

  
**Division of Air Pollution Control**

**Response to Comments  
Draft Rule Language Comment Period**

**Rule: OAC Chapter 3745-21-25**

**Agency Contact for this Package**

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Ohio EPA provided a 30-day comment period which ended on July 20, 2009. This document summarizes the comments and questions received at the public hearing and/or during the associated comment period.

Ohio EPA reviewed and considered all comments received during the public comment period. By law, Ohio EPA has authority to consider specific issues related to protection of the environment and public health.

In an effort to help you review this document, the questions are grouped by topic and organized in a consistent format. The name of the commenter follows the comment in parentheses.

**Specific Comments**

**Rule 3745-21-25 “Control of VOC Emissions from Reinforced Plastic Composites Production Operations”**

**Comment 1:**

I found technical errors (CAPS) that we need to correct.

Current text: F(3)(c) Pultrusion operations.

For pultrusion operations employing enclosures or resin injection (direct or perform) pursuant to paragraph (I)(5)(b) of this rule, actual emissions may be calculated as six tenths and nine tenths, respectively, of open line emissions, where open line emissions are calculated as specified in air permits covering these operations.

Corrected Text:

F(3)(c) Pultrusion operations.

For pultrusion operations employing enclosures or resin injection (direct or PREform) pursuant to paragraph (I)(5)(b) of this rule, actual emissions may be calculated as FOUR tenths and ONE tenth, respectively, of open line emissions, where open line emissions are calculated as specified in air permits covering these operations.

I think these errors may have been in my initial comments to you. We did discuss the change in the emission factor calculation, but it looks like that slipped through the cracks. Recall that the MACT emission REDUCTIONS credited for enclosures and injection are 0.6 and 0.9, so the EMISSIONS from each are  $(1-.6) = 0.4$  times the open EF for enclosures and  $(1-.9) = 0.1$  times the open EF for injection. **(Dave Lipiro, ECRM Inc.)**

**Response 1:**

The wording errors in paragraph (F)(3)(c) have been corrected as identified in the comments.

**Comment 2:**

Continental Structural Plastics, a processor of Sheet Molding Compounds in the State of Ohio for many years, is pleased to submit the following comments on the Proposed new OAC Rule (3745-21-25): At the present time, prior to confirmation of the Proposed Rule, there is a lack of consensus about whether the use of control equipment in certain Sheet Molding Compound operations in the State of Ohio is cost effective, necessary, or environmentally counter productive. In addition, there is inconsistency within Ohio from permit to permit regarding the applicability of old OAC 3745-21-07(G)(2), inconsistency between some interpretations of the old Ohio Rule and the federal MACT Rule (Subpart WWW of 40 CFR Part 63), and inconsistency between some interpretations of the Ohio Rule and the requirements for operations in neighboring states. This absence of consensus and lack of consistency regarding control equipment requirements results in unnecessary costs for both the regulatory authorities and the regulated community.

The Proposed Rule resolves all of these problems. Continental Structural Plastics strongly supports the Proposed Rule for this reason. With the Proposed Rule, the requirements for control equipment will be consistent within the State of Ohio, consistent with the US EPA's analysis of the Maximum Achievable Control Technology (MACT) for these types of operations, and consistent with the requirements for operations in neighboring states. We appreciate Ohio EPA's efforts to eliminate unnecessary expense and thereby save jobs and businesses

within the State of Ohio. **(Vinod C. Shah, Director; H, S & E Affairs, Continental Structural Plastics)**

**Response 2:**

The comments supporting this rulemaking effort to bring about consistency in air permit requirements and rule interpretations are appreciated.

**Comment 3:**

The American Composites Manufacturing Association (ACMA) is pleased to submit comments to Ohio EPA (OEPA) on the subject Ohio rule. This rule has been proposed by OEPA as part of a sweeping overhaul of Ohio Administrative Chapter 3745-21 regulating emissions of volatile organic compounds (VOC). Since 2005, ACMA has been actively involved in this effort as an advocate for affected members. On our behalf, consultant David Lipiro of ECRM had previously submitted, via email to William Juris of OEPA, informal comments on the first proposal of this rule, and has assisted us in preparing these comments on the re-proposed draft.

ACMA appreciates the efforts of OEPA to address our original concerns. In general, we strongly support this re-proposed rule. Though it is more stringent than the Reinforced Plastic Composites (RPC) MACT rule on which it is based, we believe it largely strikes a fair balance among stakeholder interests. Most critically, it acknowledges the effectiveness of pollution prevention as a means to reduce VOC emissions in the composites industry.

The comments below are organized by proposed rule sections (**bold** text). Our concerns focus on provisions of the RACT rule that deviate from corresponding conditions in the RPC MACT rule.

**A. Applicability**

Consistency with RACT, BAT, and Title V provisions: We agree with OEPA's interpretation that the proposed rule specifies both RACT and BAT for affected sources. We urge OEPA to issue permitting guidance to clarify that the applicability of this rule would not force an otherwise minor source into the Title V permitting system.

Relationship to 3745-21-07: We strongly support the inclusion of language in paragraph (A)(3) specifying that sources subject to and complying with 21-25 are exempt from 21-07. This is consistent with the notion that 21-07 does not apply to RACT-affected sources.

Applicability to HAP minor sources: In comments on the first draft, we noted the many problems that minor HAP sources would face in meeting the rule as then proposed. We agree with OEPA's conclusion (Response 24) that this rule should

not apply to facilities that emit less than 10 TPY from their reinforced composite operations, and strongly support the reproposal RACT exemption. However, since OEPA intends this as an applicability exemption, we believe it should be moved from (D)(12) to (A)(2). We suggest the following language to clarify this intent and better specify the affected sources:

*(A)(2) Excluded from the requirements of this rule are the following:*

...

*(e) Any facility for which the actual VOC emissions from all reinforced plastic composites production operations not otherwise excluded under paragraphs (A)(2)(a), (A)(2)(b), and (A)(2)(c) of this rule do not exceed 10 tons per year.*

#### **D. VOC Control Requirements**

Sources under 100 TPY: For plants with actual VOC emissions from listed processes under 100 TPY, Tables 1 and 2 of the proposed rule essentially impose the requirements set forth in Tables 4 and 3 respectively of the RPC MACT rule. ACMA strongly agrees that MACT-affected sources complying with Subpart WWWW are indeed providing RACT and BAT for VOC. However, in order to allow the use of VOC-containing cleaners banned in the first rule draft, OEPA now proposes work practice standards that allow the use of cleaners that have a VOC content not greater than 0.42 pound VOC per gallon (based upon OAC rule 3745-21-23 and the CTG on industrial solvent cleaning operations). We ask OEPA to issue guidance that this limit applies only to the VOC content actually emitted. This would allow the use of VOCs with low volatility, most of which would remain in spent cleaning solvent rather than be emitted.

