

APPENDIX C

COMMENTS ON THE INITIAL STUDY AND RESPONSES TO THE COMMENTS

**Institute for Research and
Technical Assistance**
a nonprofit organization



January 31, 2006

Michael Krause
Air Quality Specialist
South Coast Air Quality
Management District
21865 East Copley Drive
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Dear Mr. Krause:

I am writing on behalf of the Institute for Research and Technical Assistance (IRTA) with comments on the Draft Environmental Assessment (EA) for Proposed Amended Rule 1113 "Architectural Coatings."

1-1

TBAC was deemed exempt from VOC regulations by EPA in November 2004. TBAC forms a metabolite called tert-butyl alcohol (TBA) that is a carcinogen. Little toxicity information is available on TBAC itself and no chronic toxicity tests have been conducted on the chemical. The California Air Resources Board (CARB) originally opposed EPA's exemption after requesting that the State Water Resources Control Board (SWRCB) and the Office of Environmental Health Hazard Assessment (OEHHA) evaluate the chemical. The SWRCB review indicated that not enough information is available to determine the water quality impacts of TBAC. OEHHA's evaluation indicated that no chronic, developmental or reproductive toxicity data are available for TBAC and that TBA has been shown to induce tumors in both rats and mice. OEHHA developed a cancer potency factor for TBA and also published a peer reviewed article that stated that TBAC "should be considered to pose a potential cancer risk to humans because of the metabolic conversion to TBA."

1-2

After EPA exempted TBAC from VOC regulations, the CARB Research Division recommended that the chemical be exempted in California in auto body applications and for consumer product categories regulated by CARB. It is not clear why CARB changed their position on the exemption or why the Research Division made this recommendation. The Research Division did publish a report that analyzed an exemption. This report, however, has many errors. For instance, in discussing auto aerosol cleaning, the report indicates that perchloroethylene (PERC) is the most widely used brake cleaner. CARB banned the use of chlorinated solvents in auto aerosol cleaning in 2000 and PERC has not been used for a few years by auto repair shops for cleaning. The report also assumes that TBAC will not substitute for water-based products but the basis for this claim is not supported. Suppliers nearly always find it easier to simply drop in an exempt chemical for a VOC than to work on a more complex reformulation.

1-3

According to the SCAQMD EA for Rule 1113, the District is proposing to exempt TBAC for use in industrial maintenance coating formulations which are used in architectural coating. I am strongly opposed to a full or limited exemption of TBAC and would like to raise five issues. First, the District's usual procedure is to propose exempting a chemical through SCAQMD Rule 102. In this case, the District is proposing an exemption in a specific rule and plans to propose additional exemptions in other District rules. This appears to be a "back door" method of exempting a chemical to avoid public comment. Community members are not aware of the District's action in Rule 1113 and it is likely they



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- 1-3
cont. would strongly object to an increased cancer risk from use of TBAC in architectural coatings if they were informed.
- 1-4 Second, it is not at all clear the exemption is needed in Rule 1113 for industrial maintenance coatings. The District indicates that there are 280 industrial maintenance coating formulations that meet the July 2006 VOC limit. The District further indicates that there are difficulties formulating to the low VOC limit only in certain atmospheric industrial maintenance coatings. These coatings are used by the Metropolitan Water District and other essential public services like Publicly Owned Treatment Works. The District could simply allow a higher VOC limit for these very limited applications until coatings are formulated without TBAC. At the workshop on January 26, one supplier indicated he already had coatings without TBAC for these applications.
- 1-5 Third, the risk posed by the use of TBAC is high. A few years ago, the Hazard Evaluation System & Information Service (HESIS), which is part of the California Department of Health Services, evaluated the risk of using TBAC to workers. HESIS used the cancer potency factor developed by OEHHA and sent the results of this evaluation to CARB. Based on the current worker exposure level for TBAC of 200 ppm, HESIS estimates the risk posed to a worker using TBAC at 7.4 percent or 74,000 in a million. This is a very high risk and workers should not have to bear this risk because of the District's exemption action.
- 1-6 In the EA, the District estimates only the acute risk to the community from exposure to TBAC. This District indicates that the cancer risk need not be determined. This approach is not correct and the cancer risk should be determined. Companies that apply industrial maintenance coatings are dedicated to applying only industrial maintenance coatings and they are permanently stationed at certain sites. For instance, at the Los Angeles County Sanitation District (LACSD) Carson treatment facility, a crew that applies industrial maintenance coatings is permanently stationed at the facility and continuously applies industrial maintenance coatings to all the buildings on a regular basis. This means that if TBAC were part of the formulation in the industrial maintenance coatings, application of the coatings poses a chronic (cancer) risk to the workers applying it, the workers at the LACSD facility and to the people who live around the LACSD facility. The District must calculate and report the cancer risk posed by the coatings as part of the EA.
- 1-7 Fourth, if TBAC is exempted in California, there will be a disproportionate risk to California workers and community members. California relies on exempt chemicals to achieve attainment much more than other states or localities in the country. Because of California's stringent VOC regulations, exempt chemicals are used extensively here. TBAC is not used today because it is more expensive than other VOC solvents (see discussion below about chemical prices). Lyondel, the producer of TBAC, is strongly lobbying California regulators to exempt the chemical. The company is aware that California is its largest potential market. If the District exempts TBAC, it will be used extensively here and California workers and community will face an increased risk. If TBAC is exempted in other states, it will not be used because traditional VOC solvents will be used instead.
- 1-8 Fifth, little toxicity information on TBAC is available. TBAC specifically has not been tested for chronic toxicity. It is structurally similar to TBA which is a carcinogen. TBAC may be an even stronger carcinogen than TBA. Unless TBAC is tested for chronic toxicity, it cannot be known whether or not it is a carcinogen. It should be a very high priority, at least for the District if not for Lyondel, that California workers and community members not face a high cancer risk.

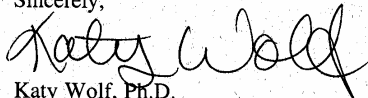
1-9 The District should not even consider exempting TBAC from VOC regulations in Rule 102 or in individual rules unless the supplier agrees to conduct chronic toxicity studies for the chemical. When the studies are complete, the supplier could submit the results to OEHHA for evaluation. OEHHA could then develop a unit risk value that the District could use in calculating the risk posed by use of TBAC coatings in industrial maintenance coatings. The District's policy on exempting all chemicals from VOC regulations should include a requirement that the supplier of the chemical provide extensive toxicity data on the chemical prior to consideration of a VOC exemption.

1-10 I would like to make two suggestions. First, the District could carve out a narrow area of atmospheric industrial maintenance coatings used only by the Metropolitan Water District and essential public services and allow a higher VOC level for a few years until suppliers develop coatings that meet the lower VOC level without TBAC. Second, the District should require Lyondel to conduct chronic toxicity testing for TBAC and submit the results to OEHHA for evaluation before the District considers and exemption for TBAC, no matter how limited.

1-11 In summary, then, IRTA opposes a limited or complete exemption of TBAC from VOC regulations in proposed Rule 1113 or any other rule. The District should adopt a policy that requires suppliers to demonstrate the safety of their products before they can be considered for an exemption. This is the most prudent course that will ensure protection of California workers and community members. The District should modify the EA to determine the chronic risk that TBAC coatings pose for industrial maintenance coatings. The crews applying the coatings apply only industrial maintenance coatings and apply them continuously at various sites.

I appreciate the opportunity to comment on the EA for proposed Rule 1113. If you have questions about my comments, please call me at (818) 244-0300.

Sincerely,



Katy Wolf, Ph.D.
Executive Director

COMMENT LETTER NO. 1
INSTITUTE FOR RESEARCH AND TECHNICAL ASSISTANCE

Katy Wolf, Ph.D.
January 31, 2006

Response 1-1

In performing the background research for tertiary butyl acetate (TBAC), SCAQMD staff also concluded that there is limited toxicity data available on TBAC and no chronic toxicity has been conducted on the chemical. For this reason the health risk analysis prepared for PAR 1113 in the Draft EA used tert-butyl alcohol (TBA), which has been shown to induce tumors in laboratory animals, as a surrogate for TBAC because of the metabolic conversion of TBAC to TBA. The health risk analysis was prepared for SCAQMD staff using standard health risk protocol, health risk values provided by Office of Environmental Health Hazard Assessment (OEHHA) staff and parameters used by California Air Resources Board (CARB) to estimate risk from TBAC. As with other projects evaluating the health impacts from air toxics, SCAQMD staff relied upon OEHHA/CARB to develop health risk values, associated parameters and procedures.

Response 1-2

The SCAQMD is aware of the concern that TBAC formulated coatings could replace waterbased coatings in some categories. To avoid this type of substitution and because of the uncertainty regarding the toxicity of TBAC, TBAC has been delisted as a VOC only for IM coating category, where coatings are largely solvent based. By restricting the use of TBAC in coating formulations, it is expected that TBAC formulated coatings replacing waterbased coatings will also be restricted.

