bar ID#0413)
116 W. Water Street
P.O. Box 598
Dover, DE 19903
(302) 678-3262

DATED: January 10, 2003

I. INTRODUCTION. DNREC's rule-making authority is derived from the General Assembly's legislative power, and for sound reasons requires adherence to certain legal standards. They were not satisfied in this case. The hearing provided a good sense of the problems, for example: DNREC's failure to account for additional VOC emissions that would result from failed or less durable coatings; DNREC's failure to account for the impact of climatic differences between California and Delaware; DNREC's reliance on marketing claims in lieu of more valid and pertinent scientific information; and, the genesis of all the problems, DNREC's decision to adopt the model rule before it examined the issues.

DNREC's hopes rest on the willingness of this Board to relax the applicable legal standards, based on any or all of the following generic arguments: (1) "the feds are making us do it, and there'll be dire consequences if we don't;" (2) "to get pollution reduction there have to be trade-offs that people just have to live with;" and (3) "this is a choice between public health and the mere convenience of consumers." Our court system is littered with environmental rule-making cases where agencies attempted to justify restrictions on the above grounds. They include two of particular interest -- one that voices strong doubt about the rationality of the California rule upon which Rule 41 is based (Appellants' Exhibit 2); the other (discussed below), which vacates a DNREC rule under circumstances remarkably similar to those of this case.

No serious credence can be given to arguments (1) or (3).¹ As for the argument that "pollution reduction requires trade-offs," the reductions claimed by DNREC are phantom reductions that serve only to convince regulators that progress on paper is being achieved. Moreover, environmental rules cannot rest on such simplistic analysis. If they could, any

¹ None of the Rule 41 restrictions is needed to meet the applicable health standard. (Dixon testimony, Transcript, 390-1). NPCA's 70% actual reduction alternative provides additional cushion.

governmental proposal would be deemed reasonable.

The General Assembly wisely envisioned that this Board would oversee the exercise of DNREC's pervasive rule-making authority and, where appropriate, remand portions of rules for which no rational basis exists. This case requires such a remand.

II. LEGAL FRAMEWORK. DNREC is authorized to adopt rules "to effectuate the policy and purposes" of 7 Del. C. Ch. 60. 7 Del. C. §6010(a). One such policy is to direct the development, utilization and control of resources "to make the maximum contribution to the public benefit." 7 Del. C. §6001(b)(1). Similarly, one such purpose is to provide a program for the management of resources so "as to make the maximum contribution to the interests of the people of [Delaware]." 7 Del. C. §6001(c)(1). The above provisions require environmental rule-making to balance the public interests in the utilization of natural resources.

The standard of review to be applied by the Board requires the appellants to show that the regulations are arbitrary and capricious, or adopted without a reasonable basis in the record. 7 Del. C. §6008(c). The Board may affirm, reverse or remand any appeal of regulations. *Id.*

One recent judicial decision re DNREC's rule-making authority that has special relevance is Delmarva Power & Light Co. v. Tulou, Del.Super., 729 A.2d 868 (1998), in which the court vacated a nitrogen oxides (NOx) emissions regulation because it lacked a reasonable basis in the record. Although no two cases are exactly alike, the similarities between Tulou and this case are striking. In Tulou, as here, the appellants argued that DNREC had illegally delegated its rule-making authority to a non-state entity by entering a memorandum of understanding (MOU) with the Ozone Transport Commission (OTC) (the MOU did not commit any states to the adoption of a specific rule). *Id.* at 872, 870. Further, as the court puts it:

"...the record contains what appears to be substantial scientific evidence to support the industry's contentions that the regulations are too ambitious because

the technologies are unproven, the deadlines are unrealistic, and there is no safety valve to provide protection against failure notwithstanding a good faith effort...DNREC has failed to provide sufficient fact-finding and analysis of evidence to permit this Court to conclude that there is a reasonable basis on the record for its decision. That is not to say that the Department could not, in a fully developed record, reach the same conclusions. What is lacking here is a detailed, independent scientific examination." (underlining added). Id. at 873.

The court also criticizes DNREC's response to various suggestions submitted by industry, noting that "The agency's response to each suggestion is largely based on the fact that such a change would represent a deviation from the model rule." Id.

In this case DNREC has made the same mistakes, especially with respect to the heavy reliance on the California rule-making.

III. RULE 41 HISTORY & DEVELOPMENT PROCESS. Several witnesses explained the origin of Rule 41. During the 1990's EPA examined what was technically achievable (Dixon, 427-8), and adopted the federal AIM rule in September, 1998 (63 FR 48848). Nonetheless, in June, 2000, the California Air Resources Board (CARB) approved a more stringent model rule, termed the Suggested Control Measure (SCM), for the use of local districts. (Nyarady, 470; Sell, 33). The SCM limits were taken from a rule adopted by the South Coast Air Quality District (South Coast) which is the only extreme non-attainment area for ozone in the entire country. (Nyarady, 469; Sell, 33). In October, 2000, STAPPA-ALAFCO, an organization comprised of State and Territorial air pollution program administrators, released a model rule that was "very similar" to the SCM, though "there may have been some" minor changes. (Sliwinski, 508, 510-12). STAPPA recommended the rule to the Ozone Transport Commission (OTC), which adopted it. (Sell, 34). The OTC member States, including Delaware, entered an MOU to propose the model rule in each of their States (Sliwinski, 513-4). Thus the OTC model rule was substantially the same as the California model rule (Sell, 34). All the disputed provisions of Rule

41 are identical to the California rule provisions (Sell, 34), and the minor changes made by Delaware will affect "a very small amount of sales." (Pettingill, 578).

Gene Pettingill, DNREC's foremost expert on Rule 41 and its rationale (Pettingill, 574-5) testified that DNREC "decided early on on the STAPPA-ALAPCO rule, which was based on the California rule." (575-6). That decision was made before DNREC even solicited input from the public (575-6).

Thus DNREC's rule-making was essentially an exercise in developing a rationale to support a preordained result. Such approach explains the arbitrary and capricious manner in which DNREC analyzed and addressed public input. As demonstrated below, DNREC's analysis - reflected principally in the Response Document and the testimony of its author, Mr. Pettingill - places great weight on information with little probative value; disregards altogether or minimizes the importance of detailed scientific evidence submitted by industry; takes certain information out of context and utilizes it to support Rule 41, when in fact it undermines the rule; and twice simply acknowledges provisions of the rule require reconsideration.

DNREC's rationale relies principally on the following: (1) the California rule and whatever rationale California used to justify it; (2) manufacturers' marketing information, such as product data sheets, internet information, and warranties; and (3) manufacturer input solicited directly by Mr. Pettingill.

Reliance on the California rule is misplaced for numerous reasons. First, the Tulou case strongly discourages wholesale adoption of another entity's rationale. Second, there is serious question whether the California rule is legally defensible for the reasons stated in the dictum in the case vacating the South Coast rule on which it is based. Third, differences in California's climate from Delaware's climate create certain performance issues. The appellants' testimony

supports that conclusion (e.g., Paul Sara, re: low temperature applications [222, etc.]; freeze-thaw problems [235-6]; impact of weather [239-41]; criticizing DNREC's conclusion in the Response Document that Delaware and California have similar climates [244-5]; pointing out that Los Angeles has zero freeze-thaws annually, whereas Delaware has 90-100 [236]). Dr. Gardner also provided evidence of large humidity swings between Delaware winters and summers, which exacerbate panelization problems (181-2, 174). DNREC's California witness could not refute the climate argument.² Fourth, too little scientific evidence supports the California rule and its departure from the EPA rule. CARB did no field testing of its own, relying instead on an NTS study initiated by South Coast (Nyarady, 480). Madelyn Harding explained the unreliability of that study (687, etc.), and Paul Sara presented evidence from a much more thorough field test study (25,000 panels under various conditions using different substrates, paint systems, etc.) that concludes low VOC coatings have durability problems, etc. (224). Fifth, California's rule permits averaging, Delaware's does not.

DNREC's reliance on marketing claims is also misplaced. Even DNREC's witness, Mr. David Fuhr, acknowledged that industry data sheets "enhanced their verbiage." (646). Vague words and terms such as "premium quality...durable...resists stains," do not support the conclusion that coatings will perform well in all applications. Good illustrations of DNREC's naivety appear in Mr. Pettingill's testimony at 547-8 and 550 (the label on a zero VOC can of paint tells DNREC "it is as good as any premium solvent-based paint that you can buy.").

Mr. Pettingill testified that DNREC knows that technology exists to support the limits because of the compliant coatings list that he compiled (537), but later was compelled to admit

² Mr. Nyarady answered "I don't know" to Dr. Tocker's question -- "Is it possible that paints and coatings are subjected to harsher environment in Delaware than California making it more likely that failure to occur with the non-VOC coatings?" (485-6). Mr. Nyarady also testified that he did not know if California has populated areas that experience large temperature swings (497).

that of the 86 stains on his list, the only one suitable for floors was the Fuhr stain (591), a product that Lance Hemsarth demonstrated caused classic lapping and grain-raising problems associated with low VOC product. (122-3).

DNREC's selective use of information solicited from manufacturers exposes its motivation to rationalize the preordained result. For example, Mr. Pettingill claimed that various manufacturer statements support Rule 41, in one case even after he was confronted with a letter from ICI that expresses several significant reservations (619-620).³

Because DNREC did no scientific research of its own and has little relevant expertise (see 526 re Mr. Pettingill's background), the weight it gave to the input of various experts is critical. Again, the only constant in how DNREC evaluated such input is that it accepted whatever supported the model rule and disregarded what did not. DNREC apparently recognizes that MPI (which has tested low VOC coatings extensively) has relevant expertise because it wanted MPI to testify on DNREC's behalf (Law, 318-9). Nonetheless it disregards what MPI says about the desirability of higher VOC limits for limited applications as an environmentally preferred approach to the use of low VOC products that fail or are not durable.⁴ Likewise, DNREC cites paint standards of Green Seal, an environmental organization, to support some of the Rule 41 VOC limits (for interior and exterior flats), but conveniently disregards the Green Seal standards which exceed Rule 41 limits (for exterior nonflats) (Pettingill, 567-8).

Along a similar vein, DNREC relies heavily on David Fuhr and his company. The

³ Other examples include DNREC's reliance on a Sherwin-Williams letter extolling low VOC products compliant with the higher limits in the federal AIM rule, not the lower Rule 41 limits (622); reliance on Dunn-Edwards support of the California rule because of an averaging provision not included in Rule 41 (Sell, 88); and reliance on an oral statement of Mr. Welch, Technical Director of Master Painters Institute (MPI), which, according to the Response Document, concluded that "the limits in the Delaware rule...are attainable." (p. 25). MPI's president testified that he discussed the statement with Mr. Welch, who informed him that his statement was limited to latex topcoats, not the entire rule (Law, 354).

⁴ See, for example, Mr. Law's testimony at 323-4 (high performance latex paint will last twice as long as conventional latex, and alkyd four times as long).

Response Document refers to Fuhr a number of times, and DNREC apparently accepts Mr. Fuhr's incredible claim that in 1991 he solved the panelization problems associated with waterborne sealers.⁵ DNREC also offered Mr. Fuhr as its only expert witness with any experience formulating paint, a strange choice considering his educational background, or lack thereof (Fuhr, 635), the limited market (80% is OEM coatings, 676) in which his 19 employee company participates (637), and the absence of any experienced chemist in his company (Fuhr's only full-time chemist just recently graduated from college). (673, 651). DNREC's willingness to credit Mr. Fuhr's opinion instead of industry experts with appropriate education and experience, and who can call on hundreds of full-time research chemists, can only be explained by the fact that Mr. Fuhr told DNREC what it wanted to hear. However, DNREC apparently disagrees with Mr. Fuhr's opinion when it undermines a key contention, namely that the requisite technology already allegedly exists. Mr. Fuhr testified that technology does not exist to support fully 10% of the rule, and he is unsure whether it will be there in two years when the rule goes in effect (Fuhr, 668). Likewise, DNREC's rule seemingly disregards Mr. Fuhr's opinion that it takes at least two years to develop a product (once there is technology), and normally three-four years. (655).⁶

Mr. Pettingill did credit Mr. Minchew's testimony in one limited respect. He concluded that "it makes sense" to include efflorescence in the definition of "specialty primer." (606-7). Thus he indicated he would put it on his "list to consider." (607). One wonders what else is on the list. Mr. Pettingill could not adequately explain why the efflorescence issue had not been considered previously, inasmuch as industry made the same comments during the rule-making

⁵ Mr. Fuhr could not explain at the hearing why he had not so informed the Maple Flooring Manufacturers Association, which has not approved any water-based sealers (See Fuhr, 675-6 and Exhibit 22).