Sources over 100 TPY: For sources with actual emissions of 100 TPY or more from listed processes, this rule imposes a 95% VOC reduction, to be achieved by add-on controls or by the alternative limits of MACT Table 5 (21-25, Table 3). The MACT exemptions from control for production of large open-molded and pultruded parts are retained in the proposed rule, which we support.

In your Response 8 to our prior comments on control feasibility, OEPA stated:

“We agree that the presumptive RACT of 95% control should be rebuttable by a site-specific RACT study. A provision on alternative requirements has been added under paragraph (D)(11).”

However, (D)(11) applies only to new facilities. Since the control provisions in this rule apply to all facilities exceeding the 100 TPY threshold, the “RACT study” provisions of (D)(11) should apply to both new and existing sources. OEPA has given no reason why existing sources should be deprived of this mechanism. The current language paradoxically makes the rule more stringent for existing sources than new ones. This is punitive - it is more costly to retrofit controls on existing sources than to control new ones, which can be designed to optimize capture at minimal airflows.

SMC Machines: We are unable to comment on OEPA's assertion that SMC machines emitting over 25 TPY can be controlled cost-effectively, since no supporting data have been published. However, in the interest of moving this rule along, we do not object to the provisions of (D)(8) and (D)(9) taken together.

## **E. Emission Factors and Threshold Calculations**

Acceptability of emission factors and equations: We agree that because the ANSI UEF is acknowledged in AP-42 as a source of acceptable emission factors for composite processes, those factors should be used for threshold determinations. As we previously noted, the equations listed in Table 1 of the MACT rule are appropriate only to determine whether MACT (and hence RACT) compliance is being achieved. The MACT equations are not all identical to the ANSI UEF equations, which may cause confusion.

Primacy of Emission Test Data: The current language of (E)(1) suggests that emission test data would supersede calculations specified to determine compliance with limits specified in Tables 2-4. That is not consistent with other RACT rule provisions. Rather, for compliance determination purposes, the RACT emission factor equations (cited from MACT rule Table 1) are "earned" solely based on the selection of application equipment already tested by the vendor, and documentation of proper operating procedures.

As noted in the rule, there is no requirement for a facility to verify equipment performance via emission test. There is likewise no effect on the compliance determination if involuntary onsite testing of proper application equipment operated as specified in vendor instructions should yield a different emission factor - only the MACT Table 1 values are allowed to be used. In like manner, pultrusion enclosures and injection systems meeting the requirements of (I) will earn RACT reduction credit of 60% and 90%, irrespective of emission test results.

However, we acknowledge that for threshold comparisons to determine applicability and for other purposes outside this rule, direct measurements of VOC emissions via stack test could rightly supersede emission estimates derived otherwise, but only if the tests are properly conducted using temporary total enclosures that do not affect the normal generation of emissions. Accordingly, we request that the last sentence of (E)(1) be modified as follows (italics):

(E)(1) ...

*For any of the following purposes, representative stack test data accepted by OEPA for the facility shall supersede emission factors and other emission estimating techniques:*

- a. *Determination of actual emissions to compare against rule thresholds in (D)(2)-(D)(9);*

- b. *Determination of a site-specific emission factor requested by the facility;*
- c. *If testing is required to develop an emission factor under this rule;*
- d. *Determination of compliance if a facility has installed controls; or*
- e. *As appropriate outside this rule (e.g. to determine major source status or applicability of other rules).*

## **F. Emission Calculations**

Calculation Alternatives: 21-25(F) requires facilities to calculate a resin-weighted emission factor which is then multiplied by resin usage over the prior 12-months to calculate actual emissions over that period. Companies complying with MACT will already have in place systems that directly calculate monthly emissions based on usage quantities and calculated emission factors per MACT Table 1 for each resin used. Such calculations are mathematically equivalent to those required under (F)(2) and (F)(3), require no additional recordkeeping, and therefore should be allowed.

Further, for operations such as pultrusion and mixing of resin pastes and BMC, accepted emission factors dictate that emissions be calculated from monomer usage, not resin usage. As proposed, 21-25(F) would require these operations to calculate emissions from monomer usage, divide those emissions by resin usage to obtain the specified emission factor, and then multiply resin usage by that factor to calculate the emissions again.

ACMA recommends that a new paragraph 21-25(F)(6) be added to accommodate such situations:

*(F)(6) Facilities may use alternative methods to calculate emissions that OEPA agrees are mathematically equivalent to those specified in (F)(2) and (F)(3) or that are consistent with emission factors accepted by OEPA for use in this rule.*

## **I. Pultrusion**

Emission reduction clarification: I(5)(b) of the originally proposed rule specifies that "(f)or purposes of the average per cent reduction calculation, wet area enclosures reduce VOC emissions by sixty per cent, and direct die injection and preform injection reduce VOC emissions by ninety per cent." On that basis, OEPA has added Paragraph (F)(3)(c) in the reproposal to specify how VOC emissions for pultrusion should be calculated for purposes of comparing actual emissions to the 100 TPY rule threshold.

As noted by David Lipiro in an email sent 6/12/09 to Mr. Juris, the text adopted from Mr. Lipiro's original comments contains an uncorrected technical error, and mis-spells the term preform. Consistent with that email, we request that (F)(3)(c) be rewritten as follows (changes are underlined): *"For pultrusion operations employing enclosures or resin injection (direct or preform), actual emissions may be calculated as four tenths (one minus six-tenths reduction) and one tenth (one*

*minus nine-tenths reduction) respectively of open line emissions, where open line emissions are calculated as specified in air permits covering these operations.”*

Pultrusion Averaging: OEPA has clearly stated that all provisions of (I) were intended to replicate the requirements of MACT section 63.5830, and appear to have been copied verbatim. In the Preamble to the MACT rule (FR Vol 68, No 76, p19394), USEPA clearly stated that the averaging provisions were included to allow facilities to use “no control” for pultrusion of parts where compliant enclosures or resin injection could not be employed. Since that Preamble is not referenced in this RACT rule, we believe corresponding guidance should be provided to clarify this intent by adding the following to (I)(5)(b): *For averaging purposes, zero reduction credit is earned during production on lines that have not installed and operated enclosures or injection systems as described in (I)(2)-(I)(4).*

#### **N. Compliance Calculations for Continuous Lamination/Casting**

In the equation given in (N)(2) for the averaging option, the upper summation constants for each of the four terms respectively left-to-right should be m, o, n, and p.