Response 1-3

SCAQMD staff understands that IRTA is against any exemption for TBAC from the VOC definition. The commentator states that by exempting TBAC from the VOC definition in PAR 1113 instead of through Rule 102, community members may not be aware of the exemption as they would be if TBAC was exempted through Rule 102. While staff acknowledges the low photochemical reactivity of TBAC and its beneficial impacts on reducing ozone and particulate formation, staff is not recommending its complete exemption from volatile organic compound (VOC) definition in Rule 102 at this time. This is because there is limited information on its toxicity and one of its metabolites, TBA, has been shown to induce tumors in rats and mice. At the present time, neither TBAC nor TBA have been classified as TACs by OEHHA, and therefore are not listed in Rules 1401 and 1402, two rules that provide SCAQMD with the necessary tools to limit usage of toxic compounds and limit potential risk and exposure. In the absence of such tools, a complete exemption under Rule 102 could potentially subject the public to higher risk and exposures unnecessarily. The proposed limited exemption under Rule 1113 is

more health protective compared to a complete delisting under Rule 102 while providing some level of compliant products with the future effective limits for certain coating categories. Further, public comment is not being avoided as a CEQA Initial Study was available for a 30-day public comment period, which has been followed by this Environmental Assessment available for a 45-day public comment period. Also, the draft staff report and proposed rule, which includes the TBAC provision in the VOC definition, are available for public comment during the rule development process. Finally, the Governing Board conducts a public hearing on the day when a decision is made regarding amending the rule, which is noticed to the public at least 30 days before the public hearing.

Response 1-4

The commentator states that the exemption of TBAC from the VOC definition is not needed to achieve the VOC content limits in PAR 1113 because waterborne coatings are available for use. While this is true for a number of industrial maintenance coatings, SCAQMD staff recognizes that there is a lack of sufficient atmospheric industrial maintenance (IM) coatings available that meet Metropolitan Water Department (MWD) most rigorous standards. However, MWD has completed testing of some atmospheric IM coatings formulated with TBAC, which yielded excellent performance characteristics that met even MWD's most rigorous standards. Many IM coating manufacturers have requested that the SCAQMD delist TBAC for use in coatings critical to the support of the public infrastructure. At the present time there appears to be no other non-VOC exempt solvent available to manufacture compliant IM atmospheric coatings with exceptionally long life performance.

To allow a higher VOC limit for these very limited applications would require the establishment of numerous subcategories of IM coatings, as the uses range from chemical immersion, exterior exposure heavy equipment coating, floors, etc., which is difficult to delineate and enforce. Further, while the challenges with atmospheric coatings use have been determined, there might be subcategories of immersion and other uses of the coatings that may also need to use TBAC for exceptionally long life performance. However, since TBAC is sold at high cost, there is no financial incentive for a compliant coating not using TBAC to reformulate with TBAC.

Response 1-5

The commentator states that risk to on-site workers is high. On-site worker exposure is under the jurisdiction of federal Occupational Safety and Health Administration (OSHA) and the California Department of Industrial Relations Division of Occupational Safety and Health (DOSH). SCAQMD staff relies on OSHA and DOSH to establish and enforce health and safety regulations that will protect workers from chemical exposure and health risk impacts.

The Hazard Evaluation System & Information Service (HESIS) worker risk value of 74,000 in one million was developed by multiplying the California Permissible Exposure

Level (PEL) of 950,000 µg/m³ from CCR, Title 8, §5155, Table AC-1 by the OEHHA unit risk factor for TBAC of 4×10^{-7} (ug/m³)⁻¹, then adjusting exposure from residential parameters (24 hour/day, 365 day/week, 70 year lifetime) to worker parameters (8 hour/day, 250 day/week and 40 year lifetime).

SCAQMD staff contacted Dr. Julia Quint the chief of HESIS, who prepared the worker risk value of 74,000 in one million. The PEL for TBAC is based on acute exposure. Dr. Quint stated that the risk value was prepared to demonstrate that the PEL should be reduced to account for carcinogenic and noncarcinogenic exposures. The estimate was developed under the assumption that employees would be exposed to TBAC concentrations equivalent to the PEL everyday.

Based on the information provided by Dr. Quint, SCAQMD staff agrees that reducing the California PEL for TBAC will also reduce carcinogenic and noncarcinogenic exposures. Reducing the PEL limiting the exemption for TBAC to the IM coating categories, and requiring workers to wear protective respirator equipment, would be expected to reduce worker exposure, but not eliminate it. IM coatings are typically applied by large contractors that call for the use of personal protection equipment (PPE). Staff also reviewed labels and technical safety sheets with coatings using TBAC concluding that manufacturers also recommend the use of PPE. As indicated in Chapter 4 in the EA, exempting TBAC from the definition of VOC will increase cancer and noncancer risks, but these risks were less than significant.

Response 1-6

The commentator has raised this argument during the public workshop/scoping meeting for PAR 1113 that usage of IM coatings at facilities where the painting process occurs all year round on-site could potentially result in long-term exposure to downwind sensitive receptors, which could increase exposure to potential carcinogenic risk by nearby receptors. These types of facilities would have the need to apply IM coatings on a more regular basis than sites where the application of IM coatings is less frequent based on the typical ten to 20-year life of IM coatings. Such facilities include sewage treatment plants, refineries and water/power plants. However, although a company may apply IM coatings around the facility throughout the year, the location within the site will vary and, thus, the distance to the downwind sensitive receptor changes for each application. To address this comment, however, an HRA analysis has been conducted to include such an evaluation as the commentator suggests. Calculation and results can be found in Chapter 4 of this Draft EA. The results showed that none of the facilities would expose the surrounding community to a significant cancer or acute noncancer risk.

Response 1-7

The commentator states that TBAC is not used outside of California because of cost and air quality regulations are less stringent than in California. Further, exempting TBAC will result in substantially greater use of the chemical and greater exposure to residents and workers. It is likely that exempting TBAC from the definition of VOC will increase its

usage in the district, while increasing exposure to residents. SCAQMD staff has calculated that the cancer risk from the limited exemption for TBAC in IM coatings. The results show that cancer risk will be less than 10 in one million (10×10^{-6}), which is the SCAQMD's cancer risk significance criterion. Through its adoption of Rules 1470 and 1401.1 the Board has acknowledged that certain sensitive receptors require additional protection from air toxics. In particular, Rule 1401.1 prohibits, for example, new permitted facilities with a facility-wide cancer risk greater than one in one million (1×10^{-6}) from locating within 500 feet of a school. Ultimately, it is the SCAQMD Governing Board who will decide whether the risk posed by TBAC is an acceptable level of risk.

Response 1-8

Although SCAQMD staff does not require chronic toxicity testing for compounds exempted from the definition of VOC by U.S. EPA and CARB, SCAQMD staff does attempt to compile as much toxicity, global warming, stratospheric ozone depleting potential, etc., information as is currently available in the CEQA document that is typically prepared when exempting a compound from the definition of VOC. In the case of TBAC, there is little available information on the toxicity of TBAC, but there is some toxicity information available on one of its metabolites, TBA. While there are studies that indicate tumors in rats and mice when exposed to high concentrations of TBA, TBA has not been classified as a human carcinogen yet. Estimated risk factors for TBA provided by OEHHA staff members were used as a surrogate for determining potential cancer risk and non-cancer effects resulting from the limited exemption for TBAC. It should be noted that these surrogate risk factors developed by OEHHA staff have not been formally approved by the Scientific Review Panel yet, but have been peer reviewed. However, they reflect the best available information from OEHHA at this time, and these factors were used to conservatively estimate potential cancer risk and non-cancer effects from TBAC used to formulate IM coatings. By limiting the exemption for TBAC to IM coatings, the SCAQMD recognizes the potential cancer risk exposure due to the use of TBAC while providing the coating manufacturers with flexibility in formulating products compliant with the future IM coatings limits in PAR 1113.

A representative for the manufacturer of TBAC has stated that Lyondell has commissioned a 90-day subchronic study that will be peer reviewed "by at least five toxicology experts selected by an independent third party." This study may provide useful subchronic effects information that will be evaluated for use in further health risk analyses. SCAQMD staff has recommended to the TBAC manufacturer representative that a long-term study be completed in addition to the subchronic study.

Response 1-9

Exempting TBAC from the definition of VOC in Rule 102 is not currently under consideration. The commentator states that SCAQMD staff should adopt a policy that would require that suppliers of chemicals provide extensive toxicity data on those chemicals prior to consideration of a VOC exemption. Although the SCAQMD has no

formal a policy requiring toxicity data prior to delisting a chemical, available toxicity data are considered in the CEQA document that would be prepared. The determination whether a chemical should be exempt or not is made strictly based on its relative photochemical reactivity. The SCAQMD has developed policies and regulatory safeguards to address potential toxicity from the use of a chemical that is declared VOC exempt. The regulatory safeguards are provided by Rules 1401 and 1402, as well as the recently adopted Rule 1401.1, that sets regulatory risk thresholds to minimize chronic and acute health risk from the use of such chemicals. In rare instances, where unit risk factors for a given chemical are not available, such as TBAC, the SCAQMD takes additional precautionary measures by further limiting the use of such chemicals until additional information regarding the chemical's toxicity become available. This is the reason why staff is recommending a limited exemption for the TBAC from the VOC definition, rather than a complete exemption, as its low photochemical reactivity suggests, and limit its use to those critical applications that do not pose risk to the public as analyzed under conservatively structured operating scenarios.