⁶ See Response Document, 115 (alleging there is ample time to amend the rule if compliance problems surface in California).

(Id.). One obvious explanation is that the model rule adopted by DNREC does not include efflorescence in the definition, which is all DNREC needed to know in order to exclude it.

Finally, Mr. Pettingill acknowledged that certain changes were made to reporting requirements after the rule was proposed that cannot be supported. (570). He mentioned the need to impose time limits, but the post-proposal changes also impermissibly expand the class of entities subject to the requirement without affording an opportunity for public input.

IV. DNREC COMPLETELY FAILED TO ACCOUNT FOR REAPPLICATION. DNREC's principal contention is that the rule is needed to protect public health.⁷ Mr. Dixon's unrefuted testimony was that the applicable ozone standard which protects health will be met without any Rule 41 reductions, let alone the undisputed 70% reduction embodied in NPCA's proposal (390-1).⁸ Even more significantly, NPCA's proposal rests on what industry can actually achieve, and virtually all of the additional reduction DNREC claims under Rule 41 comes from coatings that will either fail immediately or last appreciably less time than coatings with slightly higher VOC limits. Consequently, Rule 41 would force the use of more applications that offset the emission reductions DNREC claims.⁹

DNREC's analysis of the reapplication issue is baffling. It waffles between numerous assertions that low VOC coatings present no performance problems whatsoever and numerous

⁷ The page restriction prevents appellants from fully addressing DNREC's contention that failure to adopt the rule may incur "the wrath of our federal government." (Chesser, 8). Given the historical reluctance of EPA to issue sanctions under any circumstances (see Mirzakhilili, 449; Dixon, 401) and the availability of an alternative which provides a 70% reduction beyond the recently adopted EPA rule, appellants suspect DNREC presented this argument to the Board knowing sanctions are "so unlikely...[as to be] out of the realm of possibility." (Dixon, 401). The contention detracts from DNREC's substantive argument on the merits of the rule, which apparently DNREC believes needs propping up with the worn-out "the feds are making us do it" argument.

⁸ Mr. Mirzakhilili alluded to an 8-hour ozone standard and a recent settlement of a lawsuit concerning it, but nothing else in the record, including the Response Document, sets forth any Rule 41 rationale based on such standard.

⁹ In addition, the rule would result in more painting during the warmer months, the ozone season, which DNREC admits is undesirable (Pettingill, 585).

admissions that they do.¹⁰ The Response Document goes so far as to acknowledge that low VOC varnishes will require more coats and that the emission reduction calculation should so reflect (Response Document, 53). Mr. Pettingill admitted that the calculation fails to do so (613-4). It is difficult to conceive anything more arbitrary and capricious than ignoring your own formally adopted dictate. Mr. Dixon's unrefuted testimony was that DNREC did not account for reapplication in any way (395) even though normally claims of reductions have to be supported by such analysis. (396). Mr. Law testified that South Coast does not account for reapplication, even though privately it has indicated that reapplication is a valid consideration (328).

The record contains overwhelming evidence to compel consideration of the reapplication issue. Mr. Hemsarh, Mr. Sara, and Mr. Minchew each presented demonstrative material of product failures and explained the technical basis for them. Their testimony was supported by Dr. Gardner (with respect to panelization) and Mr. Bennett, a painting contractor who also related in "real-life" terms certain public interest impacts (e.g., on a school which would have to allocate limited funds for re-doing paint jobs costing \$25,000-\$30,000). (202). Mr. Law discussed reapplication as it relates to demanding uses, such as in high-traffic areas (e.g., doors), car washes, hospitals, and schools. (329-331).

¹⁰ For examples of the former, see Mr. Pettingill's testimony at 552 (low VOC varnishes are very durable), 580 (nothing in this rule will require Delaware citizens to sacrifice quality), 596 (panelization is not a problem in Delaware and there will be no need for reapplications or removal of floors), and 599 (acknowledging that the Response Document admits grain raising is more closely associated with water-based finishes, but denying that the rule will require more reapplications). For examples of the latter, see Mr. Mirzakhali's acknowledgment that there are trade-offs in performance (456) and Mr. Pettingill's testimony at 552 (there are trade-offs, "we are going to have to learn what they are and learn to live with them. Let's find out whether they are important or not." [responding to Dr. Tocker's question (551) re the "cherry picking" of performance characteristics], 583 (confirming the Response Document statement to the effect that so-called "fringe applications" will be lost as a trade-off for cleaner air), 593 (acknowledging the Response Document statement that panelization is a bigger problem with low VOC products), and 612 (agreeing that low VOC floor products will result in a higher rate of failure when humidity exceeds 85 percent, but declaring that flooring contractors will not work when humidity is that high).

DNREC's principal answer to the reapplication issue does not provide a reasonable basis for ignoring it. DNREC argues that (1) historically (a 12-year period) California's per capita use of paints has not increased even though water-based systems have become more prevalent (Nyarady, 478), and (2) CARB has not received complaints about paint failures (Id. at 483). However, 40% of California's recent sales have been non-compliant coatings (84%-87% for stains), and the SCM rules, where adopted by local districts, do not go into effect until June, 2003. (Nyarady, 493-4). Thus consumers have not yet been forced to use the problematic coatings for the niche applications, except in South Coast where the averaging provision applies.¹¹

V. RELIEF SOUGHT. The appellants respectfully urge the Board to revoke Rule 41 and remand the case with instructions to implement the NPCA proposal and correct the reporting provisions. The Board should also instruct DNREC that if it initiates a new rule-making it must undertake a detailed scientific examination as contemplated in Tulou, supra, of the issues for each product category, including the climate and reapplication issues. Such examination would address the extent to which the reapplication problem impacts emission reductions, and could incorporate some or all of the suggestions made by Mr. Dixon for such an evaluation. (see 407, etc.).

DATED: January 10, 2003

Respectfully submitted,

JEREMY W. HOMER, ESQUIRE

¹¹ At least six companies have utilized the South Coast averaging provision (Pettingill, 580).

BEFORE THE ENVIRONMENTAL APPEALS BOARD

FOR THE STATE OF DELAWARE

Appeal of National Paint & Coatings Assn. to :
DNREC Air Regulation No. 41 : Appeal No. 2002-03

CERTIFICATE OF SERVICE

I, Jeremy W. Homer, hereby attest under penalty of perjury that on the 10th day of January, 2003, a true and correct copy of the foregoing Appellants' Closing Argument was sent via first class mail to the following addresses:

Kevin R. Slattery, Esquire
Department of Justice
Carvel State Office Building
820 North French Street
Wilmington, DE 19801

Matthew P. Chesser,
Deputy Attorney General
Valerie S. Csizmadia,
Deputy Attorney General
Department of Justice
102 West Water Street
Dover, DE 19901

PARKOWSKI, & GUERKE, P.A.

By:

JEREMY W. HOMER, ESQUIRE
(Delaware Bar ID#0413)
116 W. Water Street
P.O. Box 598
Dover, DE 19903
(302) 678-3262

June 7, 2002

David De Boer
Air Quality Specialist
South Coast Air Quality Management District
21865 E. Copley Drive
Diamond Bar, California 91765-4182

Dear Mr. De Boer:

We are providing comments concerning the final report that has been prepared for the South Coast Air Quality Management District Board on behalf of the National Paint and Coatings Association concerning the availability and efficacy of coatings at VOC levels that are specified in the July 1, 2002 revision dates for those coatings.

It is useful to recall why this report and the underlying evaluation efforts were mandated by the Board when it enacted the revisions to Rule 1113 in May 1999. As we understood that rationale it was based upon the reservations shared by industry, members of the Board, and staff about whether effective coatings could be developed in order to meet the lower limits.

The NTS exterior exposure study and the KTA-Tator study were undertaken as a result.

NPCA as well as other industry representatives participated in the development of the basic approaches and evaluations of the studies results. As the record will demonstrate, through out that process, there have been concerns raised by many of the industry participants concerning the manner in which some of the evaluations were conducted and in the way the results were reported.

We still have these reservations and set them out below.

The central problem that we have raised about the conduct and reported results of the NTS and KTA-Tator studies is that they do not comport with critically important basic approaches and methodologies that industry employs in determining whether a coating meets acceptable performance characteristics in order to justify its production and sale. It's axiomatic in the industry that development of a coating is a balance of key performance characteristics, and that depending on the design of the coating, certain features may be emphasized over others. Costs of materials also figure into this balancing act.

Thus in evaluating a coating, industry makes a comparison with other like coatings across all of the desired performance characteristics to determine whether the new coating overall matches or exceeds these characteristics.

This was not done by the SCAQMD studies. Instead, individual features of a low VOC coating were identified and these were the definition of what is considered sufficient to make a theoretical coating at the lower VOC level "available" and adequate. In some cases, critical aspects relating to the coating's performance were not reported, e.g., mil thickness, UV stability,

The problem with this of course is that a customer will not have access to this "theoretical" coating that is a mere construct of the staff and "combines" in one coating all of the favorable features found in several different coatings. Instead it will have available only real coatings that may have one or two of the good features of the staff's theoretical coating, but lack others.

In this vein we agree with many of the excellent comments you have received from Robert Wendoll of Dunn Edwards, Paul Beemer of Henry, Ray Russell of Smiland Paint, and David Sibbrel of Life Paint Company. The report to the Board should reflect these comments.

Additionally, the NTS study did not include a critically important application study in which the coatings would be applied in real world conditions to determine the impact on the coatings. This is a test that is used by industry because the application environment directly affects the long term and short term performance of a coating and thus affects its utility to the end user. Moreover, so far as we know there never has been a complete report of the NTS study made by the staff which raises and discusses concerns expressed by industry to some of the results. A key area here has been the dismal results of low VOC primers for wood and waterborne primers for metal surfaces. Another has been gloss retention of the lower VOC products. All of these points, and others have been raised by the TAC and have not been adequately responded to by staff.

Other study results that are referred to by staff but not made publicly available include the studies of essential public services coatings. All that we have heard is that there have been failures but hopes for the future. Results of these studies to date are important for determinations concerning the availability of 250 grams per liter industrial maintenance coatings that are applied to surfaces like those in the public service sector but which because they are private or non-public sector surfaces did not receive the extension of the 340 gram per liter limit granted to essential public service coatings. Surely this information is relevant to the decision of whether the 250 gram per liter should be imposed for such "non public service" coatings on July 1.

Also important to the industry is the informal clarifications provided by staff concerning the definition of metallic coatings and tank lining coatings. With respect to metallic coatings, staff has excluded "zinc rich" coatings while the regulatory record leading up to the adoption of metallic coatings in no way reflected such a non-obvious exclusion. Similarly, staff has informally clarified

that tank lining coatings do not include certain caustic materials, again under circumstances where this exclusion was not reflected in the rulemaking record. In our view these matters may well continue to be important issues as the limits become effective and the staff and board members should be aware of this. In conclusion, we would be less than frank if we did not state that an evaluation process for which we held out high hopes in 1999 has proven to be a disappointment. We hope that the final report will reflect our concerns and at least register in some detail the many points made by industry representatives in their response to the draft report.

Taken as a whole, the studies if they were generated in an industry effort to determine the "availability" of a coating for a market would have been conducted differently and the results would have been evaluated differently in critically important respects.

Time will tell whether this will make much of a difference as a practical matter to the availability of effective coatings for all applications in the district.

It could well be that the averaging program will save the end users in the district here, by making available viable higher VOC products to them. In this connection it is noteworthy that the averaging program has been resisted by some who market compliant VOC products, apparently realizing that there is something in the efficacy of the higher VOC products that causes end users to prefer them to their lower VOC products.

In any event, this NPCA whose members make excellent lower VOC and even zero VOC products for certain applications believes it is necessary for it to go on record on this matter and clearly state that several of the lower limits that will become effective on July 1 will result in inadequately performing coatings for certain applications.

Sincerely,

Jim Sell
Senior Counsel

Robert Nelson
Senior Director, Environmental Affairs

April 7, 2000

Ms. Janette Brooks
Stationary Source Division
California Air Resources Board
2020 L Street
Sacramento, CA 95812

Subject: Comments on the Draft Program Environmental Impact Report (EIR) for Suggested Control Measure (SCM) for Architectural and Industrial Maintenance (AIM) Coatings

Dear Ms. Brooks:

On behalf of the National Paint and Coatings Association (NPCA), we are providing comments concerning the Draft Program Environmental Impact Report for Suggested Control Measure (SCM) for Architectural and Industrial Maintenance (AIM) Coatings (February 2000). A number of our member companies will also be submitting comments.