#### **P. Recordkeeping for SMC Machines**

The rule at (P)(2)(a) requires that monthly records of the amount and monomer content of SMC produced be kept, presumably for the calculation of emissions from SMC machines based on these parameters. However, the equation proposed by ACMA to the ANSI UEF panel calculates SMC machine emissions as a function of open line area only, because evaluation of stack test data indicates that emissions from these machines do not vary with either throughput or styrene content. If as we expect this equation is accepted for inclusion within the UEF, there would be no reason to keep records of production and styrene content. We therefore request the following addition to this section:

*(P)(2)(iii) Records specified under (P)(2)(i) or (P)(2)(i) need not be kept if emission calculations acceptable to OEPA under this rule are presented for SMC machines and such calculations do not depend on the amount or monomer content of SMC produced. Instead, records must be kept of the parameters used to calculate emissions by those accepted methods.*

**(John Schweitzer, American Composites Manufacturing Association)**

#### **Response 3:**

Regarding the comment to move the RACT exemption from paragraph (D)(12) to paragraph (A)(2)(e) as an applicability exemption, DAPC agrees. This would facilitate the modification of current air permits that contain a MACT applicability threshold level of 10 TPY for a single HAP (e.g., namely styrene) in order to include a RACT applicability threshold of TPY for VOC. Also, the exemption

under paragraph (A)(2)(e) will include recordkeeping similar to (A)(2)(d) and a “once in always in” provision to ensure continued compliance in the event a facility exceeds the 10 TPY applicability level.

Regarding the comment on the VOC content of cleaners, there is no means to adjust the VOC content (i.e., formulated or tested VOC content) for low-volatile VOC that remains in the spent cleaning solvent. However, the VOC remaining in spent cleaning solvent that is sent offsite can be discounted from the VOC emissions attributed to cleaning solvent usage.

Regarding the comment on applying paragraph (D)(11) to both new and existing facilities, DAPC agrees that it would apply as such under the current proposed wording. The confusion may be due to the mechanism for issuing the alternative requirements by means of a final permit to install that contains a “best availability technology” determination of the Ohio EPA Director.

Regarding the comment on no data published to support the cost-effective control of SMC machines emitting over 25 TPY of VOC, data on the cost and cost-effectiveness of add-on control is being included as Attachment A.

Regarding the comment on the possible confusion between the emission factors/equations in the MACT rule in Table 1 to subpart WWWW of 40 CFR 63 and the ANSI UEF emission factors/equations acknowledged in AP-42, DAPC would accept either emission factors/equations for VOC emissions as provided in paragraph (E)(1).

Regarding the comment on stack test data conducted onsite as superseding emission factors/equations, that is normally correct. In the event such stack testing data are believed by the owner or operator to be inappropriate or no longer representative, the Ohio EPA is willing to review why the stack test data should not be used for the purpose of VOC emission factors or compliance determinations.

Regarding the comment on listing specific situations under paragraph (E)(1) in which representative stack testing data would supersede emission factors/equations, some of the suggested situations are outside the scope of this rulemaking, and as such may not be appropriate to list. Paragraph (E)(1) has not been changed.

Regarding the comment on some operations with accepted emission factors based upon monomer usage, instead of resin usage, DAPC agrees and has added wording on such monomer usage within paragraphs (F)(2), (F)(3)(a), and (F)(3)(b).

Regarding the comment on the use of calculation alternatives, especially those already in place under MACT compliance, DAPC agrees and a provision has been added under paragraph (F)(6) that reads as follows:

“The owner or operator of a facility may use alternative methods to calculate emissions that are mathematically equivalent to those specified in paragraphs (F)(2) and (F)(3) of this rule or that are consistent with emission factors acceptable under paragraphs (F)(2) and (F)(3) of this rule.”

Regarding the comment on actual emissions from pultrusion operations employing enclosures or resin injection, DAPC agrees and the wording “six tenths and nine tenths” has been changed to “four tenths and one tenth.”

Regarding the comment on pultrusion averaging, DAPC agrees and the following wording has been added to paragraph (I)(5)(b) for clarification: “For averaging purposes, zero reduction credit is earned during production on lines that have not installed and operated enclosures or injection systems as described in paragraphs (I)(2) to (I)(4) of this rule.”

Regarding the comment on the equation in paragraph (N)(2), DAPC has corrected the upper summation constants.

Regarding the comment on recordkeeping for SMC machines, DAPC agrees and the following has been added as paragraph (P)(2)(iii): “In the event an emission factor for this operation is accepted pursuant to paragraph (E)(1) of this rule and such emission factor is based upon parameters other than the parameters specified in paragraphs (P)(2)(i) and (P)(2)(ii) of this rule, the monthly operational data for those other parameters shall be recorded in lieu of the parameters specified under paragraphs (P)(2)(i) and (P)(2)(ii) of this rule.”

#### **Comment 4:**

Premix, Inc. hereby submits comments to the Ohio EPA. Premix is commenting on the proposed rule primarily to inform Ohio EPA of an important new development regarding the cost-effectiveness of controlling VOC emissions from SMC manufacturing process.

Premix appreciates the efforts of Ohio EPA to address the concerns of the SMC manufacturing industry. In general, we support this proposed rule. We want to make certain, however, that Ohio EPA is informed about a project which Premix is now in the process of implementing at our North Kingsville plant. We believe that our project will demonstrate that VOC abatement equipment can be cost effectively installed and operated on a single SMC machine.

Premix has researched and developed small tight wet area enclosures (TWAEs) for its SMC manufacturing machines at our North Kingsville plant. Utilizing the EPA Method 204D-compliant TWAEs, Premix expects to destroy VOCs with a small regenerative thermal oxidizer (RTO). The small RTO emits only de minimis levels of criteria pollutants, and due to its size, it is extremely efficient, and therefore cost-effective, to operate.

The system is now being constructed and installed at our manufacturing plant in North Kingsville. The system we are implementing will also capture and control emissions from our TMC machine. However, the same type of cost-effective capture and control system can be implemented for one SMC machine or for two or more SMC machines. In other words, the system does not need to control emissions from the TMC machine in order to justify its cost-effectiveness. We expect that the system which we are now installing at North Kingsville will be in operation by the end of the year.

