September 3, 2008

US Environmental Protection Agency
Delivered electronically: a-and-r-docket@epa.gov

Attn: Docket No. EPA-HQ-OAR-2008-0411
Docket No. EPA-HQ-OAR-2008-0412
Docket No. EPA-HQ-OAR-2008-0415
Docket No. EPA-HQ-OAR-2008-0460

The American Composites Manufacturers Association is pleased to submit these clarified comments in response to EPA's July 14, 2008 Federal Register Notice (73 FR 40230). This supplement to our August 13, 2008 interim comments are based on information gathered through a survey of ACMA members affected by the proposed CTGs: marine resin suppliers and composites manufacturers who also operate coating lines and use adhesives.

As a general comment, ACMA supports the agency's determination that, for the subject product categories, control technique guidelines (CTGs) will be substantially as effective as national regulations in reducing emissions of volatile organic compounds in ozone non-attainment areas. Specific comments are presented below by CTG.

ACMA recommends that EPA issue fact sheets or other guidance when these CTGs are issued in final form. This guidance should help sources understand the circumstances under which they may be required to comply with the CTG. Using examples or model permit language, the guidance should define key terms, such as "coatings," and fully explain the intended applicability of the CTG.

1. Fiberglass Boat Manufacturing

a. Add-on control is infeasible. ACMA strongly supports EPA's conclusion that it is not cost-effective to use add-on controls for VOC reduction at boatbuilding plants, for the reasons noted on p14 of the CTG. To promote consistency among EPA Regions in the nationwide application of this guidance, we request that the following language be added to the discussion on p14: "State RACT rules need not require controls or control feasibility studies to be approvable by EPA as SIP revisions". This provides clear guidance without impairing the right of any state to propose alternative RACT rules.

b. VOC reductions from NESHAP meet RACT. ACMA also strongly endorses EPA's position that "(b)ecause the recommendations in this CTG are based on the 2001 NESHAP for boat manufacturing, those facilities that are major sources of HAP are already complying with the 2001 NESHAP and have already adopted these control measures. Therefore, *we do not anticipate additional VOC emission reductions from these major source facilities*." [p30, emphasis added]. The VOC reductions resulting from compliance by major HAP sources with the HAP content limits and associated averaging provisions specified in the Boatbuilding NESHAP are sufficiently stringent and achievable to provide RACT for VOC in this industry.

c. HAP content rather than total VOC content must be used to determine compliance. Tables 3 and 4 of the CTG present respectively content limits for compliant material application and equations used in averaging calculations. Those limits and equations were taken directly from the NESHAP, with one exception: the independent variable in the NESHAP, total HAP content, has been replaced in the CTG with total VOC content. This variable substitution is invalid and technically inconsistent with the derivation of those limits and equations.

In the industry studies cited on pp8-9, VOC emissions from various resin and gelcoat application methods were determined by Method 25-A testing, and plotted against styrene content of applied materials to derive the Unified Emission Factor (UEF) equations adopted in the NESHAP. The VOC content of those test materials was not determined, but any VOC emitted would have been included - all Method 25A results were simply considered to be styrene monomer, because it was believed very little else was sufficiently volatile to be emitted.

In response to concerns that uncharacterized VOC present in resins (trace solvents, unreacted materials, low molecular weight side-chains, impurities in raw materials, etc.) might affect emissions and the predictive ability of the UEF equations, ACMA sponsored a series of resin screening tests. During these tests spray application emissions were measured simultaneously by Method 25A (VOC) and Method 18 (styrene). For the resins used in that study, styrene content was confirmed via gas chromatography, while total VOC was determined from measured solids concentration. Study conclusions were that although as much as 3.9% uncharacterized VOC was measured in resins, there was very little difference in Method 25A and Method 18 emissions measurements. It is believed that either non-styrene VOC components may to be converted into emissions at a similar rate to styrene as a function of the emissions mechanism, or the nature of the non-styrene fractions is such that the propane/styrene ratio calibration is reasonably accurate given ratios of styrene to unknown VOC components for the tested resin formulations. Either way, for the marine DCPD resin tested, measured VOC emissions were somewhat less than predicted by the UEF, indicating that the UEF equations are conservative VOC estimators for these materials.

Given the above, for a resin with 35% styrene and 3% residual VOC, using 38% to calculate VOC (as the CTG proposes) would result in a 3% overestimate, since using 35% alone predicts Method 25A total VOC emissions (HAP + residual VOC). That overestimate would adversely affect compliance determination against the limits in the CTG.