The NPCA is a voluntary, nonprofit trade association representing some 400 paint and coatings manufacturers, raw materials suppliers and distributors. As the preeminent organization representing the paint and coatings industry in the United States, NPCA's primary role is to serve as ally and advocate on legislative, regulatory and judicial issues at the federal, state and local levels.

We estimate that over 80% of the volume of AIM coatings sold in California and which are at issue under the SCM are manufactured by NPCA members.

I. GENERAL COMMENTS

NPCA has been extensively involved in development of VOC control regulations for AIM and other coatings in California since the inception of clean air programs in California, beginning in the 1960s. Our record in this regard has always been one of constructive cooperation. We recognize the obligations of the industry to contribute its fair share in coatings technology improvements to help with the clean air problems of California. The industry even without regulatory prodding has consistently lowered the VOC content of its coatings. We seek by our participation to impart to regulatory decisions our frank and best estimates of what is technologically feasible and the associated consequences and costs of selecting certain technologies.

Most recently we have been extensively involved in the development of the current draft SCM, including assisting CARB in obtaining responses to its various requests for information in connection with the development of the SCM. We encouraged our members to forthrightly respond to the CARB survey that is

part of the factual basis for the SCM, and we encouraged members to meet with CARB staff in an effort to provide a better understanding of the complexity of the technology issues that are inherent in this regulatory effort to lower the VOC content of AIM coatings. NPCA staff and member companies have met with staff on a number of occasions in efforts to provide information that would provide a sound basis for developing an effective SCM for AIM coatings.

As a general comment we have to say that we are disappointed with the process utilized to adopt the SCM in this case and in the lack of adequate fact finding.

The importance of this undertaking cannot be over emphasized. The SCM will stand as a presumptively valid decision about what are cost effective, commercially viable, and technologically productive coatings for usage in the thirty plus air districts in California. At issue here are the millions of homes in those areas and important infrastructure, such as bridges and chemical storage facilities, related to the convenience and safety of the people in those areas. In making these critical comments, we hope you recognize that NPCA represents the full spectrum of AIM coatings manufacturers in the United States, including companies that specialize in the development and manufacture of low VOC coatings.

NPCA does not have (indeed could not have) a position that only high VOC coatings technology is presently or foreseeably available. Aside from being a demonstrably inaccurate statement, it would cause us to lose those members that manufacture and sell low VOC coatings. Rather the position of the NPCA is as follows:

A low VOC product technology may be successfully used currently to meet the performance requirements of one particular application and exposure environment of a general class of coatings. However, there must first be a thorough evaluation of this technology before it can be mandated as being feasible for all or even most of the application, performance, and exposure requirements of the general class of coatings to which it belongs. For example, an expectation that currently available low VOC industrial maintenance coatings could effectively replace all other industrial maintenance coatings currently in the market place is completely at odds with the history of advances in coatings technology. Reliance on such an expectation to guide the Staff's inquiry would be dangerously misguided. There is no substitute for a thorough, open minded, and objective evaluation of existing and reasonably foreseeable coatings technologies in setting future VOC limits. We do not believe that this has occurred here.

It is important to note here that some of the NPCA member companies that are most concerned about the proposed limits are companies that manufacture low

VOC coatings and emphasize the sales of their low VOC coatings because of their profitability.

We note the EIR characterizes the SCM as follows: "To fulfill [its] statutory mandates, the ARB often provides guidance and other assistance to the districts, including the development of model rules, such as the Suggested Control Measure for Architectural Coatings." (Draft Program EIR at page I-2)

The SCM thus carries great weight with the individual air districts, which as staff has noted throughout this process are the agents that ultimately have to formally adopt the limits and requirements of the SCM as district rules before they can be effective. In this sense, however, the SCM may be better conceived of as a "suggestion" from a reviewing authority that ultimately has the authority to disapprove plans from the districts that do not achieve the progress thought achievable by CARB. As a practical matter, therefore, districts do not deviate greatly if at all from CARB SCMs, even in cases where they might have reservations about their conclusions.

The EIR under discussion here is an instrumental document in the SCM adoption process as well as in the adoption of individual district rules that are based upon it. As noted by staff in the Draft Program Environmental Impact Report for Suggested Control Measure (SCM) for Architectural and Industrial Maintenance (AIM) Coatings:

"This Draft Program EIR has specifically and comprehensively addressed the environmental impacts associated with the Architectural Coatings SCM in accordance with CEQA, so that the districts, if they choose to do so, may rely on the analysis in the Program EIR when adopting or amending their architectural coatings rules." (Draft Program EIR at page I-3)

Consequently, it is important for the Program EIR to be as accurate as possible in that districts may rely upon it without further consideration. It will in short become a presumptively valid document that will not lend itself readily to subsequent questioning or criticism by the district.

It is for these reasons that we remain deeply concerned about what we consider to be fundamentally flawed conclusions about the technological and economic feasibility of many of the VOC limits that are the basis of the analysis of the EIR. If the staff is in error about the technological feasibility of the limits that it has specified in the SCM, then the environmental impacts assessed in the EIR are equally flawed.

II. DUE PROCESS/INTERSTATE COMMERCE ISSUES -FEDERAL AND STATE

Serious federal constitutional due process and interstate commerce issues can arise in the development of an SCM if it is not handled properly. As noted, the SCM is intended to serve as a consensus template for the districts to adopt without having to expend the time and resources that otherwise would be required of them. There is nothing inherently wrong with this approach and if implemented as intended, it can result in a more efficient development of reasonable regulatory requirements, saving both the regulators and the regulated community time and money. Problems can arise, however, if insufficient time and effort is afforded to ensure a full airing of issues. The potential for a classic "Catch-22" inheres in the process. The SCM is only guidance, so therefore it need not comport with the requirements of a rulemaking. The formal protections of rulemaking are intended by the process to be afforded when the districts consider adopting the SCM. But because the SCM supposedly reflects already vetted technology, districts are encouraged to rely upon the fact findings of the SCM for their fact findings. If in fact the SCM technology is not truly consensus technology, then the public never really has a realistic opportunity to a full airing of its concerns-- the SCM is conducted without the requirements of administrative legally sufficient fact findings and the districts in turn are not required to reconsider the findings except as their discretion dictates. This raises concerns about the potential for denial of due process under the federal and California constitutions as well as the potential for unconstitutional interference with interstate commerce as the resulting regulation may impose disproportionate burdens on out of state manufacturers.

III. INFORMATION RELIED UPON BY THE EIR

The staff has relied upon the following for its conclusions in the EIR:

- Results of laboratory tests from the NTS study and other results from the 1995 Harlan Study
- What the EIR characterizes as an "extensive" review of compliant coatings product data sheets.
- Results from the CARB 1998 AIM survey that the EIR characterizes as indicating that a large percentage of coatings already meet the proposed limits.
- Information on "foreseeable coatings technologies " obtained from resin suppliers and coatings manufacturers data sheets and (promotional) magazine articles

We discuss each of these and their inherent limitations below.

A. The EIR's Treatment of Test Data

The EIR's treatment of available test data manifests fundamental misconceptions about the effective use of such information by the industry.

Coatings manufacturers extensively test new coatings before introducing them to the market. These tests include two and three year field exposure tests because it is only under such real world conditions that new coatings' performance characteristics can be assured.

As mentioned in the EIR document, a number of the low VOC coatings that would be mandated by the SCM are the subject of a study being conducted by the SCAQMD pursuant to revisions to its AIM rule in May 1999. The EIR states,

"In addition to the laboratory results, accelerated actual exposure, real time actual exposure, and actual application characteristics studies are continuing. The results of the study are an important part of our technical evaluation of these six coating categories (see Appendix D, Description and Technical Assessment of the Coating Categories). The purpose of the NTS study was to test the application and durability performance of very low-VOC, low-VOC, and just-compliant coatings for the following six coating categories:

- Industrial Maintenance Coatings
- Nonflat Coatings
- Primers, Sealers, and Undercoaters
- Quick-Dry Enamels
- Quick-Dry Primers, Sealers, and Undercoaters
- Waterproofing Sealers"

(Emphasis added) (Draft Program EIR at page II-24)

While the EIR states that the results of the study are an important part of the staff's technical evaluation for the six coatings categories, it must be noted that what the industry consider to be the most important tests - real time actual exposure, and actual application characteristics studies - have not been completed. Consequently, it will be necessary for the districts to evaluate the technology of the limits for these coatings before accepting them as technologically feasible. In this regard, we also note that in Appendix D of the EIR, there is language suggesting that these tests are not really necessary to warrant the conclusions reached in the EIR about the technological feasibility of the coatings at issue. As indicated, therefore, the SCM will be issued without the benefit of the most crucial results of the most important of these tests. Apparently, the staff believes that in some respects the laboratory results of the NTS study are sufficient to justify its conclusions:

"The ARB staff has analyzed the impact of allegedly ineffective low-VOC coatings. There is a wide range of commercially available coatings that

meet the proposed VOC content limits in the SCM. Additionally, the results of the SCAQMD's NTS study support these findings. The laboratory results of the SCAQMD's NTS study reveal that there are currently available coatings that comply with the proposed VOC content limits and with coating and durability characteristics comparable to existing high-VOC coatings." (Emphasis added) (Draft Program EIR at page C-21)

We disagree with this and believe that any decisions about the technological and economic feasibility of the limits proposed in the SCM for the six categories under consideration must await the final results of the study which will include real time actual exposure, and actual application characteristics studies.

In rejecting our request to formally commit to a technical assessment of the SCM limits prior to their becoming effective, the staff stated the following which suggests that it too believes that the final word is not in on its conclusion that the SCM proposes technologically and economically feasible coatings limits.

"Even though the ARB staff believes that compliant coatings are available to meet the SCM limits, we are committed to working with the SCAQMD, other interested districts, and the architectural coatings industry as they conduct technology assessments of the future VOC limits..... Since the ARB staff will be conducting the assessments, we do not believe that it is necessary to include a technology assessment provision in the SCM After each technology assessment the ARB staff will report the results to the staff of each district, and district staff can then report to their District Governing Boards as to the appropriateness of maintaining the applicable future VOC limits." (Draft Program EIR at pages C- 7-8)

These statements taken as a whole indicate that the conclusions of the staff about the feasibility of the limits and coatings the SCM proposes are suspect and will require further analysis.

Additionally, it is our position that the NTS study laboratory results that are available are suspect in their own right as has been explained to staff in a letter from Christine Stanley, Vice President of Technology, of Ameron Coatings. See also NPCA's letter to Jim Nyarady on this subject.

With respect to the Harlan Study there are several issues.

It is an incomplete report, providing only raw data. The Abstract of the study states:

" Data were compiled for each product evaluated and is presented in this report. No comparison of the properties or performance of the samples was required by this contract." (Emphasis added) (Harlan Study at page 4)

The evaluation of the raw data was left to the ARB staff and not to the contractor who was the coatings expert.

The report consists of a series of summary tables and test reports for individual coatings. Information on individual coatings (such as recommended use and application of each of the coatings tested) is NOT included in the report. This makes it very difficult to evaluate and compare the data in the summary sheets .

The report was not peer reviewed. Without some industry involvement or review of the testing and reporting of the data, the conclusions based on the report are suspect.

Blind samples were used making any verification or comparison to other test results impossible. On the other hand when other testing groups, like Consumer Reports Magazine, do coatings testing, the products and manufacturers are identified so that any inconsistent or erroneous results can be spotted and challenged.

Different contractors were involved. Many of the tests performed in the study are very subjective types of tests, in which the results can vary markedly from technician to technician, e.g., pencil hardness, block resistance, application properties adhesion.

There is no indications of what if any QA/QC procedures were used. Nothing is mentioned about the qualification of the laboratories or their personnel and their QA/QC procedures.

The Appropriate Way to Make Coatings Technology Comparisons

With respect to making comparisons of low VOC coatings with higher VOC coatings Table IV-2 in Chapter IV of the EIR does so on the basis of the following characteristics of a coating

- Range of VOC
- Average VOC Content
- Average Solids by Volume
- Average Coverage
- Average Dry Time
- Average Pot Life
- Average Shelf Life

All of the above are interesting but relatively insignificant properties of a coating. They do not really tell one anything about the performance and durability characteristics of the coating or its suitability for a particular job .