We are providing this information because we believe that Ohio EPA should reconsider the 25 ton per year exemption proposed in OAC rule 3745-21-25(D)(9). For example, utilizing our new capture and control system, a typical 48-inch wide SMC machine operating 2 shifts per day (4000 hr/yr) with a 1000 cfm RTO controlling 5 lb/hr (10 tons/yr) styrene emissions would have a cost-effectiveness of approximately \$4,900 per ton controlled. Using the same TWAE/RTO and increasing the SMC operations to 8,400 hours per year with resulting emissions of 21 tons per year would increase the cost-effectiveness to approximately \$2,500 per ton controlled. Premix will provide additional details regarding our cost-effectiveness calculations if Ohio EPA requests this information.

The above information illustrates the cost-effectiveness of the Premix TWAE and small RTO VOC destruction technology. The technology can provide any facility with a single 48-inch SMC machine a means to operate VOC capture and control equipment cost-effectively at annual emission levels well below 25 tons per year. Operating this type of system with multiple machines or increased operating hours would markedly increase the cost-effectiveness.

Premix would also like to comment on Item 2., in Table 1 of OAC rule 3745-21-25. The subject is the use of cleaning solvents with a VOC content not to exceed 0.42 pounds per gallon (lb/gal.) This specification does not consider the use of low-volatility VOCs that could be present in amounts greater than 0.42 lb/gal and yet not be emitted. Premix requests that Ohio EPA issue guidance that this limit only applies to the VOC content that is actually emitted. This would allow the use of VOCs with volatility only, most of which would remain in the spent cleaning solvent, rather than be emitted.

**(Ken Lazo, Premix)**

#### **Response 4:**

Regarding the comment that Ohio EPA should reconsider and lower the 25 TPY exemption proposed in paragraph (D)(9) based upon the cost-effectiveness of a tight wet area enclosure vented to a RTO control device, DAPC had reviewed the additional information provided by Premix and determined that the technology and associated costs for capturing the VOC emissions have not yet been demonstrated for one SMC manufacturing machine vented to an RTO or two or

more SMC manufacturing machines vented to an RTO. In the event such add-on control system is successfully demonstrated to reduce VOC emissions by at least 95 percent from the controlled SMC manufacturing machine(s), DAPC would have to reevaluate the cost-effectiveness of such add-on control system.

Regarding the comment requesting Ohio EPA to issue guidance that the 0.42 lb/gal limit in Table 1 for cleaning solvents applies only to the VOC content that is actually emitted, DAPC is not aware of any procedure to effectively and uniformly adjust the regulated VOC content for VOC retained in the spent solvent. However, the VOC remaining in spent cleaning solvent that is sent offsite can be discounted from the VOC emissions attributed to cleaning solvent usage.

#### **Comment 5:**

The Office of Compliance Assistance and Pollution Prevention (OCAPP) reviewed the proposed RACT rule 3745-21-25 with the intent of providing DAPC with comments from the perspective of Ohio's small business community. In formulating our comments, OCAPP focused on the following concerns: 1) will the proposed rule have a significant impact on small business, 2) is the rule understandable and clear, 3) are any record keeping and reporting requirements reasonable, and 4) are there alternative or simpler ways of regulating and reducing VOC emissions.

OCAPP respectfully submits the following comments.

#### **General comments**

##### **1. Duplicative MACT/RACT requirements**

OCAPP is concerned that the proposed rule is too much like the federal MACT rule for this source category. DAPC states in the synopsis that the rule contains work practice standards and emission limits that are "essentially identical" to the federal MACT standard, 40 CFR 63 Subpart WWWW for this source category but does not clearly provide the basis for why such a state-level RACT rule needs to mirror the federal MACT standard.

This proposed RACT rule duplicates the MACT, adds in a few extra requirements, and purports to regulate VOC instead of hazardous air pollutants. OCAPP believes the proposed rule creates a confusing RACT/MACT level of regulation that will be difficult for Ohio's smaller RPC manufactures to understand.

Tables 1, 2, and 3 of the proposed rule are copied verbatim from Tables 4, 3, and 5 respectively from the MACT. Again, the proposed rule applies and subjects facilities to emission standards identical to the MACT. The proposed rule duplicates, but does not replace the MACT and creates dual RACT/MACT

emission limits, record keeping, and reporting requirements that are almost identical.

## 2. Rule length and complexity

The rule itself is 42 pages long and necessitates 81 new definitions of terms (10 more pages) be added to rule 3745-21-01. Many of the 81 new terms associated with this rule are verbatim definitions of terms found in the MACT, except that “VOC-containing” and “VOC content” RACT verbiage is now used in place of the original “HAP-containing” or “HAP content” terminology of the MACT. These close-but-different definitions between the Ohio RACT and federal MACT will cause confusion and misunderstanding in an industry that has been working to understand and to comply with the MACT standard and all its HAP-related definitions since 2005 or before.

In OCAPP’s experience, no RACT rule promulgated by Ohio EPA has ever approached this length or complexity. The length and complexity of this rule does not lend itself to easy comprehension or understanding by businesses. As an alternative, OCAPP recommends the rule be simplified and shortened by narrowing the focus to specific RPC products like SMC manufacturing and molding, rather than all RPC operations.

## 3. Regulating styrene vs. VOC

It appears the true purpose of this rule is to regulate emissions of styrene. Evidence of this includes the rule applying to *reinforced plastics composites production operations* and the definition of reinforced plastic composites production to mean “operations in which reinforced and/or nonreinforced plastic composites...are manufactured using thermoset resins and/or gel coats that contain styrene...” So, by definition, any RPC facility using resins that do not contain styrene is not regulated by the proposed rule. In the RPC industry, acetone is widely used as a clean-up solvent and acetone is not a VOC. Although the rule regulates the cleaning of equipment used in reinforced plastic composites manufacture, non-gel coat surface coatings and mold stripping/cleaning are exempt. So for many of the smaller RPC facilities, the only regulated sources of VOC emissions will be the operations that use resin or gel coat and therefore all resulting VOC emissions will be styrene.

If regulating emissions of styrene is truly DAPC’s intent, OCAPP suggests renaming the rule “Control of styrene emissions from reinforced plastics composites manufacturing” and to develop specific state emission limits apart from the MACT so that a clear difference between RACT and MACT is discernible to the regulated community.