Response 1-10

See Response 1-4 with regard to establishing an atmospheric subcategory for IM coatings. As noted in Response 1-8, Lyondell has agreed to conduct a 90-day subchronic study that may provide useful subchronic effects information that will be evaluated for use in further health risk analyses. SCAQMD staff has verbally recommended to the TBAC manufacturer representative that a long-term study be completed in addition to the subchronic study. Further, the SCAQMD has suggested and recommended at a number of public meetings that Lyondell conduct a full chronic toxicity test for TBAC and submit the results to OEHHA for consideration. The chronic toxicity test is not required to be conducted, although it was noted in the Federal Register that toxic study should be conducted but compliance with that request did not halt the exemption of TBAC from VOC regulations except in jurisdictions where more stringent local rules supercede federal rules such as in California. The SCAQMD relies on the toxicology expertise and guidance from OEHHA and until risk factors are assigned to TBAC, staff will analyze the potential health risk from TBAC by using established factors of TBA, which is a known metabolite of TBAC.

Response 1-11

SCAQMD staff understands that IRTA is opposed to an exemption for TBAC from the VOC definition. Based on the commentator's comments regarding potential toxic impact from TBAC reformulated in IM coatings applied at facilities that continuously paint throughout the year, the Draft EA includes a health risk analysis of potential cancer and noncancer risk from the TBAC reformulated in those IM coatings. As noted in Response 1-5, a cancer risk HRA was prepared as suggested by the commentator. A chronic noncancer HRA was not prepared because neither TBAC nor TBA have been assigned a chronic REL.

The South Coast Air Basin, as an extreme nonattainment area, is in desperate need of technological innovations, such as new paint chemistry and solvents with low photochemical reactivity and toxicity in order to improve air quality for the 16 million southern Californians. Therefore, the policies of the SCAQMD must foster the promotion of technological innovation and provide the necessary protection to minimize potential risk to public health. Staff believes requiring long-term toxicity studies to be conducted for all solvents prior to their delisting is a very expensive and risky proposition that may potentially stifle technological innovation. These are very expensive, multimillion dollar studies that will significantly increase the research and development cost of new solvents to levels that very few companies and certainly no small, independent innovators can afford. Because of these unintended consequences, staff believes such studies should be targeted towards chemicals with available scientific information indicating potential long-term toxicity rather than all new chemicals.



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February 9, 2006

Michael Krause
Planning, Rule Development and Area Sources
c/o CEQA
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Re: Comments on the Proposed CEQA Analysis for PAR 1113 – Architectural Coatings.

Dear Michael,

2-1

As the developer and leading producer of tertiary-butyl acetate (TBAC), Lyondell Chemical appreciates the opportunity to provide input on the CEQA analysis for Proposed Amended Rule 1113 – Architectural Coatings. TBAC is a useful solvent for a variety of coatings and, if exempted, would be an important tool to reduce ozone levels in the South Coast while allowing businesses to formulate cost-effective VOC-compliant coatings that meet performance requirements. This was evident from the comments from the coating companies weighing in at the recent public workshop and from input by NPCA, representing other manufacturers and users of both industrial maintenance and architectural coatings.

2-2

For this reason, we believe it is important to accurately assess and describe the relative risks and benefits of key low-VOC technologies, and to not just focus on the speculative concerns raised about the chronic toxicity of TBAC during the rule 1151 process. As you correctly state in the NOP/IS document, chronic toxicity is not relevant to short term risk assessment. To the extent that a few architectural coatings may be used occupationally, it may be appropriate to consider chronic health effects and assess potential chronic risks in these specific cases. However, the exemption of TBAC should not be arbitrarily limited to industrial maintenance categories based on unsubstantiated health concerns as the draft rule currently proposes.

2-3

To the extent that AQMD staff believes that TBAC may pose a long term health risk due to occupational exposure of a few coating categories under rule 1113, we believe it should justify limiting the exemption based on a realistic usage scenario and an estimated chronic risk, as was done for automotive refinishing facilities during the rule 1151 process. If not, the AQMD could inadvertently be promoting the use of other low-VOC technologies with worse health and environmental impacts, higher cost and inferior performance.

2-4

The acute toxicity of TBAC is well studied and documented and is lower than many of the solvents used today in these coating categories. We believe that broadly exempting TBAC in all coating categories

Lyondell Chemical comments on SCAQMD CEQA analysis for PAR 1113 – Architectural Coatings. February 9, 2005.

2-4
cont.

will help reduce the ozone levels and TAC emissions from these coatings in the South Coast. This will undoubtedly have a positive environmental and public health impact.

I. TBAC Has Low Acute Toxicity

2-5

There are several acute toxicity studies on TBAC in the open literature and in reports from accredited industrial laboratories. These studies are summarized in the attached March 20, 2000 memorandum from Melanie Marty of OEHHA to Janette Brooks of CARB.¹ In this memo, OEHHA concludes that TBAC has low acute inhalation, oral, dermal, and ocular toxicity, the relevant endpoints for assessing short term health risks.

OEHHA also calculated an acute REL for TBAC.¹ However, the reported REL is miscalculated and is based on an outdated study that does not meet OEHHA quality guidelines to calculate an REL.² In the attached letter to Joan Denton, we recommend an REL of 55,000 µg/m³ based on two recent acute inhalation studies conducted following Good Laboratory Practices as required by OEHHA guidelines. This REL is higher than that of many industrial solvents in use today, including common, high-volume solvents such as toluene, xylene, and MEK. Therefore, there is no apparent reason to limit the use of TBAC in any category based on its acute toxicity.

II. TBAC is Likely to Have Low Chronic Toxicity

2-6

There are no chronic studies available for TBAC. This is also true of PCBTF, an exempt solvent used in California, as well as many other solvents and components of water based coatings. TBAC has been shown to be non-mutagenic in a variety of in vivo and in-vitro assays, including Ames tests using several *E. coli* and *S. typhimurium* indicator strains, including TA 102.³ TBAC has been shown to metabolize in part to tertiary-butanol (TBA) and to be rapidly exhaled and excreted when inhaled.⁴ TBA was also shown to be non-mutagenic in a battery of in-vivo and in-vitro tests.

2-7

However, OEHHA has expressed concerns that TBAC might be carcinogenic because TBA has been shown to cause a slight increase in naturally occurring tumors in male rats and female mice when ingested in high doses. Leading experts on the mode of action of male rat carcinogenesis agree that these tumors are likely due to an exacerbation of a rat-specific mode of action that is not relevant to humans. Furthermore, humans are much less susceptible than mice to the formation of thyroid tumors and it would be impossible for humans to inhale enough TBAC to produce the high TBA levels that may have contributed to this slight increase in tumors in mice. It is, therefore, questionable that the chronic animal data for the TBA metabolite are relevant to chronic human toxicity or risk assessment for TBAC.

2-8

Nonetheless, in an attempt to be health protective, OEHHA has calculated a hypothetical cancer URF for TBAC based on the TBA chronic rodent data and several conservative assumptions including the percent conversion of TBAC to TBA and a non-threshold response to TBA. Despite these conservative assumptions, the hypothetical inhalation URF proposed by OEHHA is only 4×10^{-7} (µg/m³)⁻¹, which is several orders of magnitude lower than that of known or probable human carcinogens. It is, therefore, unlikely that TBAC poses a chronic human risk or that this hypothetical risk is relevant to short term

¹ Letter from Melanie Marty to Janette Brooks, "Potential Health Effects associated with Tertiary Butyl Acetate", March 20, 2000. Appendix B of CARB's Draft Environmental Impact Assessment of Tertiary-Butyl Acetate, June 2005.

² Air Toxics Hot Spots Program Risk Assessment Guidelines Part I – The Determination of Acute Reference Levels for Airborne Toxicants, March 1999, Cal EPA/OEHHA.

³ McGregor et. al., Mutation Research 565 (2005) 181-189.

⁴ Cruzan et. al., manuscript submitted for publication in the Journal of Toxicology and Environmental Health.

Lyondell Chemical comments on SCAQMD CEQA analysis for PAR 1113 – Architectural Coatings. February 9, 2005.

2-8
cont.

risk assessment. Therefore, if SCQAMD is concerned about occupational use of TBAC in some coating categories, it should conduct a risk assessment using estimated TBAC usage and the conservative URF proposed by OEHHA.