A true comparison of coatings characteristics must take into consideration the following factors:

- Performance - how does the coating perform – What type of exposure was coating formulated to withstand, e.g., acid- base; waste water, high temperature? What are its real performance characteristics? Performance is more than cure time and shelf life. It includes durability under real life/field conditions.
- Application latitude – What type of equipment is need for application? Is highly sophisticated spray equipment required? Are there any limits on the application temperature or atmospheric (humidity) conditions under which it can be applied? What film thickness does it have to be applied at in order to meet the required performance characteristics?
- Surface latitude – What type of surface can the coating be applied to and what type of surface preparation MUST be done to insure a proper job? Surface preparation is crucial if an acceptable job is to be completed.
- Cost effectiveness -- An important and crucial factor that could tip the decision on whether a coating job is undertaken. Cost effectiveness includes the review of the service life of the coating, its application costs and required surface preparation, as well as the cost of the coating itself.
- Waste considerations: Will the use of a particular coating generate a high amount of waste product and will any special surface preparation cause the generation of additional solid or hazardous waste, e.g., old heavy metal containing coating that MUST be totally removed before the application of the new highly sophisticated coating 2K product.

These are the essential issues that have to be addressed when evaluating whether one coating can be substituted for another. For industrial maintenance coatings and other high performance coatings this is a very complex task.

It is obvious from a reading of the EIR that CARB did not consider these five very important factors in its review of product data sheets. These are the key factors that any knowledgeable coatings formulator, specifier or applicator would consider crucial in deciding whether a particular coating is suitable for a particular application.

It is our position that before any district could reasonably adopt the limits of the proposed SCM, it should undertake an evaluation of these factors with respect to the coatings at issue.

B. Review of Compliant Coatings Product Data Sheets

It appears that too much reliance has been placed upon product data sheets for the staff's conclusions. This is particularly troublesome in light of the fact that product data sheets often require review by a coatings expert in order to be fully comprehended. An example of the basis for our concerns is seen in the following statement from the EIR:

"ARB staff evaluated hundreds of conventional and low – VOC coatings product data sheets. The product data sheets indicated that low-VOC coatings do not require substantially different surface preparation, including power washing, than conventional coatings." (Draft Program EIR at page C-15)

This statement is completely at variance with what is commonly known within the industry and in fact is implemented in training and education by such organizations as Paint and Decorating Contractors of America and the Society of Protective Coatings, i.e., more attention to proper surface preparation is required of the newer two pack high performance coatings than conventional coatings. It is also true that instructions for conventional coatings require adequate surface preparation. But the staff's equating the degree of surface preparation required by two types of instructions that are associated with radically different coatings gives us concern that it does not fully comprehend the greatly differing consequences associated with using these two different coatings systems.

Staff's reliance on the product data sheets also apparently convinced it that there are no pot life problems associated with multi-component systems:

" Regarding pot life, the ARB staff's review of currently available, multi-component low-VOC coatings revealed that pot-life problems are not anticipated." (Draft Program EIR at page C-18)

This too is completely at variance with the real world experience of the industry, notwithstanding individual product data sheets that may minimize the problems or state that they are not substantial if "instructions for use" are closely followed. As explained in comments being submitted by Ameron Coatings concerning the EIR, the pot life issue is an extremely significant and complex issue affecting the cost of application.

C. Results from the CARB 1998 AIM Survey

With respect to the results from the CARB survey, we again caution that low VOC product technology may be successfully used currently to meet the performance requirements of one particular application and exposure environment of a general class of coatings. However, there must first be a thorough evaluation of this technology before it can be mandated as being

feasible for all or even most of the application, performance, and exposure requirements of the general class of coatings to which it belongs.

D. Information on “Foreseeable Coatings Technologies” from Promotional Materials of Resin and Coatings Manufacturers

Caution should be exercised in relying on information from resins and coatings manufacturers and their promotional materials that are published in trade journals that are not peer reviewed. Statements about the properties of a resin starting formula are just that -- where the coatings formulator begins to determine whether an adequate cost effective coating may be developed based on it.

E. Appendix E Tables

As numerous industry commenters have pointed out, many of the coatings products listed in the tables in Appendix E do not belong in the coatings category in which they are listed. For example: over 30 percent of the products listed as lacquers are in reality polyurethane varnishes.

IV. DISCUSSION OF SPECIFIC COATINGS CATEGORIES

A. Floor Coatings

Originally as this category was developed under the national AIM rule it was defined as:

“an **opaque** coating with a high degree of abrasion resistance that is formulated and recommended for application to flooring including, but not limited to, **decks, porches, and steps**, in a residential setting”

During the discussions surrounding the development of the revisions of SCAQMD’s Rule 1113, the reference to residential setting was dropped in order to expand the use of the coatings to commercial and institutional settings.

CARB now would expand the definition to cover floors exposed to extreme environmental conditions which historically have been covered by industrial maintenance coating category. In so doing, it would prevent the use of higher VOC industrial maintenance coatings on floors in settings that require such coatings. This would mean that the conditions would allow for use of the industrial maintenance coatings on walls, but only lower VOC materials could be used on the floors exposed to the same conditions.

The data sheets that CARB is relying on to make their decision concerning the VOC limitation cover a wide variety of product types and hodge-podge of coatings technologies. These products range from simple latex porch and deck enamels used by home owners (which have very limited applications and uses)

to "exotic" 2-K materials that require complex mixing and application equipment and special surface preparations (only available to trained professional applicators) or which pose safety concerns. These materials often are accompanied by such warnings as,

" For industrial use only by professional applicators"; or " An eye wash and safety shower should be nearby and ready for use."

Others are elastomeric floor coatings that require film build of over 22- 24 mils in order to be effective. And others have severe use limitations, e.g., they are not recommended as exterior topcoats or are not be applied to horizontal surfaces that become slippery when wet.

Additionally, a number of the products cited by the EIR for the low VOC floor coatings only represent raw material suppliers best "suggested starting formulas" and are not commercially viable products.

Also, several of the coatings listed as floor coatings do not belong in the "floor coating" category, e.g., " semi clear concrete sealers and safety and zone marking paint."

It should be obvious from the wide variety of products currently being sold as floor coatings, that no single product or technology is able to satisfy all of the varying application conditions and performance requirements covered by this category. The ARB's decision to totally rely on high end 2-K or polyurethane technology that is normally marketed for industrial application only by professional painters is flawed and does not reflect the true market place needs for floor coatings in all situations such as residential, institutional and commercial.

We recommend that the definition for "*floor coating*" be revised to read:

"Floor Coating: An opaque coating formulated and recommended for application to flooring including, but not limited to, decks, porches, and steps, for the purposes of abrasion resistance."

Also the definition for "*Industrial Maintenance Coatings*" should be revised to remove the phrase "*excluding floor coatings but*".

B. Non Flat Coatings; Primers, Sealers and Undercoaters; Stains; Industrial Maintenance Coatings; and Lacquers

Through out this process, NPCA has attempted to bring in the coatings experts from its membership to discuss the technological and economic feasibility issues that are involved with the proposed SCM limits. We are particularly concerned about the coatings identified above and we urge CARB to consider the comments and information that have been provided by our members and other

coatings experts. In doing this we believe that CARB should rely on the consensus judgement of the experts.

C. Categories Not Proposed for Inclusion in SCM

There are sixteen categories of coatings that are recognized by the national AIM coatings rule which are rejected for inclusion in the SCM. Among the reasons cited for this decision in the EIR are the following:

“With the exception of antigraffiti coatings, these categories are not generally included in any of California’s district architectural coatings regulations. The products under these categories are currently either: (1) subject to other coating categories in district regulations; (2) sold only under the small container exemption; or (3) not sold in California (at least in areas with architectural coatings rules). Nevertheless, we researched each of these categories because they were included in the U.S. EPA’s architectural coatings regulation, and because in many cases these products will be subject to lower VOC limits under the proposed SCM compared to current district regulations. In researching these categories we considered a variety of factors, including: (1) the VOC limit they would be subject to under the proposed SCM; (2) the potential for reformulation as demonstrated by similar products already complying with the VOC limits in the proposed SCM; (3) the availability of products that do not fall under the category as defined in the national rule, but fulfill the same basic function at a lower VOC content; and (4) the extent to which products under the category are used in California. As explained in the following sections, we do not believe it is necessary to incorporate a new category and VOC limit for any of these categories.” (Draft Program EIR, Appendix D, at page 178)

We understand that staff is reconsidering its initial decision to exclude the concrete protective coatings and now plans to incorporate the “concrete protective coatings” category recognized by the national AIM coatings rule at a VOC limit of 400 grams per liter in the SCM. In doing so, the staff appears primarily to rely upon on the information provided by Textured Coatings of America, an NPCA member. NPCA fully endorses the position of Textured Coatings and the inclusion of this category.

Another coating at issue here is the thermoplastic rubber coatings and mastics coating. (Draft Program EIR, Appendix D, at page 205) Inland Coatings, an NPCA member provided information to staff requesting this coating as defined by the national AIM coatings rule at a limit of 550 grams per liter of coating. It has provided information to justify its inclusion, and is prepared to provide more to staff in this connection. Discussions with staff about the exchange of information between Inland Coatings and staff indicate that there may have been some miscommunication. Staff stated that the company failed to provide sufficient

information that demonstrated that its thermoplastic rubber products are more durable, and result in less emissions over time than comparable bituminous roof products or latex roof products. "We have no data to substantiate that thermoplastic rubber roofing products outlast their bituminous counterparts. We also note that latex roofing products are available." Staff also rejected the company's claim that its thermoplastic rubber products work in situations where water-based or bituminous products fail, e.g., they adhere well to single-ply membranes and adhere well when exposed to ponding water. "We have no data to substantiate these performance claims." The EIR concludes this discussion by stating, "...since thermoplastic rubber products are not used in California, we assume that other roofing products can be used to address these situations."

It is our understanding that the company has attempted to respond to these points and is prepared to provide more information on this matter. For example, with respect to the issue of durability, it is generally accepted information within the industry that coatings like Inland's dramatically outlast bituminous coatings. The nature of bituminous coatings is that they are of limited durability, and must be repaired and refurbished on a fairly regular basis. Inland Coatings can demonstrate single application, no repair histories for its coatings extending over several years. If this information was not provided in a manner that staff found sufficient, the company is prepared to provide more information. The same is true of its claims about single-ply membranes, with one of the major manufacturers of singly ply membrane coatings recommending Inland Coatings for repair of its product. Finally concerning the fact that the company's product is not used in California, this has occurred only because the company has refused requests from distributors to carry its product for unregulated areas in California simply from concern that through no fault of its own, the materials might wind up in a regulated area where they would be noncompliant. It is ironic that Inland's conscientiousness about California's clean air requirements now work against it for a reason that is wholly unrelated to issues of technological efficacy and more efficient methods for reducing over all VOC emissions from coatings.

Another coating that falls into this category is nuclear coatings about which Ameron Coatings, an NPCA member, has provided comments. The point being raised by the company is that the proposal would require the use of coatings that would be astronomically more expensive than existing systems and this added expense is grossly disproportionate to the minuscule amounts of VOC emissions that result from the small usage of the existing coatings systems. We urge you to consider the company's comments.

NPCA also believes that the staff should reconsider its decision to exclude the other categories. In particular, we do not believe that the staff has had an opportunity to receive or fully review all of the information that would be necessary in order to make a sound decision on these coatings. It must be recognized that the process to date has necessarily focused on the larger

coatings categories and the manufacturers of the coatings at issue here, many of which are niche market coatings, are often small businesses that need more time to respond. We request that this be given some consideration and that staff keep the door open for additional information about these coatings.

In reviewing data and technology for this area we suggest that the following general principles be considered. It should be recognized that coatings are developed for certain purposes. In this highly competitive industry, if a lower VOC product can cost effectively serve the same coatings requirements of a higher VOC product, it is selected over the higher VOC product. The U.S. Environmental Protection Agency in developing the national AIM coatings rule recognized this and the fact that many of these coatings were low volume niche coatings that previously fell under the general category of industrial maintenance coatings. They had to be specifically identified and broken out as coatings in their own right when the industrial maintenance coating category was lowered to VOC levels that were below the levels needed for these coatings.

The EIR is very cursory in its discussion for excluding these coatings, often stating little more than assumptions that are based upon the general coatings category of industrial maintenance coatings. Data concerning these coatings may not have been reported under the category. For example, with respect to chalkboard resurfacing coatings, the EIR reflects that only a very small portion of the coatings reported in the CARB AIM survey were identified as chalkboard resurfacing coatings. It is likely that some of the volume used in California was reported as general industrial maintenance coatings.