**(Rick Carleski, Ohio EPA, Office of Compliance Assistance and Pollution Prevention)**

## Response 5:

DAPC agrees with OCAPP that this VOC RACT rule is very long and can be confusing for smaller reinforced plastic composites manufacturing facilities. The proposed exemption for facilities emitting less than 10 TPY, which has been moved to the applicability section of the rule, should provide relief for the smaller facilities, similar to the MACT rule.

Regarding the comment that parts of this RACT rule duplicate the MACT rule and as such create dual and almost identical emission limits, recordkeeping, and reporting requirements, DAPC agrees but DAPC believes that the requirements that are identical between this RACT rule and MACT rule can be effectively streamlined.

Regarding the comment that this RACT rule be shortened by narrowing the focus to specific products such as SMC manufacturing and molding, rather than all reinforced plastic composites operations, DAPC has developed this RACT rule to address a petition by the American Composites Manufacturing Association for a RACT rule for its industry, which would include essentially all operations of this industry.

Regarding the comment suggesting that this rule regulate styrene emissions instead of VOC emissions, it is not possible to regulate only styrene emissions because some of the VOC emissions being regulated under this RACT rule are not just VOC. Some of the regulated resins and gel coats emit non-styrene monomers and some regulated cleaning solvents emit VOC.

## Comment 6:

### **Comments on specific paragraphs of proposed rule:**

**Paragraph (D)(12)** – This provision exempts facilities that have total emissions of less than 10 tons per year of VOC from the VOC control requirements listed in paragraphs (D)(1) to (D)(10). DAPC added this provision after the interested party phase to address industry concerns about negating the terms of existing synthetic minor permits at minor source RPC facilities.

This is a much needed exemption and has a great impact on rule applicability. However, we believe DAPC intended this provision to exempt minor facilities (<10 tpy VOC) from rule 3745-21-25 **entirely**, not just from paragraphs (D)1) to (D)(10) as stated. In addition, this extremely important exemption is buried on page six of the proposed regulation where it could be easily overlooked.

OCAPP strongly recommends this exemption be moved to the Applicability section under paragraph (A)(2) so facilities and regulators could quickly determine upfront that 3745-21-25 in its entirety does not apply to facilities that have emissions of less than 10 tons per year of VOC. As a final note, DAPC

should add the words “potential and/or actual” to this exemption to clarify that facilities may demonstrate their emissions are below 10 TPY of VOC on an actual or potential basis, consistent with synthetic minor permitting protocol and Engineering Guide #61.

**Paragraph (S)(1)** – DAPC’s purpose and justification for requiring companies to submit this rule applicability notification is not known. This is a very important item that should be prominently explained and justified in the rule synopsis. Expecting affected companies to be aware of the rule requirement and to submit the notification within 60 days (a very short time span for a regulatory requirement) does not seem reasonable. OCAPP recommends this deadline be extended to allow affected facilities to better understand the new rule requirements and that the rule synopsis explains the basis for this requirement.

It also may be appropriate for DAPC to notify all known RPC manufactures and RPC associations in Ohio to make them aware of the rule’s existence and its notification requirements. This is especially important to small business since they generally are not able to follow rule developments and may not belong to major trade organizations. OCAPP can be of assistance in this area.

**Paragraph (S)(1)(e)** – Similar to the comment above, DAPC’s purpose and justification for requiring companies to submit permit applications is not known. Expecting companies to be aware of the RACT rule requirements, to properly determine their permitting requirements, and to submit complete PTIO applications all within 60 days of the rule effective date does not seem reasonable. Along with the applicability notification, this is an extremely important item that should be prominently explained and justified in the rule synopsis. OCAPP recommends this deadline be extended to allow affected facilities to better understand the new rule requirements and that the rule synopsis explains the basis for this requirement.

**(Rick Carleski, Ohio EPA, Office of Compliance Assistance and Pollution Prevention)**

**Response 6:**

Regarding the comment that the exemption for facilities emitting less than 10 tons of VOC per year be moved from paragraph (D)(12) to the applicability section under paragraph (A)(2), DAPC agrees, and this exemption has been moved to paragraph (A)(2)(e). See response 3.

Regarding the comments on allowing additional time for companies to submit a rule applicability notification and permit applications for affected operations, DAPC is aware that some companies may need additional time, especially for the submittal of complete air permit applications. DAPC will exercise enforcement discretion for companies that need a reasonable amount of additional time. Also, DAPC will work with OCAPP on making this rule better known to the affected companies within Ohio.

Regarding the comment on adding the words “potential and/or actual” to the 10 tons per year exemption, DAPC has used “VOC emissions” (i.e., actual VOC). Using “actual and/or potential” for the emissions could lead to ambiguity. Using only potential VOC may lead to additional air permit operating restrictions for smaller companies when potential to emit, but not actual, exceed 10 TPY.

**Comment 7:**

**General Comments**

A.R.E. has reinforced plastic composite manufacturing operations in Massillon (Stark County) and Mt. Eaton (Wayne County) that are impacted by the new rule. Both Counties are currently designated “attainment” for the National Ambient Air Quality Standard (NAAQS) for ozone. A.R.E. welcomes Ohio EPA’s efforts to replace the use of OAC rule 3745-21-07 with new RACT rules that identify Volatile Organic Compound (VOC) emission limitations that are *based on technical feasibility and economic reasonableness*. This is always important to industries that must compete on a nationwide basis and it is particularly important given the unique economic difficulties that we are currently facing. These challenges are amplified for industries like A.R.E. where sales of our products (i.e., truck caps) are closely aligned with new pick-up truck sales.

**Comments Concerning Proposed Rule 3745-21-25(D)**

100 TPY Threshold. OAC rule 3745-21-25(D)(3) requires that any facility that has VOC emissions equal to or greater than 100 tons per year (TPY) from the listed process types must “reduce the total VOC emissions from these operations by at least ninety-five per cent by weight” or meet the restrictive VOC content specification in Table 3 of the proposed rule. OAC rule 3745-21-25(F) requires that facilities calculate VOC emissions for comparison to the 100 TPY threshold prior to any add-on controls. Thus, under the proposed rule, a company that has reduced emissions to less than 100 TPY with the use of an add-on control system could be required to replace that equipment with a more efficient control system to meet the 95% control requirement, while companies with actual emissions of slightly less than 100 TPY would only be required to meet the far less rigorous VOC emission limits in Table 2 of the proposed rule.