III. A TBAC Exemption in Architectural Coatings Will Not Increase Solvent Emissions or Nuisance Odor Complaints.

2-9

There has been some speculation that, if broadly exempted in 1113, TBAC-based coatings would replace latex paints and solvent emissions would increase. This concern is baseless. The vast majority of architectural paints are latex-based because of their low odor, low flammability, and ease of cleanup, despite the availability of several VOC-exempt solvents. The exemption of acetone in 1995 had no impact on the use of latex-based paints, despite its low cost and availability. Likewise, although TBAC does offer some performance and cost advantages over existing exempt solvents, its exemption will not cause the architectural market to suddenly abandon its requirements for low odor, low flammability, and water-based cleanup.

2-10

Instead, TBAC will be used to replace other solvents in solvent-based coatings for applications where water-based coatings do not provide acceptable performance. TBAC is an effective solvent for a variety of coating resins and is a pound-per-pound replacement for most other solvents. One important exception is PCBTF where a pound of TBAC replaces between 1.5 and 2.0 pounds of PCBTF. Hence, replacing exempt PCBTF with TBAC would result in a net decrease in solvent emissions.

2-11

Although TBAC's odor is strong, it is less objectionable than that of solvents such as PCBTF and not as strong as that of others. For example, the attached study by Eastern Michigan University shows that TBAC is about four times less odorous than n-butyl acetate, a solvent commonly used in solvent-borne architectural and industrial maintenance coatings. Since TBAC will be used predominantly to replace other odorous solvents in solvent-based coatings, its exemption and increased use is not likely to cause a significant increase in nuisance odor complaints.

2-12

In summary, there is sufficient evidence to conclude that TBAC has low acute toxicity. We urge the AQMD to contact OEHHA regarding their suggested REL as it appears that it should be higher than $10,000 \mu\text{g}/\text{m}^3$ and more likely on the order of $55,000 \mu\text{g}/\text{m}^3$. It is likely that using either REL will indicate that TBAC does not pose a short-term health risk in any architectural coating category affected by rule 1113. However, if the AQMD is concerned about a potential long-term risk based on occupational use of a few coating categories, we urge staff to use OEHHA's very conservative URF to estimate this risk under a reasonable use scenario. Given the very conservative exposure assumptions used in 1151, it is unlikely that the hypothetical chronic risk for TBAC will rise above the CEQA level of concern in any coating category under consideration here.

We thank you again for the opportunity to comment and look forward to working with you. Please feel free to contact me if you have any questions or comments about this letter.

Best Regards,



Daniel B. Pourreau, Ph.D.
Technical Advisor

Lyondell Chemical comments on SCAQMD CEQA analysis for PAR 1113 – Architectural Coatings. February 9, 2005.

cc: Steve Smith, Lee Lockie, Laki Tisopulos, Jean Ospital, Dan Russell, Barry Wallerstein, David DeBoer, Naveen Berry, Larry Bowen, Elaine Chang.

**COMMENT LETTER NO. 2
LYONDELL CHEMICAL COMPANY**

Daniel B. Pourreau, Ph.D.

February 9, 2006

Response 2-1

SCAQMD staff understands that Lyondell believes their product, tertiary butyl acetate (TBAC) is a useful solvent that, if exempted as a volatile organic compound (VOC), will reduce ozone as it allows coating manufacturers to formulate with it and comply with stringent VOC content limits. The SCAQMD is also aware of the support for TBAC from both industrial maintenance (IM) and architectural coating manufacturers.

Response 2-2

The commentator suggests that the CEQA analysis should include the health benefits of TBAC with regard to key low-VOC technologies. The purpose of the CEQA document is to evaluate the impacts of the project, generally using worse-case scenarios, not promote one product over another. The benefits of the rule, i.e., VOC emission reductions are disclosed to provide the rationale for the rule. Since VOC emissions are an ozone precursor, reducing VOC emissions generally results in reducing ozone formation.

The commentator also suggests to not focus on the speculative concerns raised about toxicity of TBAC. Based on comments raised at the Public Workshop and in another commentator's letter regarding the potential toxicity of TBAC, there exists a potential chronic health risks from TBAC reformulated in IM coatings applied at facilities that continuously paint throughout the year. The SCAQMD has investigated whether or not there is the potential for chronic exposure to IM coatings and has concluded that this is not speculative, but has identified facilities where IM coatings are continuously applied and, thus, this source needs to be considered. To evaluate the potential impacts from these types of specific sources, the Draft Environmental Assessment (EA) includes an analysis of potential cancer and noncancer risk if TBAC is formulated in IM coatings used at a sewage treatment plant, refinery, and a water/power facility.

Response 2-3

SCAQMD staff proposed a limited exemption for TBAC in Rule 1151, in part, based on the HRA prepared to analyze cancer and noncancer health risks. An HRA to analyze cancer and noncancer health risks was prepared for PAR 1113 using the same methodology that was used for the Rule 1151 HRA. Similar assumptions were used including using TBA as a surrogate, the percent concentration, emission rates, etc. The main difference is that the PAR 1113 HRA used actual IM coating usage information for facilities in the district and used the actual meteorological data for the identified facilities. Similar to the results for Rule 1151, the HRA for PAR 1113 identified potential cancer

and acute noncancer risks, but in neither case did the risks exceed applicable significance thresholds. See Chapter 4 and Appendix D for the results of the HRA.

Response 2-4

The environmental assessment conducted in accordance with CEQA examines the potential impacts from formulations expected to be used to comply with the proposed project. The formulations currently used to comply with the current requirements are considered baseline and in most cases have been evaluated in previous environmental assessments with regard to their potential adverse impacts. If compliance with proposed lower VOC limits is achieved with the use of waterborne coatings and coatings formulated with VOC exempt solvents, then the evaluation will analyze impacts from those types of coatings. The evaluation will not compare what is currently used because the current coating formulations will not comply with the future standards.

With regard to providing a broad exemption of TBAC as a VOC for all coating categories, the SCAQMD is proposing to limit the exemption to the IM coating category because a segment of that category, atmospheric IM coatings, has not been successfully reformulated at a lower future VOC content limit to meet the Metropolitan Water District rigorous criteria. Reformulating IM atmospheric coatings with TBAC has reportedly provided a satisfactory product that complies with the lower future VOC content limit of 100 grams per liter. Reducing VOC emissions, which is a precursor to ozone, has positive environmental and public health consequences. However, potential cancer risk and non-cancer health effects are also a major concern on public health, especially because there is little toxicity data for TBAC. U.S. Environmental Protection Agency (EPA), Office of Environmental Health Hazard Assessment (OEHHA) and the California Air Resource Board (CARB) have expressed concerns regarding the potential toxicity of TBAC. The risk and health effects from reformulated IM coatings have been evaluated in the Draft EA and, although determined to be not significant, demonstrates that a limited exemption is warranted. However, broad usage of TBAC in all architectural coatings is unnecessary and has the potential to substantially increase cancer and noncancer health risks to the public. The limited exemption for TBAC as a VOC for IM coatings limits public exposure to these adverse toxic impacts while providing a solvent that will assist manufacturers with formulation coatings that would meet the most rigorous standards.

Response 2-5

The SCAQMD is aware of the miscalculation in the reported REL from OEHHA and the analysis of the acute health effect from the use of TBAC in IM coatings reflects the latest values. A high REL does not solely dictate whether the acute health effect is significant or not. The calculation of acute health effect requires other parameters such as usage amount, emission rate and meteorology, which affect the level of significance of the acute health effect from a contaminant. Further, staff uses OEHHA's published data which is the a revised REL of 10,000 ug/m³. Thus, a broad determination that because the REL is high there will be no adverse acute toxicity if TBAC is used in all coating

categories does not reflect the importance of other factors that may substantially increase cancer and noncancer health risks.

Response 2-6

The commentator compares the availability of chronic studies for TBAC and parachlorobenzotrifluoride (PCBTF); however, PCBTF is currently exempt under Rule 102 so an exemption for PCBTF is not part of the proposed project. The SCAQMD originally exempted PCBTF from the definition of VOC in November 1995, and classified it as a Group II compound. A Final EA was prepared to address potential impacts from the proposed action. PCBTF was exempted from the definition of VOC based on the information available at that time, which indicated, “PCBTF is not absorbed into the body to any appreciable extent. Most of the material is either exhaled back or excreted. The small quantities that are assimilated are converted to non-toxic water soluble products and excreted.” (Final EA for Proposed Amended Rule 102 – Definition of Terms, SCAQMD, October 1995).

PCBTF was moved from the Group II to the Group I list of exempt VOC compounds as part of amendments to Rule 102 adopted by the Governing Board on June 12, 1998. A Final Supplemental EA was prepared to address impacts from the proposed action. PCBTF was moved to the Group I list based on subchronic toxicity data evaluated by the OEHHA. After completing its review, OEHHA notified the SCAQMD in writing that there was an “absence of adverse health effects.” Based on this evaluation, the SCAQMD moved PCBTF from Group II to Group I.