Neither industry nor EPA can offer the technical basis for an alternative set of UEF equations relating total VOC content to emissions. But even if such equations were to be developed, neither industry nor EPA have any basis to assess the feasibility and cost-effectiveness of content limits that might be set. Therefore, in Tables 3 and 4 and wherever else the terms are used, “VOC content” and “percent VOC” should be replaced by “HAP content” and “percent HAP.”

d. HAP limits should apply only to open application of resin and gel coat. The HAP limits in the CTG should apply only to those processes in the Boatbuilding NESHAP to which these limits apply. For example, the CTG should not restrict the HAP content of resins used in closed molding operations, or the HAP limits in mold release agents.

e. NESHAP flexibility must be retained in the CTG. The Boatbuilding NESHAP (MACT) contains provisions whereby content limits and averaging equations can be administratively incorporated in the rule for new materials and application technologies not considered when the rule was promulgated. Those provisions should be mirrored in the CTG. If this is not done, RACT rules based on the CTG will diverge from their underlying MACT basis unless repeatedly modified through formal SIP revision. That mechanism is far too unwieldy to ensure that RACT rules remain harmonized with MACT as the latter evolves. We believe the best way to do this is for RACT rules to cite applicable NESHAP provisions, definitions, limits and equations *by reference*.

f. Minor HAP sources should not be covered by the CTG. EPA has improperly assumed that minor HAP (area) sources, now exempt from the NESHAP, could cost-effectively comply with MACT-derived limits proposed in the CTG. Nothing in the NESHAP rulemaking would support this, since area sources were not even considered. Further, area sources would either be very small operations or facilities that have taken synthetic minor limits. These sources are not always able to use fully compliant coatings, and may have too few jobs open at any time to average successfully. A particular problem avoided by taking synthetic minor limits is that if open molding processes are replaced by closed molding processes ineligible for averaging, it then becomes impossible to maintain compliance over the remaining averaged processes, even though VOC emissions are reduced.

EPA has also failed to consider the relative insignificance of any area source reduction that might result from the proposed CTG. EPA estimates the total VOC reduction under the proposed CTG would be 35% of 1601 TPY or 560 TPY. MACT

has reduced VOC at 44 plants by 520 tons. Extending RACT to minor HAP sources would regulate 23/44 = 52% additional plants, but yield only 40/520 = 7.7% further VOC reduction.

Extending applicability of MACT-based CTG provisions to area sources cannot be justified as RACT, would undercut synthetic minor permitting, and would yield little benefit anyway. For these reasons, we request that EPA modify the CTG to exempt area sources.

2. Miscellaneous Metal and Plastic Parts Coating

a. Certain materials should be explicitly excluded, or higher VOC limits provided. *Specialty coatings* should be excluded from the rule, since the agency lacks information needed to set feasible VOC limits for these materials. As a model for this exclusion, see SCAQMD Rule 1145, Section (i).

The CTG should specifically exclude *gel coat* application to molded products removed from the mold, and exclude *in-mold coating*. These exclusions are consistent with the approaches taken in the MACT and area source rules for plastic parts surface coating.

Higher VOC limits are needed for coatings applied in *fleet* and *refinishing* operations. See the appropriate limits provided in 40 CFR Part 59 Subpart B: National VOC Emission Standards for Automotive Refinish Coatings.

Finally, sources applying less than a *de minimis* quantity of coatings should be exempt from requirements under the CTG. We recommend that this limit be set at 100 gallons/year.

b. Cross-unit averaging should be allowed. EPA "does not recommend" cross-line averaging to meet VOC content limits, though the agency seems to imply that for purposes of discretionary economic incentive programs (EIP), it might be useful (see p30). The EIP program was designed to offer alternatives to existing air quality rules that create *surplus* emission reductions creditable under SIPs. Reference to prior guidance on use of cross-line averaging to provide reductions *beyond* RACT is inappropriate and confusing in a CTG intended to help states *set* RACT. EPA has not justified the implied conclusion that cross-line averaging plantwide would result in VOC reductions less stringent than RACT. The EIP guidance is irrelevant to that issue.

There is ample precedent for allowing plantwide averaging to meet Clean Air Act emission reductions. The Misc. Plastic Parts Coating NESHAP specifically allows compliance with HAP limits to be determined plantwide ("emission limit without control" option). In promulgating that rule, EPA did not invoke its EIP guidance to argue that plantwide averaging was insufficient to meet MACT. Rather, the agency correctly concluded that the distribution of emissions among units had no bearing on whether plantwide reductions satisfy CAA mandates. That same conclusion applies here. Moreover, given concerns we will raise below on limit feasibility, we believe it is appropriate to give sources maximum flexibility in demonstrating compliance. Accordingly, we request that EPA delete reference to the EIP guidance in this CTG, and further that EPA clarify in the CTG that RACT rules incorporating both CTG limits and cross-line averaging will be approvable as RACT.