Consequently, CARB should consider the possibility that information developed later in the rulemaking will demonstrate that indeed a higher VOC limit is required for these coatings. Like comments apply to the other excluded coatings categories. In any event, NPCA plans to continue to track this area during this rulemaking and to provide additional information on these excluded coatings as it becomes available to the NPCA .

V. REGULATORY ALTERNATIVES

A. Averaging

We are concerned that ARB has not chosen to include an Averaging Compliance Option in the proposed SCM or at least retain the placeholder Statement on Averaging that appeared in the December 1, 1999 draft of the SCM. Last December, the ARB formed a joint committee with SCAQMD to develop a workable averaging program. While we agree there are clearly differences between industry, SCAQMD and ARB on how to design a workable averaging program, ARB has chosen not to move forward with trying to resolve these difficulties. Instead the ARB has placed a lower priority on developing this program by indicating "... but the existence or absence of averaging does not

affect either the ARB's analysis of the technical feasibility of the VOC limits in the SCM, or the ARB's environmental analysis for the SCM." (Draft Program EIR at page V-159)

We disagree with this position. In fact, averaging will be required to make some of the requirements feasible.

The ARB's proposed SCM is nearly identical to the SCAQMD's revised Rule 1113, a rule which was developed for the only district in the country ranked as severe ozone non-attainment area. Without an averaging provision, ARB's proposed SCM is more restrictive than the SCAQMD's revised Rule 1113.

B. Extended Compliance Deadlines

In of Chapter V. Project Alternatives, the ARB discusses four regulatory alternatives. Alternative B would extend all of the effective dates for the VOC content limits to January 1, 2004 with the VOC content limits for the affected coatings being identical to those in the February 11, 2000 draft. The ARB staff has rejected this alternative saying that any delay in achieving these emission reductions is not technically or economically justified. We disagree with this conclusion and urge the ARB to review their decision in light of industry's comments on the technical merits of the ARB's SCM development.

VI. MODEL FORMULAS TO ESTIMATE POTENTIAL MATERIALS COSTS

There are fundamental problems with the use of model formulas to estimate potential material costs.

The approach carries the inherent assumption that only one coating technology (resin technology) will be used to meet the lower VOC limits. Said another way, the approach implies that one technology will meet all the requirements of a category. This is unlikely and therefore the approach will not accurately estimate associated reformulation costs.

The model formulas are simplistic. Generally one cannot simply substitute a low VOC resin for a high VOC resin without changing other important components of the coating.

To obtain anything close to approximating a realistic estimate using this approach would require the use of real world formulas.

A more straightforward and more accurate way of estimating and comparing raw material costs of high and VOC coatings would be to compare only the cost of the high VOC resin to the low VOC resin on a WEIGHT OR VOLUME SOLIDS basis. By doing this one would at least get an idea of the magnitude of the cost difference, e.g., 1.5 time or 2 times more costly.

To obtain a better cost comparison beyond this, one would have to have to actual formulas for the current high VOC product and the low VOC replacement.

Also it is important to note that raw material cost are only one factor in calculating the total cost of reformulating coatings. Additional costs include packaging costs, direct R&D labor, etc.

VII. CONCLUSION

We appreciate the opportunity to provide comments on the EIR. We will continue to work with staff in the development of the SCM with a view to providing it with our best judgments about the technological and economic feasibility of the coatings technology decisions it is contemplating. But ultimately, the issue of whether Californians will continue to have access to cost effective, productive coatings rests with CARB and the districts. Our goal is to ensure that we have provided the decision makers with our best technical information and judgement.

Sincerely,

Jim Sell
Senior Counsel

Robert J. Nelson
Director Environmental Affairs

August 30, 2001

Gene Pettingill
Regulatory Officer
Delaware DNREC
715 Grantham Lane
New Castle, Delaware 19701

Robert R. Thompson
Hearing Officer
Delaware DNREC
R&R Building
89 Kings Highway
Dover, Delaware 19901

Dear Mr. Pettingill and Mr. Thompson:

I am writing on behalf of the National Paint and Coatings (NPCA) to provide comments concerning the proposed adoption by Delaware of VOC limits for architectural and industrial maintenance coatings (Proposed Regulation No. 41) which is based on the rule approved by the Ozone Transport Commission.

I. INTRODUCTORY COMMENTS CONCERNING NPCA'S INVOLVEMENT WITH DEVELOPMENT OF THE PROPOSED RULE

NPCA has been extensively involved in discussions with the OTC and individual state agencies and officials during the OTC's consideration of the model regulation.

The OTC's official consideration of an AIM rule based upon the California Air Resources Board's (CARB) AIM Coatings Suggested Control Measure began last summer.

NPCA Extensive Comments and Involvement: NPCA and its member companies have provided extensive comments to the OTC working group and its designated lead agency official, Mr. Sliwinski of the New York Department of Environmental Conservation (DEC), throughout the process and we have met with your office and other state agency officials. We have done so in an effort to provide you with information that allows you to make an appropriate decision concerning the extent to which coatings technology will permit the lowering of VOC limits for AIM coatings below those specified in the national AIM coatings rule, without compromising performance and cost effectiveness.

Our several meetings with the representatives of the OTC in our building and elsewhere involved discussions with technical experts from our companies which sought to provide information that demonstrated why the industry did not believe that the CARB SCM should be adopted by the OTC as a model and why alternative standards that we offered should be adopted instead.

During the August 23 hearing in Dover, Mr. Sliwinski, the designated lead state representative on the OTC AIM coatings work group, suggested some of our points had not been raised before, mentioning our concerns about floor coatings. This gave us pause. As you can see from the attached August 21, 2000 submission to Mr. Sliwinski, we specifically raised technologically feasibility concerns about floor coatings, among others. (See Attachment D for August 21 comments. Detailed floor discussions in attached submission to CARB.) It was raised by submitting to the OTC our comments to CARB on its SCM because OTC representatives had made it clear that they were relying in major part, if not exclusively, upon the CARB record for the OTC recommended rule. This was made even clearer when Mr. Becker of STAPPA/ALAPCO who attended most of the meetings and participated as if he were a designated OTC representative asked at our first meeting, "If CARB did not believe you, why should we?"

I hasten to add that Mr. Sliwinski's forgetfulness that evening about what was in the August 21, 2000 submission was understandable oversight in light of the great deal of information that has passed through his hands during this exercise. But the point is we did raise the issue and others as well concerning technological and commercial feasibility. Pictures of paint failures, panels of the type that were shown at the August 23 hearing, written submissions, oral testimony of coatings experts describing in great detail the technological issues, etc., were provided during the OTC's development process. Many facts were provided that amply demonstrated the technological and commercial feasibility problems associated with the CARB SCM/STAPPA proposal.

We have maintained from the beginning of this exercise with the OTC and now with individual states, that there are significant technological feasibility problems with the SCM limits and the conclusions of CARB with justifying the limits. In our view each OTC state is obligated to go behind the CARB record and reach its own independent determinations concerning the technological feasibility and commercial feasibility of the limits it adopts.

In this connection the exchange between Mr. Thompson and Mr. Sliwinski at the hearing concerning answering the points made by Ms. Harding of Sherwin Williams about the difficulties presented by low VOC waterborne materials and wood floors is instructive. In answer to Mr. Thompson's query about how Ms. Harding's issues might be answered, Mr. Sliwinski said that applicators may have to find ways to work around the temperature and humidity problems raised by Ms. Harding's presentation. Mr. Thompson in response expressed concerns about the commercial feasibility of such an approach.

In this same vein, an examination of the record compiled by Delaware shows that many of our real concerns about the practical implications of the mandated coatings technologies are similarly relegated to "it'll work out" or the technologies will be there to solve the problems. On the last point it must be noted that the Delaware record often contains references to OEM coatings technology, especially with respect to wood coatings, e.g., the references to Fuhr and Cash coatings seem to apply here. As Sherwin Williams points out in its comments, references to OEM coatings for future available technologies for field applied coatings is inappropriate. OEM coatings are applied under much more controlled circumstances than field applied coatings – the environment of application can be better

controlled for temperature and humidity, the substrate is a known commodity, the applications are assembly line like and supervised, and there is a much wider selection of chemistries available because of the controlled environment, including ones that safety considerations prevent from being used in a home or similar setting.

Also the record has no discussion of the time frames involved with developing, field testing, and bringing to market a new field applied coating. These can be as long as five years. Even reformulations of existing technologies may require such testing before they can be confidently applied. Bear in mind, if a field applied coating fails or proves to have unanticipated harmful properties that only show themselves over time, the failure can be widespread and catastrophic. Here again is a key difference between OEM coatings -- while failures here are no picnic, at least they are confined and thus more readily addressed. These kind of very practical, real world issues are not examined in the record. Technologies in their early stages of exploration, such as soybean based alkyds, are cited as well and this practice too is a highly questionable basis on which to establish a rule that would eliminate so many of our important coatings from the market.

NPCA's Alternative Table of Standards: We have submitted a Table of Standards that secures significant reductions in VOC emissions. (See Attachment A.)

Our calculations demonstrate that our suggested limits will secure approximately 70% of the VOC emissions reductions that are assumed by the OTC to be secured by its suggested Table of Standards. (See Attachment B.)

We say assumed, because it is our conviction that several of the limits in the Delaware proposal are so low as to compromise coatings performance such that more coatings will be used more often and thus will result in higher, not lower, VOC emissions.

It is our understanding that Delaware and many of the OTC states are seeking additional VOC emission reductions in order to meet SIP requirements mandated by US EPA which include adoption of regional control measures. A certain regional VOC emission tonnage reduction target is being sought and the proposed AIM rule apparently would meet a certain share of it. It is clear, however, that EPA does not intend by that SIP mandate to obtain only "on paper" reductions. As we have stated throughout this process and restate here, the limits that would be adopted will be counter productive to lowering VOC emissions reductions because they will result in eliminating from the market effective coatings and will result in more painting.

Our Table of Standards has concentrated on providing suggestions for lower limits in the large volume coatings categories. We also believe, however, that a number of the low volume, niche market or specialty coatings that are recognized by the national AIM coatings rule but not by the OTC model regulation should be adopted by Delaware. In this connection, it is important to note that two such coatings -- conversion varnishes and thermoplastic rubber repair coatings and mastics -- have been recognized in the post OTC recommendation period. Also, John Elston, the Director of Planning for the New Jersey Department of the Environment and the head of the OTC Stationary Source Committee, in

reporting on the work of the AIM workgroup to the full Commission at its Summer 2001 meeting in Newport, Rhode Island, cited adoption of the thermoplastic rubber repair coatings and mastics as an example of where the situation and climate conditions in the Northeast are such as to necessitate departure from a regulation that was developed by California. The key issues in deciding whether to recognize the niche coatings should be the need for them, effective alternatives, if any, and the reasonable assurance that the nature of the coatings, their costs, or their distribution are such that it is unlikely that they will become coatings of general application. We set out a number of coatings that we believe qualify for this and sincerely hope that they will be recognized in the final Delaware regulation.

We also have asked for the inclusion of an averaging provision that would allow higher VOC products to be sold so long as their excess emissions are adequately off set from lower VOC emissions of products that go beyond compliance limits. We understand that some concern has been expressed about the enforceability and administrative difficulties of such an approach. It is note worthy that the OTC Consumer Products Model Rule includes not only an averaging provision but also an innovative products provision and a variance provision. It is difficult to understand how this can be afforded one group of consumer products and not another. At the hearing Mr. Pettingill justified the distinction on the grounds that the consumer product rule is "technology forcing" while the AIM coatings rule is not. We disagree with this and believe that the distinction is not supported by any substantial evidence on the record and is arbitrary and capricious. We make a similar request and on the same grounds for a variance and innovative products provision like the provisions in the consumer products rule.

Detailed discussions and information on these matters and others are provided below or are attached.

We think it is important to recognize that our industry has worked hard to convey our deep concerns and reservations about the rule Delaware has proposed. To date, we have seen very little recognition of these concerns. We hope that this will serve to convince you and others that there are very real problems in adopting the OTC Model Rule. It is based upon a California Air Resources Board rulemaking, which we do not believe has established a sufficient factual record for the limits it specified even for California and its much milder climatic conditions.

Future Technology: We recognize that the limits will not become effective until 2005 and that an industry like ours can be expected to continue to push its R&D toward lower VOC products. Our current suggested Table of Standards represents the consensus industry view of where we believe technology will be in 2005.