This is illustrated by the following hypothetical example. If Company “A” has potential emissions of 120 TPY with a 50% efficient control system that has reduced actual emissions to 60 TPY, the proposed rule requires that Company “A” replace the 50% control system with a 95% efficient system and limits emissions to no more than 6 TPY. Meanwhile, if Company “B” has potential emissions of 99 TPY Company “B” would not be required to install any air pollution control systems whatsoever.

Ohio EPA's statement in response to comments submitted on the draft rule that a company could "...request an alternative requirement pursuant to paragraph (D)(11)" is not satisfactory for two reasons: (1) The alternative requirements in paragraph (D)(11) are not available to existing emissions units; and (2) The relief provided by that provision is uncertain and could permanently leave Company "A" in our hypothetical example at a serious disadvantage with respect to Company "B".

A.R.E. requests that Ohio EPA change the proposed rule to allow facilities to use the control efficiencies associated with add-on control systems when calculating if annual VOC emissions are above or below the 100 TPY threshold.

There is a related issue that A.R.E. is requesting Ohio EPA address prior to adopting any final rule. The 100 TPY annual VOC emissions exemption threshold does not consider possible seasonal variations in emissions. There is nothing in the proposed rule that would prevent hypothetical Company "B" from emitting far more VOC during the summer months than it emits during winter months while maintaining VOC emissions under the 100 TPY threshold. Meanwhile, Company "A" must operate the 95% efficient control system on a year-round basis. A.R.E. believes an effective ozone SIP does not require VOC control during cold weather months (October first of a year through April thirtieth of the subsequent year). Control of VOC emissions during this time period provides no ozone reduction benefit and results in adverse energy usage and economic impacts. In addition, the seasonal use of the thermal oxidizer control systems would have the added environmental benefit of reducing carbon dioxide (CO<sub>2</sub>) emissions. If Ohio EPA is looking for a precedent, consider the provisions of OAC Chapter 3745-14. Under that Chapter, NO<sub>x</sub> emissions which contribute to ozone formation are restricted only during "the period beginning May first of a year and ending on September thirtieth of the same year, inclusive".

Ohio EPA's response to comments submitted on the draft rule states a concern for possible odor nuisances as well as the "Air Toxic Policy". If these issues are a concern for a 95% controlled facility (e.g., Company "A" with an annual emission restriction of no more than 6 tons), they certainly must also be concerns for an uncontrolled facility that could emit 15 times more emissions annually (e.g., Company "B" could emit up to 99 tons of emissions). In addition, the assertion that the "Air Toxic Policy" is a concern is unfounded. Since these process operations are subject to a Maximum Achievable Control Technology (MACT) standard, Ohio EPA's "Air Toxic Policy" is not applicable. A.R.E. agrees that the nuisance issue should be addressed. However, it should be addressed on a case-by-case basis with Ohio EPA having the burden to demonstrate additional VOC control requirements are warranted at a particular facility during the cold weather months.

A.R.E. is requesting that the 95% reduction of VOC required by OAC rule 3745-21-25 only be required during the summer ozone "control period" as defined by OAC rule 3745-14-01(B)(2)(s). Any final rule adopted by Ohio EPA should

include a process where a company can obtain approval to discontinue the use of energy intensive and expensive add-on air pollution control equipment during the winter months. And, Ohio EPA should be able to grant this approval without the company going through the costly and lengthy process of obtaining a site-specific SIP revision.

Once again, A.R.E. supports Ohio EPA's efforts to adopt VOC emission limitations for the composites fabricating industry that are *based on technical feasibility and economic reasonableness*. We are concerned, however, that the rules as proposed continues to penalize companies, such as A.R.E., that have made a substantial investment in the installation and operation of add-on air pollution controls.

The proposed rule changes the regulatory landscape in a way that is a further detriment to the success of A.R.E. The proposed rules could allow a competitor to install a new facility and emit slightly less than 100 TPY of VOC from composite fabricating operations. That would place A.R.E. at a significant competitive disadvantage. The appropriate remedy is for Ohio EPA to adopt a final rule that includes provisions to allow companies to:

- (1) Reduce emissions below the 100 TPY threshold to avoid the mandatory 95% reduction requirement; and
- (2) Discontinue the use of add-on emission control equipment during winter months so long as total annual VOC emissions remain below the 100 TPY threshold.

**(Bill Schweizer, A.R.E. Accessories, LLC)**

**Response 7:**

Regarding the comment on allowing facilities to use control efficiencies associated with add-on control systems when calculating if annual VOC emissions are below the 100 TPY threshold, the determination and calculation of such VOC emissions is intended to exclude any add-on control system similar to the 100 TPY threshold in the MACT rule. No changes have been made to paragraph (F) of this rule.

Regarding the comment that the alternative requirements under paragraph (D)(11) are not available to existing emissions units, DAPC disagrees. The alternative requirements under paragraph (D)(11) are available to existing and new emissions units. The confusion may be due to the mechanism for issuing the alternative requirements by means of a final permit to install that contains a "best availability technology" determination of the Ohio EPA Director.

Regarding the comment on allowing companies to reduce emissions below the 100 TPY threshold to avoid the mandatory 95% reduction requirement, emission reductions associated with process changes and material changes would be acceptable, but not emission reductions from add-on control systems, similar to the MACT rule.