At a minimum, the CTG should allow *monthly* cross-line averaging. This is necessary to allow compliance by sources that use unusual coatings to meet customer demands. Also, the recordkeeping needed to demonstrate daily compliance will be extremely burdensome and inaccurate. Monthly compliance can be accurately demonstrated through purchase records, production schedules and inventories.

c. EPA's assessment of limit feasibility is flawed in general. EPA wrongly concludes that since the Michigan and California rules from which limits have been adopted have been in effect for years, their limits must be considered feasible and cost-effective. That may be true in those states due to a selection effect: companies that can't economically meet state limits can and do locate that production elsewhere. There is no elsewhere if all states adopt their limits as RACT. This is especially critical given that states may propose RACT rules applicable to all facilities irrespective of major source status or attainment status. The California South Coast limits are a particularly poor model for nationwide RACT rulemaking. The

cost-effectiveness threshold there is far higher than most states would consider reasonable for RACT determination. That level of stringency may be justified in southern California given the region's extreme nonattainment status, but is not so universally.

d. Not all proposed CTG limits may be achievable without costly add-on controls. In the very limited time allotted for comment on these limits, ACMA has surveyed the coatings currently used by member companies (see attached summary). Many of these coatings have already been reformulated to meet the coating NESHAP. Survey results indicate that many high-bake and air dried automotive and transportation primers in widespread use cannot meet limits below 5.0 (5.25 if high-bake red or black), especially when conditions require reduction. Results also suggest that the limits for transportation topcoats and two-part general purpose coatings may not always be achievable. We do not know whether these paints can be reformulated to reduce VOC content, or whether allowing cross-unit averaging as well would address these concerns. Given that uncertainty, the currently proposed limits should be raised.

3. Miscellaneous Industrial Adhesives

a) Applicability to fiberglass composites should be clarified. The CTG for Miscellaneous Industrial Adhesives should clarify that the requirements for "other substrates" will apply to fiberglass composite products. There is a product category in the CTG called "fiberglass," but this is defined as glass fibers, not fiberglass composites.

b) The definition of "hand application" should be clarified. In the CTG, the definition of "hand application" should specifically include "non-spray application methods similar to hand- or mechanically-powered caulking gun, brush, or direct hand application." These are the low-emission methods common in many composites plants.

c) A reactive adhesive VOC content test method is required. The test method in the plastic parts surface coating NESHAP for effective VOC content of reactive adhesives (40 CFR 63 Subpart PPPP, Appendix A) must be appended to the CTG as well. Otherwise, the reactive methacrylate adhesives commonly used in the composites industry would never meet the proposed VOC limits.

d) Composite bonding putties should not be covered under the CTG. Styrene/polyester based bonding putties commonly used in the production of composites are part of the composites structure and are not adhesives. This is consistent with the composites MACT rule (40 CFR 63 Subpart WWWW).

Thank you for considering these comments,

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attachment: Summary of Plastic Parts Coating Survey – Aug., 2008

ACMA PLASTIC PARTS COATING SURVEY **Aug-08**

COMPLIANCE WITH PROPOSED CTG LIMITS					
#	Description	Coating Type	VOC Content as Applied, Lb VOC / Gal less H20+ES	Proposed Limit, Lb VOC / Gal less H20+ES	% of Limit
1	Dark Slate Soft Touch	Hi-bake auto primer, flexible	4.82	4.5	**107.2%**
2	Dark Khaki Soft Touch	Hi-bake auto primer, flexible	4.79	4.5	**106.4%**
3	Black Soft Touch	Hi-bake auto primer, flexible	5.23	5.18	**101.1%**
4	30 Gloss RH	Hi-bake auto primer, nonflex	4.77	3.5	**136.2%**
5	Black	Hi-bake auto primer, nonflex	4.50	4.03	**111.9%**
6	Medium Parchment	Hi-bake auto primer, nonflex	4.58	3.5	**130.8%**
7	Argent	Hi-bake auto primer, nonflex	4.12	3.5	**117.6%**
8	Gray 1	Air-dried auto exterior	4.32	4.8	89.9%
9	Gray 2	Air-dried auto exterior	5.10	4.8	**106.3%**
10	Gray 3	Air-dried auto exterior	4.38	4.8	91.2%
11	Ebony	Air-dried auto exterior	4.34	4.8	90.5%
12	Clear	Air-dried auto exterior	4.10	4.8	85.5%
13	White	Transport air-dried topcoat	3.91	5.0	78.3%
14	Gray Conductive Primer	Transport air-dried interior	3.43	4.5	76.3%
15	Polane S+ White	2-part general purpose	3.11	3.5	88.8%
16	Polane Clear	2-part general purpose	3.07	3.5	87.8%
17	Gray Primer	Electric-dissipative	2.55	6.7	38.1%
18	Green	Electric-dissipative	2.82	6.7	42.1%
19	Desert	Electric-dissipative	1.01	6.7	15.0%
20	GP1	2-part general purpose	3.6	3.5	**102.9%**
21	GP2	2-part general purpose	3.56	3.5	**101.7%**
22	GP3	2-part general purpose	3.45	3.5	98.6%
23	GP4	2-part general purpose	3.5	3.5	100.0%
24	Tran1	Truck part primer	3.46	3.5	98.8%
25	Tran2	Auto topcoat	4.88	4.3	**113.5%**
26	Urethane Primer	2-part general purpose	2.62	3.5	74.9%
27	Urethane Topcoat	2-part general purpose	3.11	3.5	88.9%