In approaching this very complex area we suggest that as a practical matter a great deal of the issue turns upon the degree to which lower VOC waterborne coatings can replace higher VOC waterborne and solventborne materials. (See Attachment C.)

As we stated in our December 11, 2000 letter to Mr. Sliwinski as a practical matter the lion share of the lower VOC emission reductions gains from AIM coatings will largely come from some type of waterborne coatings technology in the high volume coatings categories.

It thus is worthwhile to review in the record the materials that relate to the differences between the two. In this connection the materials from the Rohm and Hass Spring Hill meeting (Items 66 and 67 in Delaware record) are useful, as is a 1992 presentation made by Carl Minchew of Benjamin Moore during the EPA AIM Rule Reg-Neg process (included in these materials). Also the article written by Rusty Johnson a manager of Rohm and Haas which is included in my December 11, 2000 letter to Mr. Sliwinski. (See Attachment D.)

In reading the Johnson article, you should realize that while Mr. Johnson refers to "solvent free" latex coatings at one point the, the article is more general and applies to "low solvent paint makers".

We do not oppose the technology.

Besides the wrong headedness of such a stance, too many of our members use it for us to oppose it. Our worry and our members worry is that the technology is being pushed too far, too fast by the proposed rule to a point where our members cannot make effective waterborne coatings.

Two of the major industry representatives at the August 23 Dover hearing, Sherwin Williams and Benjamin Moore, who spoke against certain limits in the rule are major suppliers of waterborne coatings. In fact Mr. Pettingill cited some of their waterborne coatings in support of adopting the proposed rule.

Surely basic market incentives (customers prefer the coatings) and economies of scale (why maintain different coatings technologies when one would do) would lead these companies to support the rule in its entirety if they thought that all of the existing solventborne and waterborne systems could effectively be replaced by the waterborne systems mandated by it.

Here are some of the reasons they do not. A review of the product data sheets for the waterborne exterior and interior coatings systems at the VOC levels of the proposed rule demonstrates some fairly consistent restrictions and limitations on their use. They cannot be applied in temperatures at or below 50 degrees or when such temperatures are expected in 24 hours after application. For the "zero" VOC materials the restrictions are more acute. Also many caution against application in certain humidity conditions. To mention just two very significant impacts of limiting the availability of such coatings to these VOC limits – there will be a greatly truncated painting season which will have significant economic consequences for painters and developers and more of the painting will have to occur in the relatively higher ozone forming months which will have an impact on ozone formation. Also any out side emergency painting (e.g., storm damage to a home) during the winter months would be severely circumscribed if not eliminated.

Mr. Johnson works for one of the leading companies supplying waterborne systems and thus has every incentive to say that eventually the problems he identifies with low VOC waterborne coatings will “disappear”. Nonetheless, this knowledgeable expert concludes the article by saying only that they will “diminish” over time.

This is more than just “judgment” about uncertain but expected, or probable breakthroughs in our resin and coatings technology. Rather, it is based on what is known about the fundamental chemistries of coatings from which all innovations will have to come.

- waterborne systems will never be able to have all of the properties of an alkyd system, and vice versa
- even waterborne systems require a certain level of solvent for adequate performance in certain application and exposure environments and storage situations
- climatic conditions in the Northeast have far more impact on the majority of coatings applied than those of California because the high population centers of the Northeast are subject to more extreme weather conditions than those in California (it snows in the Sierras, it does not snow in LA and San Francisco and in no place in California are there widely divergent seasonal temperature/humidity/ freezing annual conditions that regularly occur in the Northeast
- water has a definite detrimental effect when in direct contact with wood and waterborne systems have these effects
- low VOC two pack systems effectively meet a number of important application requirements but are completely cost prohibitive substitutes for general coatings requirements
- low volume coatings that serve a niche market will not increase in volume beyond the specialized demand for which they were developed because they are completely ill-suited for other uses.

In our view, adoption of the VOC limits of the proposed Delaware rule would not be supported by substantial evidence and in fact would fly in the face of contrary substantial evidence.

II. LIMITS ARE NOT SUPPORTED BY SUBSTANTIAL EVIDENCE

As alluded to above, the OTC effort has been largely based upon the record that was compiled by CARB during its development of its Suggested Control Measure (SCM) for AIM coatings.

There is no evidence that the OTC in making its recommendation independently and critically reviewed the record that was established by CARB for the SCM. Our review of the record compiled by Delaware suggests that Delaware has not undertaken such an adequate review either.

As stated previously , we submitted substantial information both orally and in writing during the OTC deliberative processes challenging many of the findings and conclusions of the CARB decision making and its record. Again we urge you to review them and our arguments concerning them to determine whether the conclusions reached by CARB on the basis of its studies and findings provide sufficient substantial evidence for Delaware to underwrite the same technical conclusions.

With respect to the testing and studies that were relied upon by CARB we noted that the tests were not adequately performed or were initial laboratory tests that cannot be relied upon for decisions about a coatings efficacy without further testing through field applications and exposures. In this regard we are concerned about the manner in which the continued tests are being conducted in the SCAQMD. (See Attachment E.) In our view these are more in the nature of technology assessments than conclusions based on well performed tests.

More importantly we are concerned that Delaware apparently plans to rely upon the tests and experience of the SCAQMD and California with lower VOC coatings in determining whether it should revise any of the limits before they become effective.

It is likely that many of the problems that we expect to be associated with the lower VOC coatings in the Delaware will not be as acute as in California because of more favorable weather conditions and because the averaging that is allowed in the California rule will mask technology issues. Under the California averaging provision a home owner would be able to get a solventborne coating when needed. It's ironic that Delaware takes the position that because it expects to know whether there are any problems with the limits from the California experience there is no need for averaging in its rule and yet the very averaging that is allowed in California will mask problems with the limits.

We request that the Delaware rule include a provision for requiring independent technology assessments and tests before the limits become effective.

There are exposure tests that are now being conducted by the SCAQMD. The initial results of these tests confirm that lower VOC waterborne coatings in crucial areas such as stain blocking for wood and industrial maintenance for corrosion resistance have performed poorly in comparison to higher VOC coatings.

We have attached a position paper which raises these and other questions about staff's report to the SCAQMD Board concerning the technology assessment. One of our comments is particularly relevant to the issue of floor coatings which will be discussed in more detail below. It notes that the Master Painters Institute's survey of available coatings has no coatings listed for floor coatings at the VOC level of the Delaware proposal except

for concrete that is not subject to water penetration from below. (See Attachments E and H.) Coatings listed for high traffic areas like stairs and steps and wood porches all have VOC levels at or above 350 grams per liter.

Pechan Report: We have several concerns about the Pechan Report which was specifically commissioned by the OTC states for this exercise.

First the study is not a comprehensive survey. It is not based upon actual Northeastern sales data of the several companies that submitted information. Rather it relies upon product data sheets of the various companies' product lines without any associated information of the degree to which, or if any the products are actually sold in the Northeast.

Moreover the figures for the compliant coatings are based only a count of reported coatings categories, not of the volume of coatings in those categories. In this sense it commits a similar mistake made in the CARB analysis of the California survey data. It looks to whether there are products in a broad coatings category that meet or are below the proposed VOC limit and assumes that such "availability" of compliant products in that category automatically means that the remaining percentage of higher VOC products can readily be replaced by the compliant products.

Similarly the OTC's Preamble to the recommended rule states the following about "feasibility" :

It should be noted that a substantial number of coatings exist that comply with the VOC content limits for each product category. Therefore, while some product manufacturers may need to reformulate in order to comply with the VOC limits, the model rule was developed at a level where a significant number of complying coatings already exist in the marketplace.

A broad category of coatings can include ones that can be very low VOC because of their particular application and performance requirements. Some times they can constitute a large percentage of the coating category. But this does not mean that they are suited for all the requirements of that broad category. Even the "qualitative" figures of the Pechan report suggest the opposite of what the Report implies. The Report states "when averaged across all categories, the percentages of products compliant with the OTC Model Rule is 39 percent." It is difficult to understand how such a conclusion supports the notion that compliant products should be readily available by 2005 for all of the application and performance requirements currently being met by the remaining 61 percent. Our industry since the end of World War II has relentlessly pursued lower VOC waterborne coatings such that now 80 percent of the AIM coatings are waterborne. Logically, this 61% of higher VOC products still in use should raise questions about the technological and economic feasibility of mandating lower VOC limits for these higher VOC coatings. There is no such inquiry reflected in the record.

Also, the analysis that has been conducted generally by the OTC AIM coatings workgroup concerning VOC emission reductions that would be associated with additional VOC limits beyond those of the national rule has understated any such reductions because of reliance on the California AIM coatings survey data. This is so because the AIM coatings sold in California are generally lower than those sold in the Northeast due to longer lived regulatory controls. A more realistic determination would be based upon the usage in the Northeast. Reductions that would be achieved by adopting our suggested Table of Standards should be evaluated in that light.

With respect to the Aberdeen Proving Ground Study that is cited in the record (Item 62 in the Delaware Record), the companies that supplied the majority of the coatings used in the study – Sherwin Williams, Benjamin Moore, and Duron – oppose the proposed rule and support the NPCA alternative. While these companies make waterborne coatings they realize that they have certain application and performance limitations. Additionally, it is our understanding that the Aberdeen program allowed for variances from the waterborne systems. To fully understand the implications of the Aberdeen experience this should be looked into and it should be determined whether the variance was used and why. Its mere existence demonstrates that waterborne systems cannot do it all. Finally, a practical point. A military base differs greatly from a civilian environment, both in the selection of coatings that are allowed and the ability to control the timing of when painting can occur. Having been raised in the military and with a two year stint in the Army, I know that even the general's wife does not get to freely select the coatings for her husband's office or their home.

III. SPECIFIC TECHNOLOGY FEASIBILITY ISSUES

A. General Coatings Categories

Below we summarize some of the coatings specific information that we conveyed in our presentations to CARB and the OTC workgroup as to why we believe that higher VOC limits are required for certain coatings.

Exterior Flats: OTC Model Rule – 100 grams per liter; NPCA Table -- Exterior coatings – 150 g/l; (Interior coatings – 100 g/l)

Exterior flat coatings require a higher VOC limit of 150 g/l primarily because of weather and color considerations.

Many companies make a low temperature exterior flat coating that can be applied in weather conditions below 35 degrees and it requires a VOC level at or above 150 g/l. This allows painting during the early spring and late fall – the non-ozone forming months.

Additionally, freeze thaw requirements in the Northeast – the ability of a liquid coating to under go freezing but retain its efficacy -- is threatened by a VOC limit of 100 g/l. In an

ideal world, to provide completely adequate protection for freeze/thaw, the VOC limit in fact should be 200 g/l.

Finally, certain colors (bright and masstones) need a higher VOC limit in order to allow sufficient pigment loading which is needed to get sufficient hiding and develop full color.

The bright organic colors such as phthalo blue, phthalo green, carbon black, bright reds and yellows require dispersion in order to obtain maximum efficiency. These pigments are of a very fine particle size, which means they have a large surface area and a high oil demand for proper wetting and dispersion. In order to properly disperse the pigments, dispersion is normally obtained by making 2 to 3 passes in a sandmill. A ball or pebble mill may also be used to disperse the pigments. Since operation of a sandmill or ball mill is time consuming, several companies have specialized in the dispersion and sale of these dispersed colors.

Purchased organic shading pastes usually contain high levels of VOCs since the pigment concentration of the organic pigment varies between 20 to 40% in water based toners, and 17 to 35% in solvent based toners.

Shading pastes are used to produce pastel and midtone colors. If a company has low sale volumes for bright organic colors, they may decide not to invest in purchasing a sandmill and tying up equipment for 6 to 8 hours to generate 1000 or 2000 gallon batch of bright colored paint. An alternative is to manufacture a deep or neutral base that can be shaded with high levels of organic shading pastes. In the process, this will generate the low volume products needed for completion of a product line, but it will significantly increase the VOC level of the finished product.

In order to product bright organic colors in a flat latex coating would require a higher VOC limit that what is proposed. Some of the water based shading pastes contains glycols to prevent freezing of the material during transport.

The use of averaging for a product line would allow the bright colors to be produced and still keep the product line within the parameters of the VOC limits.