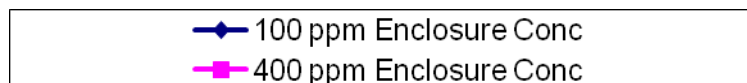
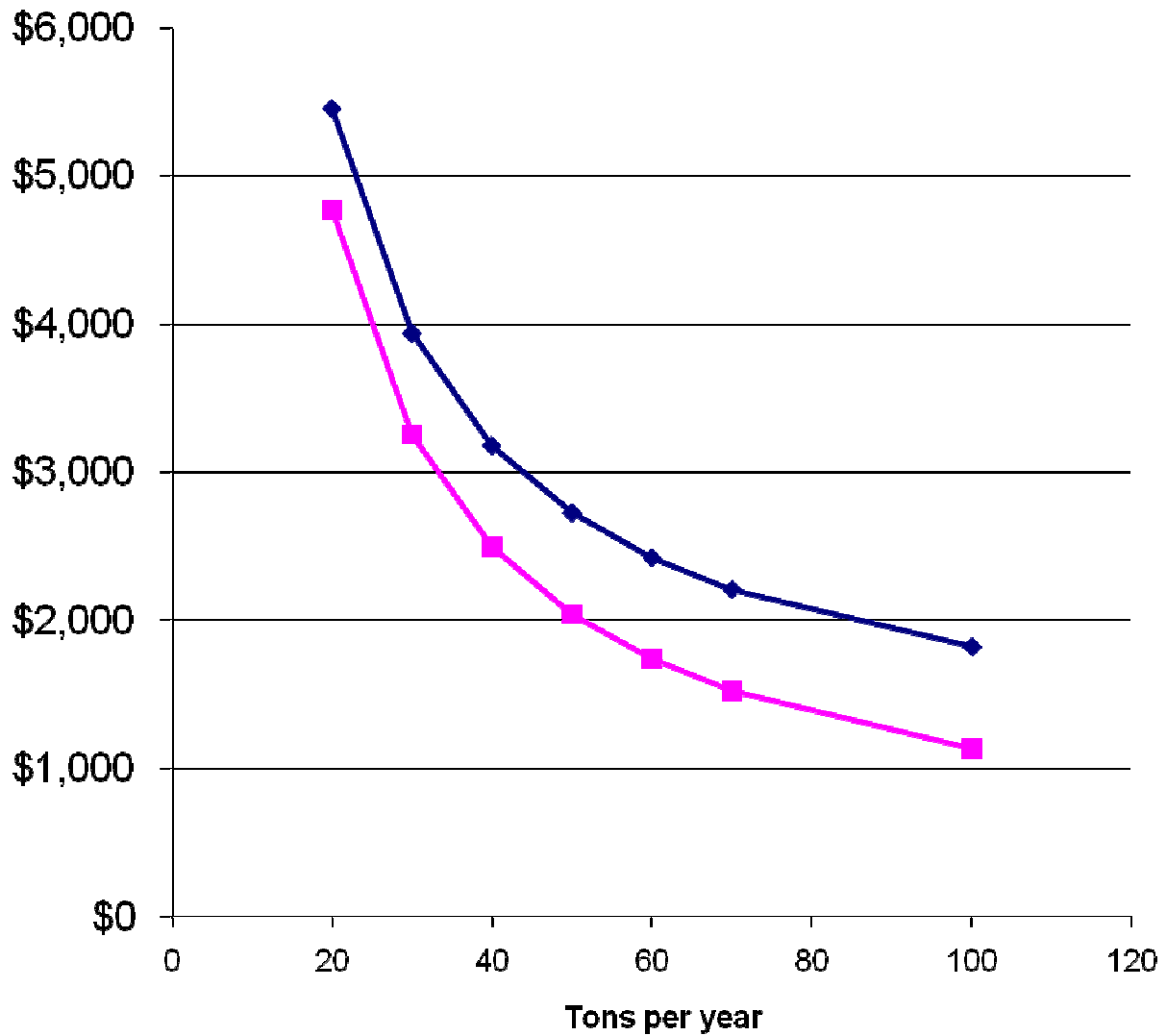
Regarding the comment to allow the discontinuance of add-on emission control equipment during winter months as long as total annual VOC emissions remain below the 100 TPY threshold, add-on control equipment would not be included in the determination and calculation of VOC emissions for the purpose of the facility's VOC emission threshold under paragraphs (D) and (F). Also, any seasonal shut-off of add-on control that is a gas-fired afterburner would have to be handled as a SIP revision pursuant to USEPA's "Revised Seasonal Afterburner Policy" (12/1/1980). Also, the facility would have to apply for a modification of its air permit, which would include compliance with BAT and DAPC's air toxics policy. Please note that USEPA's "Revised Seasonal Afterburner Policy" states, "The policy applies to gas-fired afterburners installed to control emissions of volatile organic compounds (VOCs) for the purpose of reducing ambient ozone concentrations. It does not apply to flares (which do not use natural gas as an auxiliary fuel), VOCs vented to boilers, afterburners operated principally for odor control, or afterburners operated to control toxic or hazardous substances."

**End of Response to Comments**

## Attachment A

“The economic feasibility of add-on controls is demonstrated by the attached chart, and supporting cost-effectiveness data, which is based on EPA's Air Pollution Control Cost Manual. This chart provides the cost-effectiveness of controlling SMC machines operating 6,000 hrs/yr at emission levels ranging from 20 TPY to 100 TPY of VOC at enclosure concentrations of 100 ppm (OSHA's Permissible Exposure Limit for styrene) and also 400 ppm, which is feasible with tighter fitting enclosures or respirators. “ (Information provided by USEPA, Region V on February 18, 2009 to Ohio EPA, DAPC)

## Cost-Effectiveness of Add-On Controls (1998 \$)



Control Costs for SMC Sources Using MACT Cost Methodology  
Rotary Concentrator/TO System/PTE

**100 ppm Enclosure Conc**

<b>10</b>	<b>Variable</b>	<b>Value</b>	<b>Value</b>	<b>Value</b>
Control Device Mass Input (tpy)	I	10	20	30
Hours of Operation per year	H	6000	6000	6000
Concentration (ppm)	C	100	100	100
Flow Rate (cfm)	Q	2,058	4,116	6,174
Electrical Power (kW)	EP	4	6	7
Fuel Usage (BTU/hr)	FU	112,646	223,784	334,923
Rotary Concentrator and Thermal Oxidizer Equipment Cost (1998 \$)	EC	\$116,451	\$134,111	\$151,885
PTE Cost (1998 \$) (see sheet 2)		\$168,883	\$168,883	\$168,883
Purchased Equipment Cost (1998 \$)	PEC	\$342,402	\$363,594	\$384,922
Total Capital Investment (1998 \$)	TCI	\$561,000	\$599,853	\$638,926
Direct Operating Costs, Excluding Fuel and Electricity Costs (1998 \$/yr)	DOC	\$10,111	\$10,635	\$11,159
Fuel Costs (1998 \$/yr)	FC	\$2,190	\$4,350	\$6,511
Electric Cost (1998 \$/yr)	ELC	\$1,204	\$1,597	\$1,990
Overhead, Property Tax, Insurance, and Administration (1998 \$/yr)	OPTIA	\$28,507	\$30,375	\$32,252
Capital Recovery Cost Factor	CRC	0.0944	0.0944	0.0944
Annualized Capital Costs (1998 \$/yr)	ACC	\$52,954	\$56,622	\$60,310
Total Variable Annual Cost (1998 \$/yr)	AC(V)	\$13,506	\$16,583	\$19,660
Total Fixed Annual Cost (1998 \$/yr)	AC(F)	\$81,461	\$86,997	\$92,563
Annual Cost Effectiveness \$/ton		<b>\$9,997</b>	<b>\$5,452</b>	<b>\$3,938</b>