Unlike TBAC’s metabolite TBA, no cancer potency values had been developed at that time for PCBTF or any of its metabolites. When OEHHA publishes toxicity values for chemicals, SCAQMD staff evaluates the health risk from these chemicals. Since cancer potency and acute noncarcinogenic values have been provided by OEHHA for use in evaluating health risk impacts from TBAC’s metabolite, TBA, SCAQMD staff used these values to estimate the potential increase health risk from the limited VOC exemption for TBAC in PAR 1113.

Response 2-7

As discussed in Response 2-6, cancer potency and acute noncarcinogenic values have been provided by OEHHA for use in evaluating health risk impacts from TBAC’s metabolite, TBA, and, consistent with SCAQMD policy, staff used these values to estimate the potential increase health risk from the limited VOC exemption for TBAC in PAR 1113. SCAQMD staff relies on and defers to OEHHA to provide cancer potency values for preparing a health risk assessment (HRA). Since OEHHA staff has developed a cancer potency value for TBA and since TBAC is substantially metabolized into TBA, it is appropriate that the HRA prepared to evaluate health risks from TBAC in the Draft EA use TBA as a surrogate. The HRA in the Draft EA was based upon the most recent TBA cancer potency value provided by OEHHA. The TBAC carcinogenic HRA in the Draft EA is consistent with the methodology used by CARB in their TBAC health risk analysis.

With regard to whether the test results are questionable, the commentator should direct this information to support his opinion to OEHHA for consideration.

Response 2-8

See Response 2-3 with regard to concerns about occupational use of TBAC and Response 2-7 with regard to the cancer risk health assessment of TBAC and the reliance on OEHHA's cancer potency and acute noncarcinogenic values.

Response 2-9

PAR 1113 would exempt TBAC from the definition of VOC for IM coatings only. Since this category of coatings is largely solvent based, it is expected that TBAC could be used as a "drop-in" solvent. By limiting TBAC formulations to the IM coating category, it is expected that substituting TBAC formulations for waterbased coatings will also be limited.

Response 2-10

See Response 2-9 with regard to replacement of unacceptable performing products with coatings formulated with TBAC. If TBAC is classified exempt as a VOC, then the replacement of PCBTF with TBAC would not change the solvent emissions since both would be considered exempt solvents and PCBTF can be used today. However, the 2005 Status Report for Rule 1113 presented to the Governing Board in 2006 did not identify PCBTF as a potential replacement solvent for IM coatings.

Response 2-11

As noted in Response 2-6, PCBTF is currently exempt under Rule 102 so an exemption for PCBTF is not part of the proposed project. Further, as stated in Response 2-10, PCBTF was not identified as a potential replacement solvent for IM coatings. In a TBAC odor analysis conducted for SCAQMD Rule 1151, the concentration of TBAC from replacing conventional solvents with TBAC was less than the TBAC odor threshold. Therefore, no significant additional odor impacts are expected to result from implementing the proposed amendments.

Response 2-12

The Draft EA analyzes the potential acute toxicity based upon information provided by the facility operator. A scenario of painting a large storage tank with IM coatings formulated with TBAC was analyzed and it was concluded the impacts would not be significant. Again, the SCAQMD staff relies on conclusions generated by OEHHA for our HRAs. Finally, as stated in Response 2-2, there exists a potential cancer risk from TBAC reformulated in IM coatings applied at facilities that continuously paint throughout the year. The Draft EA includes an analysis of potential cancer risk if TBAC is

formulated in IM coatings used at a sewage treatment plant, refinery, and a water/power facility which are reasonable scenarios.

February 22, 2006

Mr. Michael Krause
CEQA -- AIM Coatings Rule
South Coast Air Quality Management District
21865 E. Copley Drive
Diamond Bar, California 91765

RE: Notice of Preparation of a Draft Environmental Assessment; Rule
1113 Architectural and Industrial Maintenance Coatings

Dear Mr. Krause:

3-1

The National Paint and Coatings Association (NPCA) is providing the following comments on the SCAQMD's Notice of Preparation of a Draft Environmental Assessment relating to the proposed amendments to Rule 1113 that would define tertiary butyl acetate as a non-VOC for specific coatings categories, lower the VOC limits for certain coating categories, differentiate nonflat high gloss from other nonflat coatings, and postpone the compliance date for nonflat high gloss coatings and quick-dry enamels by one-year. Since members of NPCA manufacture and sell AIM coatings in the South Coast Air Management District, NPCA is very interested the proposed amendments.

NPCA is a voluntary, nonprofit trade association representing some 350 manufacturers of paints, coatings, adhesives, sealants, and caulks, raw materials suppliers to the industry, and product distributors. As the preeminent organization representing the 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. In addition, NPCA provides members with such services as research and technical information, statistical management information, regulatory guidance, and community service project support.

3-2

It is important to note that it is very difficult for NPCA to provide specific comments on the proposed amendments since NPCA and SCAQMD are still having discussions on this matter as part of the Ad Hoc Board Committee that was established by Chairman Burke with members Antonovich and Perry. The Committee's focus is to address industry concerns regarding various AIM coating VOC limits, and resolve current and potential future litigation arising from this issue.

So while NPCA provides these initial comments on the CEQA document, we recognize that there could well be additional information that may become available that affect the issues commented upon, including further technical test results. Previous materials submitted to the SCAQMD in our on-going discussions with SCAQMD should be considered as part of this submission, e.g.,

3-2
cont.

NPCA's December 21, 2005 Position Paper which sets out our current position in detail with respect to Rule 1113 as it now stands and our proposed amendments for it and the accompanying Table of Standards.

1. General Comments

3-3

In its Rule 1113 Annual Report and elsewhere SCAQMD cites NPCA as "suggesting" lowering the VOC limits for several coating categories of low-volume specialty coatings (Bond Breakers, Concrete Curing Compounds, Dry Fog Coatings, Fire Retardant Coatings and Traffic Coatings).

This is a misreading of NPCA's position. In the course of discussions with Staff it is true that NPCA has mentioned several options that might be considered for further additional reductions – including possibly lowering the limits for various categories where feasible but also subdividing the Industrial Maintenance category and the Limit-to-Limit over compliance concept. But all of these have been raised only as "possibilities" that would have to be fleshed out in the context of further discussions. Despite their being raised only as possibilities by NPCA, SCAQMD Staff has indicated that NPCA "suggested" the feasibility of the lower limits for the coatings categories mentioned, which is incorrect.

It is difficult to understand how NPCA is to proceed in discussions to resolve our differences with SCAQMD if its "suggestions for possible consideration" are treated as firm commitments for technologically feasible VOC emissions reductions

3-4

The Staff recognizes that two of the 2006 technology forcing limits are not technologically feasible - the limits for the non-flat coatings and quick dry enamels. It nonetheless first requires that other 2006 technology forcing limits be lowered below their 2006 technology forcing limits before these two limits can be raised to ensure that there will be no diminution in the over all VOC emissions reductions that were hoped for from the 2006 technology forcing limits.

Such an approach directly contradicts the nature of the technology forcing limits and the purpose of the technology reviews established by the Board in adopting them. While technology may advance for some coatings to allow reductions in some limits to compensate for raising others, nothing guarantees this. The technology reviews mandated by the Board were intended to acknowledge when a technology forcing limit in deed could not be met and this was to be done without requiring that technology forcing limits of other coatings be arbitrarily lowered.

2. Tertiary Butyl Acetate (TBAC)

3-5

NPCA has requested that TBAC be available for use in industrial coatings, industrial maintenance coatings, lacquers and varnishes. Prior to the January 6, 2006 Governing Board meeting, SCAQMD Staff stated it would look at exempting

3-5
cont.

TBAc for certain industrial maintenance coatings. Recently, Staff has stated that it is not as concerned with the health affects of TBAc as previously because it has been shown that the earlier risk assessment had overstated the risk. In light of this development, we urge the SCAQMD to consider a broader use of the material in addition to the industrial maintenance coatings, lacquers and varnishes. In fact we believe that SCAQMD should exempt TBAc without usage restriction for all coatings as did the State of California, EPA and most other states. In support of the above we fully endorse the submission of Lyondell, the developer and manufacturer of TBAc, which demonstrates that the risks and benefits of a wider use of TBAc in AIM coatings have not been properly analyzed pursuant to CEQA requirements.

3-6

However, as we have previously informed Staff, even if TBAc is exempted tomorrow, the industry needs at least a year or more to complete performance and field testing of reformulated products. Consequently, interim relief from the 2006 limits will still be required as coatings using the exempt material are reformulated and tested.

Also NPCA notes that TBAc will not be a "cure-all" for all 100 gram per liter industrial maintenance coatings. It has a strong odor, evaporates relatively, quickly and is not a universal replacement solvent for all current usages.

SCAQMD must realize that industrial maintenance coatings are primarily protective of vital infrastructure, including bridges, water pipes/tanks, chemical and oil storage tanks, etc. If these coatings fail, catastrophic releases could result. Consequently, field exposure testing beyond lab testing is essential for these coatings. NPCA again requests SCAQMD to extend the limit for all industrial maintenance coatings one year to July 1, 2007. Failure to fully analyze these issues is a flaw in the CEQA analysis.