Most companies will produce product lines that consist of multiple tint bases. The primary variation within the tint bases is the level of titanium dioxide. White base will have high levels of titanium dioxide (TiO₂). Midtone bases less TiO₂, deep bases even less, accent bases very little TiO₂ and neutral bases no titanium dioxide. With the various tint base TiO₂ levels, a company can produce upwards of 1500 colors with five bases for each product line, thereby giving the customer a varied color choice with very few units in stock. In the process of developing the deeper tint bases, the formulators need to have the flexibility to modify the formulas to retain the proper characteristics of the various product lines. Most universal colorants used in stores contain glycols that are universally acceptable in latex and solvent systems. Since glycols are extreme slow evaporating, the higher the level of colorant, the longer the dry time. The following list is an example of the amount of universal colorant needed to shade a gallon of each type of tint base:

- White bases = 2 ounces per gallon,
- Midtone bases = 4 ounces per gallon,
- Deep bases = 8 ounces per gallon,
- Accent bases = 12 ounces per gallon, and
- Neutral bases = 12 ounces per gallon.

In order to develop a product that will satisfy the end user, the coatings formulators need the flexibility of modifying the formulas so that the properties of the deep color bases will approximate the characteristics of the light color bases. This usually means that either a different resin (harder type – latex coatings) or different ratios of solvent based resins must be incorporated in the formulas. With the latex systems a harder resin requires higher coalescing solvents must be used in order to help the resin cure. Without the coalescent solvent, the film would not properly cure, causing slow dry and early failure.

Zero VOC latex coating utilizes a resin that contains no coalescent solvent or glycol (anti-freeze). The resin is usually soft and cannot be used in formulations below a white or pastel base. Midtone, deep, accent or neutral bases in a zero VOC are currently unattainable due to the limits of the latex resins. In order to produce the deep color bases, harder resins must be used which require coalescent solvents.

In addition to the problems mentioned above, coatings made for consumer consumption must be stable. Latex coatings need to be able to withstand a slight freeze without gelling and not be able to be reincorporated. This requires the formulator to properly balance the various components within the formula. Some of the ingredients that allow for dispersing the pigments and defoaming the coating upon application may contain low levels of VOCs that eventually have to be incorporated into the VOC calculations. Other ingredients used for biocide protection in the can or fungicidal protection of the applied coating on exterior application may also contain VOCs. Without these ingredients, the latex products are subject to bacterial contamination in the can and for exterior coatings, early failure for mildew protection. Without these protections, the coatings are subject to early failure and therefore early recoating. By early failure, the surfaces would require early repainting, thereby increasing the levels of VOCs emitted. By using a correctly formulated product designed for specific applications with the proper VOC level, the overall effect would be an initial higher VOC emission, but over the long term, less recoating and therefore lower VOCs emitted in the long term. (See Attachment F for discussion the impossibility of providing a complete color line with the Delaware limits without averaging.)

This is a complicated subject and probably requires a face-to-face dialogue with industry experts to be fully understood. We would welcome the opportunity to supplement the record on this score.

Non-Flats: OTC Model Rule – 150 grams per liter; NPCA Table -- 200 g/l

There continues to be a freeze/thaw issue with any waterborne coatings below 200 g/l. Moreover the higher quality paints – coatings with more resin material and solids that

thereby provide better film build and longer durability -- will suffer due to a decrease in open time effecting flow and leveling, appearance and hiding (i.e., the paint will dry too quickly given its relatively high level of solids.) As we have stated in many of our presentations to the OTC, this is another effect of the OTC model rule that could produce higher VOC emissions by increasing repainting and driving longer lasting, higher quality products from the market. Also it has been found that at less than 150 g/l, latex non-flats have a tendency to "skin" in the can more than paints at 200 g/l. Bear in mind also that at 200 g/l, the materials will all be waterborne. What is being requested here is the ability to make high quality waterborne non-flat coatings which have good freeze/thaw stability and allow for the manufacture of high quality thicker filmed products which in the short and long run lower overall VOC emission levels.

The discussion concerning the requirements of bright colors above applies here as well, only more so because of the additional gloss requirement. In this connection it is important to note that at the Rohm and Haas demonstration at its Spring Hill facility, the materials that were being tested clearly showed problems with discoloration with the darker colors. Additionally, these panels had higher VOC coatings than the 150 g/l limit.

Non-Flat High Gloss: OTC Model Rule – 250 g/l; NPCA Table – 380 g/l

In order to achieve a gloss as defined in the OTC Model Rule, a solventborne or alkyd coating is required. A review of the Master Painters Institute's list of products indicates that all of the listed products for this category -- Interior Alkyd, Gloss -- have VOC levels at or above 380 g/l. (See Attachment G.) The limit that is specified in the OTC Model Rule would therefore rule out the use of alkyd systems altogether for this important coatings category.

Thus the rule will essentially outlaw certain "models" of products. The alkyd gloss enamels under discussion here are the standard of this type of product because they have the highest gloss, dry relatively quickly, have good corrosion resistance and have been accepted by a large number of customers (especially contractors). To change the rule from 380 g/l to 250 g/l for gloss products essentially outlaws alkyd enamels; it is impossible to make an enamel that would dry quickly enough, be hard enough, and not yellow severely at 250 g/l. The alternative latex gloss products are inferior to the alkyd enamels for the properties stated above. No other types of products where emissions have been a problem have been forced into discontinuance.

Floor Coatings: OTC Model 250 g/l; NPCA Table 250 g/l for waterborne; 380 g/l for solventborne

This is another issue concerning applications that are appropriate for waterborne and those that are not. The Master Painters Institute for example limits waterborne floor coatings to concrete for which there is no possibility of water penetration from below, wood floors and porches without high traffic, and it never recommends them for garages because the hot wheels from arriving cars will lift the coating. For these applications, solventborne coatings are required. (See Attachment H.)

Specialty Primer: NPCA Alternative Would Expand Definition

The NPCA Alternative proposal would expand the definition of "specialty primer" to include blocking of "odors and efflorescence" and recommended applications to "exterior wood or wood-based surfaces or for highly alkaline cement, plaster, and other cementitious surfaces. All bare wood surfaces present special requirements for primer adhesion and blocking. Unprimed wood siding often comes with saw "burns" where the saw in cutting the wood has in places seared the sap or resinous material of the wood such that it leaves it with a hard surface that only a solventborne product can penetrate for good adhesion. Wood products siding comes from an amalgam of materials such that it is difficult to determine whether or where there might be bleed through tannins. Additionally, these materials are notorious for edge deterioration when a solventborne primer is not applied. See Sherwin Williams comments.

Also for the record, it should be noted that for a stain blocking primer, the ideal VOC level for consumer application ease is 400 g/l per liter. This is so because such materials are necessarily extremely viscous in order to provide the necessary blocking properties. In this connection we draw your attention to the product data sheets of ICI that were mentioned at the August 23 Dover hearing. The waterborne primer data sheet for the waterborne primer Aquacrylic Gripper states in its Directions for Use, Application: "Some highly water sensitive stains may require the application of solventborne Stain JAMMER 110 for best results." (See Attachment I.)

Also with respect to the odor barrier requirement, ICI markets an Interior Vapor Barrier Latex Primer-Finish but it notes in its Directions for Use, Application that "multiple coats may be required to obtain recommended film thickness to achieve vapor barrier properties". (See Attachment J.) If this amounts to four coats, the application's VOC emissions would exceed the one coat application of the 350 grams per liter solventborne specialty primer we are recommending. The point is that the ICI coating information suggests that vapor/odor barrier requirements are not easily handled with ordinary applications of one or even two coats of waterborne coatings. Also it should be obvious that the demand for an odor barrier coating would be quite small.

As to blocking efflorescence, this is caused by the interaction of water soluble salts and minerals in walls bleeding out because of water contact. It seems intuitively obvious that a waterborne product would not be the ideal product to handle this problem.

Quick-Dry Enamels and Primers: Enamels OTC Model 250 g/l; NPCA Table 380 g/l; Primers OTC Model 200 g/l; NPCA Table 350 g/l

There continues to be a need for quick-dry coatings, particularly in the Northeast for cold, inclement weather-threatening conditions. Among the most important requirement is an exterior application during the winter months, where it is necessary for a coating to dry quickly, before rain, sleet, snow, etc., sets in. While not a high usage coating in comparison to the general flat and nonflat coatings, when it is needed it is needed, e.g.,

repair to storm damaged structures during the winter months in which the siding must be coated to protect it.

Sanding Sealers: OTC Model 350 g/l; NPCA Table 550 g/l

Sealers: OTC Model 250 g/l; NPCA Table 350 g/l

Stains: OTC Model 250 g/l; NPCA Table Opaque 350 g/l; Clear and Semitransparent 550

Varnishes: OTC Model 350 g/l; NPCA Table 450 g/l

In this connection we endorse the comments made by Sherwin Williams, Valspar, Cabot, Inc., and Benjamin Moore which are attached. You will note that Valspar's comments raise the issue of whether even higher limits are necessary than we are recommending. Paul Sara, the Technical Director of Valspar, has been formulating coatings for over twenty years and raises cautionary issues even about the limits that we are recommending. (See Attachment K.)

Lacquers: OTC Model 550 g/l; NPCA Table 680 g/l

The limit of 680 g/l is necessary in order to avoid having to formulate lacquer coatings with the exempt solvent acetone. Acetone has an extremely low flash point as compared to other solvents and thus carries a greater danger in its use. That lacquer requires relatively a higher amount of solvent than other products to work is unquestioned. Even the STAPPA/SCM and the Delaware proposals recognize a limit of 550 g/l. Moreover the SCM and the SCAQMD Rule 1113 allow even higher limits for cold weather and humid conditions applications. The issue is whether the material will be made out of safer materials in light of its wide use in many different environments. Additionally, according to industry experts, the 550 g/l limit being met with acetone also results in the spraying of additional coating, conservatively as much as 15% to 20% more. This is caused by the relatively rapid evaporation rate of acetone which requires more coating to ensure a complete wet on wet film is applied on the object before it is allowed to dry to obtain uniform appearance (prevent lap marks where material dried before the material next to it is applied.)

B. Niche Market Coatings Categories

The following niche market coatings, extremely low volume but relatively high VOC coatings, are for very specific application requirements and are recognized by the National AIM Coatings rule should be included in the rule. These coatings have been developed for unique, low volume coatings requirements, as exemplified by calcimine recoaters which are used exclusively for calcimine plaster walls and ceilings found in older homes. We believe that they should be included in the Delaware regulation at the VOC limits specified in the national AIM coatings rule.

It should be noted that the EPA found that such coatings constituted a minimal volume of AIM coatings. Their unique application and performance application properties, as well as their cost, insure that they will not be used for general coatings application. Individual companies which make these coatings have submitted comments with which we concur. From a policy perspective it would be completely counter productive to eliminate effective, needed coatings, which do not contribute in any significant sense to ozone formation.

Concrete Curing Compounds
Concrete Protective Coatings
Concrete Surface Retarders
Waterproofing Concrete/Masonry Sealer
Alkaline Issues for Specialty Primers

Please consult the comments of Textured Coatings of America and PROSOCO at Attachment K. While the comments confine themselves to the Waterproofing Concrete/Masonry Sealer, Concrete Protective Coatings categories, and Alkaline Issues of Specialty Primers the discussions also may support concerns about the recommended limits for Concrete Curing Compounds a Concrete Surface Retarders.

Anti-graffiti Coatings

Please consult the comments of Textured Coatings of America at Attachment K.

Nuclear Coatings

Please consult the comments of PPG at Attachment K.

Impact Immersion Coatings

Please consult the comments of Mr. Beitleman of the Army Corps of Engineers which we understand are being sent to you.

Calcimine Recoaters

Please consult the comments of Benjamin Moore and California Products at Attachment K.

IV. ADMINISTRATIVE PROVISIONS

The Delaware proposal should be revised to include the following provisions.

A. Averaging Provision

The Delaware proposal should be revised to include an averaging provision that is modeled after the "averaging provision" found in the South Coast Air Quality Management District Rule 1113 for Architectural and Industrial Maintenance Coatings. This provision should be administered on a regional basis or joint state bases for all the OTC states

implementing an OTC based AIM rule. The inclusion of the “averaging provision” is a key element of our alternative proposal.

The concept providing “alternative mechanisms” for compliance with VOC/ HAP content limits is an established concept. The rules for consumer and commercial products along with many other state and federal VOC/HAP rules contain averaging provisions. We urge the OTC states to reconsider their position on the use of “averaging” for architectural coatings.

We have attached a letter we recently sent to US EPA Assistant Administrator Jeff Holmstead asking for EPA’s assistance in helping the OTC region states to administer such a program. (See Attachment L.)