**400 ppm Enclosure Conc**

<b>Parameter</b>	<b>Variable</b>	<b>Value</b>	<b>Value</b>	<b>Value</b>
Control Device Mass Input (tpy)	I	10	20	30
Hours of Operation per year	H	6000	6000	6000
Concentration (ppm)	C	400	400	400
Flow Rate (cfm)	Q	515	1,029	1,544
Electrical Power (kW)	EP	3	4	4
Fuel Usage (BTU/hr)	FU	29,292	57,076	84,861
Rotary Concentrator and Thermal Oxidizer Equipment Cost (1998 \$)	EC	\$103,283	\$107,665	\$112,054
PTE Cost (1998 \$) (see sheet 2)		\$168,883	\$168,883	\$168,883
Purchased Equipment Cost (1998 \$)	PEC	\$326,599	\$331,858	\$337,125
Total Capital Investment (1998 \$)	TCI	\$532,008	\$541,658	\$551,322
Direct Operating Costs, Excluding Fuel and Electricity Costs (1998 \$/yr)	DOC	\$9,719	\$9,849	\$9,980
Fuel Costs (1998 \$/yr)	FC	\$569	\$1,110	\$1,650
Electric Cost (1998 \$/yr)	ELC	\$910	\$1,008	\$1,106
Overhead, Property Tax, Insurance, and Administration (1998 \$/yr)	OPTIA	\$27,111	\$27,576	\$28,041
Capital Recovery Cost Factor	CRC	0.0944	0.0944	0.0944
Annualized Capital Costs (1998 \$/yr)	ACC	\$50,218	\$51,129	\$52,041
Total Variable Annual Cost (1998 \$/yr)	AC(V)	\$11,198	\$11,967	\$12,736
Total Fixed Annual Cost (1998 \$/yr)	AC(F)	\$77,329	\$78,705	\$80,082

Annual Cost Effectiveness \$/ton		\$9,319	\$4,772	\$3,257
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Value	Value	Value	Value	Value
40	50	60	70	100
6000	6000	6000	6000	6000
100	100	100	100	100
8,232	10,291	12,349	14,407	20,581
9	10	12	13	18
446,062	557,200	668,339	779,478	1,112,894
\$169,771	\$187,766	\$205,866	\$224,071	\$279,281
\$168,883	\$168,883	\$168,883	\$168,883	\$168,883
\$406,385	\$427,979	\$449,700	\$471,545	\$537,797
\$678,215	\$717,714	\$757,418	\$797,323	\$918,190
\$11,683	\$12,207	\$12,730	\$13,254	\$14,826
\$8,671	\$10,832	\$12,993	\$15,153	\$21,635
\$2,383	\$2,775	\$3,168	\$3,561	\$4,739
\$34,138	\$36,032	\$37,935	\$39,845	\$45,623
0.09	0.09	0.09	0.09	0.09
\$64,019	\$67,747	\$71,495	\$75,262	\$86,671
\$22,737	\$25,814	\$28,891	\$31,968	\$41,200
\$98,157	\$103,780	\$109,430	\$115,107	\$132,294
<b>\$3,181</b>	<b>\$2,728</b>	<b>\$2,427</b>	<b>\$2,212</b>	<b>\$1,826</b>

Value	Value	Value	Value	Value
40	50	60	70	100
6000	6000	6000	6000	6000
400	400	400	400	400
2,058	2,573	3,087	3,602	5,145
4	5	5	6	7
112,646	140,430	168,215	196,000	279,354
\$116,451	\$120,856	\$125,267	\$129,686	\$142,984
\$168,883	\$168,883	\$168,883	\$168,883	\$168,883
\$342,402	\$347,687	\$352,980	\$358,283	\$374,241
\$561,000	\$570,693	\$580,399	\$590,119	\$619,362
\$10,111	\$10,242	\$10,373	\$10,504	\$10,897
\$2,190	\$2,730	\$3,270	\$3,810	\$5,431
\$1,204	\$1,302	\$1,401	\$1,499	\$1,793
\$28,507	\$28,973	\$29,440	\$29,907	\$31,313
0.09	0.09	0.09	0.09	0.09
\$52,954	\$53,869	\$54,786	\$55,703	\$58,463
\$13,506	\$14,275	\$15,044	\$15,813	\$18,121
\$81,461	\$82,842	\$84,225	\$85,610	\$89,776
<b>\$2,499</b>	<b>\$2,045</b>	<b>\$1,742</b>	<b>\$1,525</b>	<b>\$1,136</b>

**PTE Cost Calculation  
from**

PTE square footage ft^2       **3885**  
PTE Length (ft)               **40.75**  
PTE Width (ft)               **24.75**  
PTE Height (ft)               **12.7**

<b>Equipment or Component Type</b>	<b>Units</b>	<b>Materials (1997\$)</b>	<b>Installation (1997\$)</b>	<b>Cost For This Unit (1998\$)</b>	
Walls	sqft	\$9.76	\$7.97	\$69,294	Modular panel for all PTEs; used estimated square footage for each PTE.
Doors	Each	\$575.00	\$415.00	\$1,992	2 mandors, hollow steel for all PTEs; should require only personnel access to the interior.
Windows	Each	\$85.00	\$125.00	\$1,148	Lexan windows, 4'x3'; used one window roughly every 7.5 feet of PTE length with windows on both sides.
Ceiling	sqft	\$1.69	\$16.51	\$71,131	Drop ceiling, sheet metal for all PTEs; used estimated square footage for each PTE.
LFL Detectors	Each	\$3,325.00	\$100.00	\$6,891	2 catalytic bead monitors per PTE.
Safety Equipment	Each	\$70.00	\$60.00	\$131	One alarm bell and one alarm signal per PTE.
Instrumentation	Each	\$487.00	\$200.00	\$691	Fluorescent, 2'x4', four 40 watt; one fixture per 10 linear feet of wet out area.
Contractors	Each	\$15,000.00		\$15,090	\$15,000 per PTE.
Compliance Test	Each	\$2,500.00		\$2,515	\$2,500.00 per PTE. Applies only to PTE certification.
			<b>Total</b>	<b>\$168,883</b>	