3. Lowering VOC Limits from Specific Coating Categories

3-7

SCAQMD states that, based largely on NPCA suggestions, Staff is proposing to amend Rule 1113 by lowering the VOC limits for several categories of low-volume specialty coatings (Bond Breakers, Concrete Curing Compounds, Dry Fog Coatings, Fire Retardant Coatings, and Traffic Coatings). NPCA had indeed mentioned, at the August 10, 2005 meeting, several options that might be considered for further additional reductions - including subdividing the Industrial Maintenance category and the Limit -to-Limit over compliance concept, as well as possibly lowering the limits for various categories where feasible, in the context that further discussions would ensue. However, Staff recommendations for these newly proposed limits were raised at the January 26th public workshop without additional consultation with industry, rather than being considered in the context of the ongoing discussions.

3-8 It is important to note the reason why SCAQMD is proposing to lower limits for these coatings categories. It is because SCAQMD is unwilling to adjust any emission reduction goals and have now required industry to find a way to render any changes (needed due to technological infeasibility) in future limits to be absolutely "emissions neutral".

As a result, to maintain the emissions neutral goal, Staff has cut limits in other categories without *checking if these limit reductions are technically feasible*. In short, Staff has taken the mandate for the Annual Report and the mission of the Ad Hoc Committee (to realistically evaluate the technological feasibility of coatings limits before they become effective) to mean only if it suits its existing expectations for emissions reductions. Such an approach renders both exercises meaningless.

3-9 In light of the acknowledged technology forcing nature of the limits at issue here, Rule 1113, it is vital that SCAQMD complete technical assessments for the coatings selected for VOC limit reduction. In adopting the 1999 amendments to Rule 1113, the Board established an annual review process to determine whether sufficient progress in coatings technology was being made to allow for the effective implementation of lower VOC limits. A Technical Advisory Committee also was established to assist in designing the various tests and measures to help track this process and advise Staff accordingly.

In addition, CARB will have results of the AIM survey later this year, which should provide additional information on the availability and sales of products in these categories. Depending upon the CARB survey data, SCAQMD should either pull back the limit changes or extend the compliance dates for these categories.

3-10 SCAQMD's CEQA analysis is deficient for failing to fully analyze the costs and benefits of the proposed amended limits for these coatings, which includes a failure to determine whether the limits are technologically feasible for all of the coatings' applications.

4. Differentiation of Non-flat High-Gloss from Other Non-flat Coatings

3-11 NPCA supports the SCAQMD differentiation of the Non-flat High Gloss category. It disagrees, however, with the lower limit it continues to mandate for non-flat coatings. As has been demonstrated by industry in several meetings and workshops on this issue, the resin technologies SCAQMD is relying on for this lower limit continue to have performance problems, including dirt pickup. The failure to take this into account is a deficiency in the CEQA analysis.

3-12 **5. Postponement of the Compliance Date for Non-flat High Gloss Coatings and Quick-Dry Enamels by One Year**

3-12
cont.

NPCA supports the SCAQMD proposed postponement of the implementation date of the Non-flat High-gloss limits and Quick Dry coatings categories to allow coatings formulators to develop compliant coatings. SCAQMD also should be prepared to provide additional postponements of implementation dates if they are required to produce technologically feasible coatings for these two categories. However, NPCA believes that the Quick Dry coatings limit should stay at the current 250 g/l limit. The CEQA analysis fails to properly analyze the consequences of moving to this limit for quick dry coatings which we believe is a technologically infeasible for a number of the coatings' applications.

3-13

6. Other Changes to Rule 1113 to Enhance Clarity and Enforceability

As we stated in our December 21 Position Paper, we believe that it would be highly useful to subdivide a number of the coatings categories into their "exterior" and "interior" uses. The worry Staff has expressed over the materials being misapplied (exterior coating being used for interior application) we believe is misplaced. Consumers of the coatings have been able to draw distinctions between the two uses long before there were regulations in place and will continue to do so because exterior coatings do not lend themselves to interior applications. This is one instruction on the can that long practice has demonstrated to be religiously followed by end users.

As discussed at the February 14-15 meeting, there seems to be an overlap problem with the revised floor coating definition, the revised definition is too broad and will lead to compliance issues in the future if left as proposed.

These issues should also be fully considered in the CEQA analysis.

3-14

7. NPCA Alternative Amendments to Rule 1113

One of the key goals of the Ad Hoc Committee is to resolve current and potential future litigation arising from this issue. Over the past seven months, NPCA has provided the SCAQMD Staff with numerous proposals to amend Rule 1113 in ways that would resolve the current litigation. In addition, NPCA proposals would achieve substantial emission reductions while maintaining products that meet important performance standards, including critical safety requirements necessary to maintain Southern California's infrastructure.

NPCA has now offered four proposals to SCAQMD and NPCA continues to work with Staff since we believe that Rule 1113 could be amended in a manner that will result in a cessation of the litigation as well as provide a rule that is technologically feasible and delivers substantial emissions reductions. See previously submitted December 21 Position Paper and Table of Standards.

- 3-15 8. February 14 and 15, 2006 Rule 1113 Technical Meeting
- Based on Technical Meetings held with SCAQMD Staff on February 14 and 15, 2006, it appears that there are continuing technology issues with Rule 1113. Please find attached a copy of a letter to Barry Wallerstein, identifying action items for key coatings categories from the meeting. Of greatest concern are technical issues include but are not limited to the following coating categories: Antigrffiti, Water Proof Concrete Masonry Sealers, Water Proof Sealers, Specialty Primers, Nonflats, Floor Coatings, Stains and industrial Maintenance coating categories.
- 3-16 9. 275 g/l Varnish Limit/Elimination of Small Container Exemption
- The elimination of the small container exemption and the reduction of the varnish limit to 275 g/L provides no air quality benefit when the ozone-forming potential per unit volume solids applied is considered. The failure of the CEQA analysis to adequately consider this is a deficiency.
- 3-17 10. Comments on Specific Statements of the CEQA Document
- As noted on page 1-1, the current rule contains a requirement for Staff to conduct a technology assessment prior to implementation of the lower limits – such a technology assessment was not completed for the bond breakers, concrete-curing compounds, dry-fog coatings, fire-retardant coatings and traffic coatings categories. SCAQMD does not mention that these coatings limits are being lowered to off-set reductions elsewhere to maintain emissions neutrality.
- 3-18 • Page 1-5, last sentence, NPCA acknowledges the air quality challenges of the region and expressed its desire to submit an alternate proposal that would be emissions neutral – note this was a goal and the proposal would be emissions neutral to the extent possible.
- 3-19 • Page 1-8, 2nd paragraph – NPCA strongly disagrees with the statement that Staff demonstrated that there are sufficient compliant coatings available on the market in the other architectural coatings categories that will meet the VOC limits of Rule 1113 without the use of TBAC. Clearly, Staff agrees that high gloss and quick dry enamels are not available – additional problematic categories were identified during the February 14 and 15th Technical meeting as described above. NPCA is requesting SCAQMD to delist TBAC for Industrial Maintenance coatings – however NPCA ultimately believes that TBAC should be delisted without usage restriction for all coatings as did the State of California, EPA and most other states.
- 3-20 • Page 1-9, last sentence – NPCA questions the statement that new resins were used in Quick-Dry Enamels that were included in the technology assessment. Staff's claim that these new resin system are just now

- 3-20
cont. becoming available is at variance with the statement that they were available when the technology assessment was started several years ago.
- 3-21 • Page 1-12, the goal of NPCA's proposal was to be emissions neutral to the extent possible.
- 3-22 • Page 2-11, as mentioned earlier, Rule 1113 is a technology forcing rule, that must be amended when technological issues are found. Since Staff found it to be technologically infeasible to implement the high gloss and quick dry enamels the industry should not be penalized for these needed changes by forcing emissions reductions from other coatings categories the technology feasibility of which has not been adequately evaluated.
- 3-23 • Page 2-13 – it appears that for several of the columns – the weight percent of VOC appears to be more than the VOC content listed (for example concrete curing – the listed replacement solvents add up to more than 100 g/l).
- 3-24 • Page 2-28 – NPCA agrees that the use of TBAC as a replacement solvent for IM coatings and zinc rich primers will not result in adverse hazard impacts. As noted earlier, however, we believe that the failure to more fully exempt TBAC for other coatings uses is not warranted as is demonstrated by Lyondell's comments.

In advance, thank you for the opportunity to comment. Please contact us with any questions you might have concerning our comments.

Sincerely,

/s/

David F. Darling, P.E.
Director, Environmental Affairs
Affairs

/s/

Jim Sell, Esq.
Senior Counsel, Government

Cc:

**** Sent via email and in hard-copy ****

**COMMENT LETTER NO. 3
NATIONAL PAINT AND COATING ASSOCIATION**

David F. Darling, P.E. / Jim Sell, Esq.
February 22, 2006

Response 3-1

The National Paint and Coatings Association (NPCA) has worked with the SCAQMD on past amendments to Rule 1113 and we look forward to continue working with NPCA during this latest Rule 1113 amendment proposal process. As explained in more detail, PAR 1113 creates a nonflat high gloss coating category. The compliance date for both nonflat high gloss and quick dry coatings is proposed to be extended for one year.