It is also important to note that the SCM’s sunset provision for its averaging is based upon the expected adoption of another flexibility mechanism that will make it technologically feasible to overall meet the lower limits at issue. See in this connection Sherwin Williams’ and Benjamin Moore’s comments.

NPCA also has made clear its position concerning the essential necessity of an effective averaging program to permit the industry to effectively meet the standards that we have suggested. (See Attachment M.)

B. AIM Coatings Specific Variance/Petition Provision

The rule should contain a specific provision by which manufacturers could who cannot comply with the requirements of the rule, due to extraordinary reasons beyond the manufacturers reasonable control may apply for a variance or petition for a change in the rule. The exact language of this provision will need to be discussed and agreed upon by all parties. Precedent for inclusion of this specific provision can be found in the consumer and commercial products draft rule.

C. Technology Assessment

Acknowledgement of the need for a technology assessment/review on the appropriateness of maintaining future VOC limits should be made by each of the states implementing the new AIM rule. This technology assessment should be conducted one year before lower VOC limits are to be implemented and could be administered by the OTC AIM Work Group. In conducting the technology assessment/review, the OTC AIM Work Group should consider any applicable AIM surveys and studies that have been undertaken by industry or other parties.

D. Unnecessary and Burdensome Reporting Requirements

We feel that the reporting requirements found in Section (e) (1-5) are unnecessary and burdensome and will not provide any net VOC reduction benefit to the OTC states.

If Delaware and the other OTC states determine that these extensive and costly reporting requirements are for some reason key to implementation and compliance of their AIM rules, we are recommending that these requirements be undertaken on a regional basis similar to our recommendation that the "averaging provision" be administered on a regional basis. Another alternative way of obtaining this information would be through a periodic regional AIM survey such as discussed above.

IV. CONCLUDING COMMENT

We appreciate this opportunity to comment on the Delaware proposal. We recognize the difficulties inherent in any effort to come to grips with the complex chemistry technologies of the large variety of coatings involved. We, however, believe that a thorough consideration of the information we have presented and a realistic assessment of the CARB record and that assembled by Delaware judged in light of the requirements for the Northeast provides substantial evidence warranting the adoption of our alternative proposal.

Sincerely,

Jim Sell
Senior Counsel

Robert J. Nelson
Senior Director, Environmental Affairs

December 11, 2000

Rob Sliwinski
Section Chief
Stationary Source Planning
Division of Air Resources
New York State Department of Environmental Conservation
50 Wolf Road
Albany, NY 12233-3250

Dear Rob:

At the November 8 meeting of the AIM Rule Workgroup, I stated that the NPCA was still developing an alternative table of VOC limits standards that would include limits that are lower than those specified by the national AIM rule in several of the major coatings categories.

I passed out an article that had recently appeared in Modern Paint and Coatings written by a product manager from Rohm & Haas -- an international supplier of paint raw materials and a company that has taken an aggressive path in the development of waterborne technology.

In the article the manager provided a frank assessment of the performance trade-offs that occur with low VOC waterborne technology as compared to higher VOC technology. I won't repeat all that was said in the article here (it is attached). I used it as a reference point to help you and your work group understand why there have been difficulties in developing a consensus concerning lower VOC coatings within our industry.

I think a fair overall evaluation of the practical future for lower VOC AIM coatings is that, except for special applications in heavy duty industrial maintenance, the lion share of the lower VOC coatings gains will have to come from some type of waterborne coatings technology.

Moving to waterborne technology in this manner, which is essentially what the SCM does except for special case industrial maintenance coatings, rust preventative coatings, and certain specialty primers, carries with it the potential acceptance of a very large number of trade-offs of the type discussed in the Rohm and Haas article.

I say potential because the considered limits would not be effective immediately. Consequently, the on-going R&D efforts of the industry, the same efforts which began after World War II, long before there was a Clean Air Act and have moved residential AIM coatings to being 80% waterborne, will continue. These efforts may make some of the trade-offs --- using a term from the article -- "diminish." As I mentioned at the November 8 meeting, the author of the article only predicts

that the tradeoffs "will diminish" over time -- he does not say they will disappear. This is an extremely important point. What it implies of course is that all of the positive features that are associated with solvent borne coatings will not be equaled by the water borne coatings. These include higher solids cross linking that leaves a hard impermeable coat; less sensitivity to temperature and humidity conditions in application and curing; freeze/thaw stability which allows the coating to experience freezing weather without altering the coatings properties; good scrub resistance, etc.,

It is in the face of this kind of uncertainty concerning a great number of variables that our experts have been asked to develop a table that would predict where technologically feasible limits will be in the future.

We have developed such a table which is attached. You will note that it differs from the SCM in two key respects.

First, it recognizes a larger number of small volume, niche market or specialty coatings categories than are recognized by the SCM.

Second, it specifies VOC limits that are higher than the SCM in some cases but lower than the national rule. They strike a middle ground in other words.

The limits of the SCM as presented in the STAPPA/ALAPCO proposal, carry with them running commentary which refers to the CARB SCM Staff Report, survey data, and certain studies relied upon by CARB to justify the recommended limits. As we have said before we have serious reservations concerning the conclusions reached by the CARB about this information.

I hasten to add that we do not believe that the CARB staff has acted in bad faith in this regard. We simply respectfully disagree with their conclusions. In our comments to CARB in June, we acknowledged "...the effort that Staff has expended in this undertaking. They have gathered and attempted to analyze a great deal of information in a short period of time concerning a very complex subject." Similarly in my August 21 letter to you I stated, "...the process involved here is not an exact science and there can be a variety of factors that have to be taken into account in making a decision [and] Staff is given a certain latitude in picking which aspects of its factual record it chooses to emphasize for one conclusion and not another."

With this in mind, we had the sense from conversations with you and members of your work group that as between spending time on efforts refuting the SCM and STAPPA/ALAPCO document or providing information on what we believe are technologically feasible numbers, you would prefer that we tell you what industry believes is feasible and why. Consequently, the lion's share of our work since our meeting with you in September had been devoted to developing the consensus table of standards.

In the Overview of the model rule that is to be presented on December 11, there is a statement that indicates that you also will require technical documentation challenging the SCM and the CARB Staff Report supporting it.

We believe that an independent evaluation of the underlying data referred to by the CARB SCM Staff Report is required before the SCM is adopted for the states in the northeast Ozone Transport Region.

In our August 21, 2000 correspondence we pointed out that the SCAQMD Board which initially adopted the limits at issue here required staff to continue to examine the limits in question to determine if they would indeed be feasible before they became effective. We also noted that the CARB SCM Staff Report stated that despite that the staff "believes that all of the proposed limits are technologically and commercially feasible, ARB staff will conduct technology reviews of the proposed limits that are lower than current limits, prior to their implementation."

The limits therefore are open to question.

In this regard it is important to note that Pennsylvania's Regulatory Review Act requires a fairly extensive review and oversight of each regulatory development process to among other things ensure that the most cost effective regulations are developed that do not impose hidden costs on the economy of Pennsylvania. The objective of the process is to ensure that to the greatest extent a consensus is achieved among the parties and the agency. The independent oversight commission is tasked with "conducting independent research" of the issues raised.

Similarly New Jersey by statute and executive order requires an independent justification and legislative oversight for all environmental regulations that go beyond federal requirements, which the SCM proposal will do.

Beyond such specific additional independent review requirements, all the states within the OTC have administrative procedures that they must follow and these require the establishment of a sufficient factual basis to warrant promulgation of a regulation. The STAPPA document or the CARB SCM Staff Report by themselves do not provide this. More importantly, we believe that an examination of the underlying record will show that the judgments made by the CARB SCM Staff Report concerning future technology can be fairly questioned and should be by any agency that is concerned about what is likely to occur as a realistic assessment of future technology and its practical implementation.

Much reference is made to the NTS Study and the Harlan Study by the STAPPA document. We do not see how a technology can be referred to as established by

the NTS study , as the STAPPA document indicates, when the most crucial phases of the study, field applications and exposures have yet to be completed.

Moreover we have serious reservations about some of the CARB Staff's conclusions based on the laboratory results of the NTS study.

The NTS study results as recorded the CARB SCM Staff Report itself clearly demonstrated that high VOC coatings performed better than low and zero VOC materials in a number of tests. As I stated in my August 21 letter to you on this comparison, the tests in which the low VOC coatings under performed the high VOC coatings involve performance characteristics that are not trivial.

Despite this, the low or zero VOC coatings were virtually always found to be overall "similar" to the high VOC coatings.

In a strict sense, the statement of overall "similarity" is not incorrect. In all of these tests where the statement is made, there were more tests for which the results were found to be "similar" than dissimilar. But in our view this begs the key question -- are the similarities sufficient in key tests to justify a conclusion that the low VOC coatings will be adequate in all respects to replace existing higher VOC coatings.

In our judgment we do not believe they are.

For example, with respect to industrial maintenance primers, in four out of the twelve tests, high VOC coatings were found to exhibit better performance than low VOC coatings. In only one test did the low VOC coatings exhibit better performance than the high VOC coatings. And in the twelfth test, for film flexibility, a pass/fail test, of the four coatings that failed, three were clearly low VOC coatings, and one was at 320 grams per liter, which is below our recommended limit of 340 for this category. The Staff Report's conclusion was "Overall, the low VOC coatings exhibited similar performance characteristics compared to high VOC coatings." A technically accurate statement, but one which fails to answer the key question: the degree to which VOC limits can be lowered in the future such that none of the necessary performance properties of coatings are diminished.

We now turn to a discussion of our suggested limits and why we believe that they represent a sound practical evaluation of future technology that will achieve significant VOC emission reductions, precisely because they are realistic.

We will provide more details in further discussions with the OTC workgroup but for now a few major points.

The limits that are reflected in our Table of Standards include water borne technology limits, but ones that will allow for the achievement or approximation

of some of the performance characteristics of solvent borne systems. For example a flat coating at our recommended VOC limit permits the manufacture of coatings that can be used in low temperature conditions. Madelyn Harding of Sherwin Williams provided information to your group on such a coating that is sold by her company. This allows for more painting in the spring and fall when there is no ozone formation.

Our limits include solvent borne technology when they are needed by the application and performance requirements. In this connection we again ask that you critically examine the findings of the CARB SCM Staff Report concerning the NTS results for the non-flat and quick dry coating categories, especially with respect to the scrub resistance and blocking resistance.

As we have explained in the past, among the most crucial reasons for having a nonflat coating are the blocking resistance and scrub resistance features. Blocking resistance keeps doors and windows from sticking shut; scrub resistance allows a wall, such as a kitchen wall, to be cleaned without removing the paint. It is also important to note that with respect to the NTS study tests of nonflat and quick dry systems that were tested for dry film thickness, adhesion, and household chemical resistance (the type of splatters that occur in kitchens, playrooms, etc.,) the CARB SCM Staff Report concluded that the low VOC materials under performed the high VOC coatings in all the tests, except for only one aspect of the chemical resistance test -swelling.

As to stains and water repellent materials, the basic chemistry of this is quite simple. For stains, in order to get the penetration into the wood needed for the deep, rich look for which transparent and semitransparent stains are used, one needs a solvent carrier. Water simply cannot take the stains deep enough into the grain to achieve the same appearance.

As to water repellants, the same basic principle applies -- solvent carries the solids deeper into the wood than does water. In fact many of the low VOC water repellent materials are in actually coatings that sit on the surface of the wood, and thus are worn away over time. A deeply penetrating material lasts much longer and thus reduces overall VOC emissions.

We also strongly believe that there is a need for the specialty coatings that we have identified in our list of standards. Though these are low volume coatings they meet important needs. As a matter of principle we are committed to ensuring that they receive consideration equal to that given to the major coatings categories.

These are very low volume and highly specialized coatings. Your major concern about them has been that their definitions might create loopholes through which they could be illegally used outside of their specialized applications. You should take some comfort in this regard from the way the coatings are defined in terms

of their unique chemistries and application environments. A good example of this is seen in the "thermoplastic rubber coatings and mastics" category, of which Inland Coatings is the primary manufacturer. I have attached its October 13, 2000 submission to you. As the letter indicates, this coating is such a specialized commercial coating that it is impossible to conceive of it being used as a general residential roof coating or wall paint.

I want to again emphasize our desire to work with you and your group at arriving at a sound rule for the Northeast Ozone Transport Region. You have stated that the rule will be open for revisions up until the Commission votes on it in March/April of 2001. I realize that does not leave much time, but we plan to continue to work with you and your workgroup to ensure that the best decision is made on the basis of the best possible information.

Sincerely,

Jim