Response 3-2

The SCAQMD appreciates the participation of the NPCA at the Ad Hoc Board Committee meetings to address industry concerns regarding architectural coatings and staff will consider any material submitted by the public in crafting the rule amendments as well as evaluating environmental and fiscal impacts from these amendments.

Response 3-3

It is not the SCAQMD's intention to misconstrue the position of NPCA with regard to lowering the VOC limits for several coating categories. The rule proposals are based on information exchanged during the rule development process. At the July 8, 2005 Ad Hoc Committee Meeting with SCAQMD Governing Board and Los Angeles County Supervisor Michael Antonovich, Councilwoman Jan Perry, NPCA President Andy Doyle agreed, in response to a question from SCAQMD Executive Officer Barry Wallerstein, that the industry (rule) proposal would be "emissions neutral." This dialogue was noted in both the July 8, 2005, meeting minute notes as well as in the Annual Status Report on Rule 1113 submitted to the SCAQMD Governing Board on February 3, 2006. Thus, it appeared that both the SCAQMD and NPCA recognize the extreme air quality needs of the region by suggesting rule proposals that would achieve the same overall VOC emission reductions while providing the industry flexibility to meet future limits. Subsequently, at both the August 10, 2005, and September 14, 2005, subcommittee meetings, the NPCA proposed subdividing five coating categories into interior and exterior applications and moving the compliance date up for the interiors at the current final VOC content limit. The exteriors would presumably be allowed to stay at a higher VOC content limit creating permanent forgone emission reductions. Implementation and enforcement concerns have been raised with regard to properly classifying interior and exterior coatings so this suggestion has not been included as part of the current proposed amendments to Rule 1113. At those same meetings, NPCA suggested additional reductions by lowering the VOC content limit for concrete curing compounds, dry fog

coatings, and traffic coatings. Being a feasible suggestion and a proposal that will reduce emissions, the SCAQMD has included this suggestion as part of the proposed project.

The Ad Hoc Committee Meeting minutes appeared to indicate that NPCA's "suggestions" were more than mere "possibilities." These future limit "suggestions" were found to be feasible as coatings that comply with these future limits are commercially available. The technical assessment conducted by the district supports the availability of the affected coatings achieving the lower VOC content limit. When NPCA suggested lowering certain coating categories limits, the SCAQMD respected their opinion and expertise by including that suggestion in the rule proposal, along with delays in compliance dates and an exemption of a potentially toxic contaminant, to achieve the mutual goal of emission reductions that will be approximately the same as the emission foregone. In order to achieve that goal and provide a delay in compliance dates, other coating category limits will need to be lowered for those coating categories that meet the future limits with commercially available products. Staff has conducted a thorough assessment for each of the additional categories proposed for lower VOC limits, and has revised its original proposed based on findings.

Response 3-4

As long as there are commercially available coatings that meet the lower VOC content limits, the proposed rule amendment to lower the VOC content limit does not constitute "technology forcing." The SCAQMD staff recognizes the challenge for non-flat coatings and quick dry enamels to comply with the 50 grams per liter by July 1, 2006, which is why the proposed project extends the compliance date one year to provide manufacturers of non-flat coatings and quick dry enamels one additional year to take advantage of the latest resin technologies and formulate to the lower VOC content limit. These findings were based on discussions with manufacturers as a part of the ongoing technical assessment. However, staff also found raw materials introduced into the marketplace that mitigate the issues of dirt pickup but concluded that some manufacturers may need additional time to reformulate with these new resins. At the same time, SCAQMD staff recognizes, based on information provided by NPCA and several coating manufacturers that the VOC content limit of other coating categories can be feasibly lowered from their current required limits. After the NPCA first identified potential coating categories with lower VOC coatings, staff researched and found that many coatings with VOC content limits below the proposed limits are currently available on the market. The staff report for proposed amended Rule 1113 shows that the lower VOC limits for the five affected coating categories are "potential cost-effective means of offsetting the VOC emissions foregone due to the delay in implementation." This observation does not directly contradict the nature of technology forcing limits since the staff conducted a comprehensive technology assessment, which demonstrated that coatings meeting the future VOC limits were commercially available. Further, a list of coating categories showing that lower VOC content limits are feasible was provided by NPCA. Staff conducted a preliminary evaluation of the emission inventory and available VOC technology for these five categories which strongly indicates potential significant cost-effective emission reductions.

See Response 3-3 with regard to achieving an “emission neutral” proposal.

Response 3-5

The commentator is incorrect that the SCAQMD is not concerned with health affects of TBAC. The SCAQMD has a responsibility to protect public health and evaluate the potential adverse impacts from proposed projects in accordance with the requirements of the California Environmental Quality Act (CEQA). Consistent with CEQA, an HRA was prepared to evaluate cancer and noncancer health risks from using coatings formulated with TBAC. Preliminary acute risk calculations were modified to reflect updated input parameters which changed the conclusion of the acute risk assessment. The lowering of the acute risk value, however, does not eliminate the potential acute impact from potential increased use of TBAC in IM coatings. Further, the issue has been raised with regard to the potential cancer risk at certain facilities where IM coatings are applied throughout the year creating a potential long-term exposure. For these specific cases, the potential cancer risk from TBAC was evaluated in the Draft EA. To provide a more broad exemption of TBAC as a VOC for all coatings would increase the potential risk associated with usage of TBAC and is not under consideration at this time. In addition, other coatings lack the application procedures followed by professional contractors who typically apply IM coatings, especially the use of personal protection equipment, including respirators.

Finally, with regard to the opinion of the commentator that the analysis of risk was not properly analyzed pursuant to CEQA requirements, such an analysis is not required as part of the Initial Study (IS). The IS serves two purposes: 1) to solicit information on the scope of the environmental analysis for the proposed project, and 2) to notify the public that the SCAQMD will prepare a Draft EA to further assess potential environmental impacts that may result from implementing the proposed project. Thus, the risk analysis will be properly presented in the Draft EA.

Response 3-6

The current proposal allows an exemption of TBAC as a VOC for IM coatings to provide the IM coatings manufacturers, particularly the atmospheric IM coating manufacturers the ability to formulate a coating that not only meets the 100 grams per liter but has exceptionally long durability. Reportedly, IM coating manufacturers have successfully worked with TBAC in their formulations, which is the basis for the exemption of TBAC as a VOC for IM coatings. Additionally, coating manufacturers have already been working to reformulate these coatings with other solvents. Discussions with raw material and additive suppliers indicate that these products can be delivered in TBAC, if demanded by the industry.

Further, the SCAQMD is fully aware of the characteristics the IM coatings are expected to demonstrate in order to be successful and be a marketable product. Field exposure testing beyond lab testing is essential and if a manufacturer needs additional time to test

and research, a variance from rule compliance should be requested from the SCAQMD Hearing Board. The consequences for failure are not considered a potential adverse impact since it is not expected that IM coatings manufacturers will produce and market a coating that will knowingly fail. If it is unknown whether or not a coating will fail, the analysis would be speculative.

Response 3-7

As explained in Response 3-3, NPCA did mention at both the August 10, 2005, meeting and the September 14, 2005, meeting several rule proposal options which were later included in the current rule proposal. There were reasons why certain suggestions were included and why others were not. With regard to commentator's opinion that further additional consultation with industry before the January 26, 2006, public workshop, the SCAQMD staff did meet and discuss the proposed limits with the coating manufacturers after reviewing market penetration and availability of compliant products. The public workshop rule proposal relied on NPCA's suggestions as an expert opinion which could be seriously considered as feasible rule proposal options.

Response 3-8

As noted in Response 3-3, both the SCAQMD and NPCA discussed the importance of proposing an "emission neutral" rule amendment early in the rule development process. In this spirit of cooperation and negotiation, NPCA proposed the lowering of limits of certain coating categories which the SCAQMD has incorporated into the current rule proposal. The NPCA has changed their stance regarding an emission neutral proposal and the SCAQMD has determined that coatings complying with future lower VOC content limits for certain coatings are commercially available. Thus, based on the technical data and commercial availability, the SCAQMD is proposing to lower the VOC content limit for certain coatings.

The SCAQMD has a responsibility to the public, legislative decision-makers as well as the affected industry to set goals and reach those targets. The SCAQMD has adjusted emission reductions goals for a number of rules, including Rule 1113, in the past and it is unfounded that SCAQMD is not being willing to adjust our goals. By allowing the delay of compliance dates causes a delay in emission reductions which adjusts our emission reductions goals. Compliance dates have been adjusted a number of times during the 23 amendments to Rule 1113 since its adoption in 1977. The proposed lowering of the VOC content limits affect coatings that currently comply with the future proposed VOC content limits.

A federal consent decree limits overall changes to Rule 1113. The Board must make a finding that limits are infeasible which is supported by substantial evidence. Except for a few areas, staff has substantial evidence to support feasibility of the limits. Despite several meetings with NPCA and member paint manufacturers, no technical data has been provided to staff to support the consent decree's requirement finding of infeasibility.

Response 3-9

As discussed in Response 3-4, staff conducted a comprehensive technology assessment and obtained a list of coating categories with a suggested lower VOC content limit from the NPCA. The SCAQMD does intend to follow the mission of the Ad Hoc Committee since that is the reason participation in the committee is occurring. If the commentator has any further suggestions with regard to the technological feasibility of coating limits, staff welcomes public input. Where supported by substantial evidence, based on the entirety of the record, the SCAQMD has proposed the delay in compliance dates for some coating categories to allow manufacturers more time to reformulate.

As noted in Response 3-3, amendments to Rule 1113 are not technology forcing as coating formulations meeting the future VOC content limits set forth in the rule are currently commercially available and achieved in practice. The annual review process is taking place and the latest report was filed with the SCAQMD Governing Board on February 3, 2006.

When released, CARB's AIM survey will be reviewed by SCAQMD staff and pertinent information will be utilized where appropriate.

Response 3-10

SCAQMD has and continues to fully analyze the costs and benefits of the proposed limits for these coatings. A full analysis will appear in the socioeconomic assessment and the cost to implement the rule amendments was shown to be cost effective in all the staff reports. Performance of the coating is evaluated in the technical assessment which provides guidance to the rule development team when crafting proposed amendments to the rule. Potential adverse environmental impacts from the new known technologies and coating formulations introduced as a result of the proposed project are evaluated in the CEQA assessment. Failure of those technologies is not considered a potential adverse impact since it is not expected that IM coatings manufacturers will produce and market a coating that will knowingly fail. It would be a speculative analysis if it is unknown whether or not a coating will fail.

Response 3-11

The SCAQMD recognizes there are technical hurdles to overcome to develop a successful coating product when reformulating to achieve a lower VOC content limit, including dirt pickup. The one year extension for the high gloss category is being proposed to allow manufacturers to take advantage of the latest resin and additive technologies in overcoming the performance challenges identified and transition to the new limits.

Response 3-12

The decision to propose the extension of compliance dates is based on the technology assessment and Annual Report to the SCAQMD Governing Board. According to the market penetration data in Tables 2 and 4 of the Annual Status report, compliant coatings that already meet the lower VOC content are commercially available and being sold in local stores. Given an additional year to achieve compliance, the remaining quick dry enamels will also achieve compliance with the lower VOC content limit.

See Responses 3-6 and 3-10 with regard to consequences from failed coating products.

Response 3-13

Implementation and enforcement concerns have been raised with regard to properly classifying interior and exterior coatings so this suggestion has not been included as part of the current proposed amendments to Rule 1113. Furthermore, compliant interior and exterior products are readily available for use. The overlapping problem with the revised floor coating definition is being reviewed by the rule development group. The commentator is not clear as to how the division of coating categories or floor coating definition will have a potential adverse impact on the environment and how that needs to be considered in the CEQA analysis.

Response 3-14

Please refer to Response to 3-2 with regard to the mission and goals set forth by the Ad Hoc Committee. SCAQMD staff has carefully considered NPCA proposals. However, SCAQMD cannot simply adopt whatever industry proposes merely because it would avoid litigation. SCAQMD would like to eliminate unnecessary litigation, but also remains committed to obtaining feasible emission reductions and obtaining substantial public health benefits.

The SCAQMD does not agree that the NPCA proposals would achieve substantial emission reductions when lower VOC content limits are not reached. This would generate a permanent emission reduction foregone backsliding from the goals of Rule 1113, the AQMP, and attainment with the state and federal ambient air quality standards. The four proposals offered by the NPCA were not “emissions neutral” but did provide elements used in crafting the current amendments to Rule 1113. Federal consent decree permits the SCAQMD to support proposals that delay emission reductions by more than two years and not be offset.

Response 3-15

The technical issues raised by the commentator and the reasoning for why some suggestions are not included in the proposed project are discussed in the Staff Report for PAR 1113. It should be noted that the suggestions made by the NPCA constitute Alternative B to the proposed project in the Draft EA. Alternative B considers

maintaining the current limits for waterproofing sealers, specialty primers, floor coatings, nonflats and exterior stains, and not lower the VOC content limit any further. It would also extend the compliance date for IM coatings to achieve the lower 100 g/l VOC content limit by one year. Staff has identified compliant antigraffiti products that allow moisture permeation and breathability, so antigraffiti coatings will continue to be subject to the VOC content limits of IM coatings.

Response 3-16

The elimination of the small container exemption was promulgated in 2003 and is not part of the current rule amendments. According to the staff report prepared for the 2003 amendments to Rule 1113, the elimination of the small container exemption would result in a VOC emission reduction of 1,660 pounds per day. After more data refinement and further survey of the small container products, the VOC emission reductions were updated to 1,820 pounds per day. The same 2003 staff report also reported that 420 pounds per day of VOC emissions would be reduced when clear wood varnishes comply with the lower VOC content limit of 275 grams per liter on July 1, 2006.

Response 3-17

Rule 1113 does not specify that every coating category proposed for a lower VOC content limit is required to have a technical assessment. However, staff did conduct a technical assessment and has found that lower VOC content limits for concrete-curing compounds, dry-fog coatings and traffic coatings are technically feasible. The technology assessment requirement in Rule 1113 is independent of the goals of emission neutrality in the rule amendment proposals set forth in the Ad Hoc Committee meetings which began in July 8, 2005. As noted on page 1-1, a comprehensive technology assessment was conducted and included in the Annual Status Report on Rule 1113 presented to the SCAQMD Governing Board on February 3, 2006.

Response 3-18

When the NPCA proposed the lower VOC content limits for certain architectural coating categories at both the August 10, 2005, and September 14, 2005, subcommittee meetings, the ability to achieve the goal of emissions neutrality was implied to be possible and feasible. The lowering of the VOC content limits would provide an air quality benefit that would otherwise be lost when delaying compliance dates for other categories. The commentator seems to be retracting on the emissions neutral goal by adding the caveat “to the extent possible” to the goal set out at the July 8, 2005, Ad Hoc Committee Meeting (see Response 3-3). However, the emission neutral idea suggested by NPCA is possible as demonstrated through the comprehensive technology assessment in the 2005 Annual Report Status for Rule 1113 and other supporting documentation.

Response 3-19

SCAQMD staff does agree that high gloss nonflats and quick dry enamels compliant with the lower VOC content limit are not widely available and some have dirt pickup issues, and that is why the Rule 1113 amendments include a delay in the compliance date for those architectural coating categories. However, the comprehensive technology assessment in the 2005 Annual Report Status for Rule 1113 lists a sufficient number of compliant coatings in other architectural coating categories that are in compliance with the future lower VOC content limit. Finally, due to the challenges facing the atmospheric IM coating manufacturers to formulate a compliant coating that achieves the high standards required from public agencies, the Rule 1113 amendments include a delisting of TBAC as a VOC for IM coatings. Due to its potential toxicity and health effects associated with TBAC, a limited exemption is currently proposed.

Response 3-20

While the data in the technology assessment was begun in the spring of 2004, the ongoing study continued up to January 6, 2006 before the latest status report was presented to the SCAQMD Governing Board in February 2006. New resins have been critical in assisting the coatings to achieve lower VOC content limits and if resins did not assist quick dry enamels in reaching lower VOC content limits and provide acceptable coating characteristics for consumers and industry, the commentator is encouraged to provide a different insight.

Response 3-21

See Response 3-3 with regard to the emission neutral goal set forth at the initial Ad Hoc Committee Meeting and reconfirmed during the August and September 2005, subcommittee meetings, and refer to Response 3-18 with regard to the “extent possible” in achieving such a goal.

Response 3-22

See Response 3-3 with regard to the rule proposal not being “technology forcing” and Response 3-7 with regard to the development of a rule proposal. Responses 3-9, 3-17 and 3-19 discuss the feasibility of formulating compliant coatings and the independence from the goals to achieve emission neutrality and fulfill control measure set forth in the 2003 AQMP.

Response 3-23

Table 2-4 on page 2-13 in the Initial Study lists typical solvents found in affected coatings but not all the solvents are found in one single coating so the weight percentages are not additive. The purpose of the table is to provide a listing of the typical solvents found in both existing formulations and reformulations, along with the high end of weight percent found in these coatings. The high end was listed to consider the “worst-case”

scenario in these formulations. However, as noted previously, not all these solvents were discovered in a single coating type.

Response 3-24

The less than significant potential hazard impacts from reformulating IM coatings with TBAC is not reason enough to provide a broad exemption of TBAC as a VOC to other architectural coating categories. The potential toxicity and health effects associated with TBAC are the primary reason a limited exemption to IM coatings is currently proposed.