BEFORE THE

OHIO ENVIRONMENTAL PROTECTION AGENCY

In the Matter of:

Morgan Adhesives Company 4560 Darrow Road Stow, OH 44224-1898	: : :	Director's Final Findings and Orders

PREAMBLE

It is hereby agreed that:

I. JURISDICTION

These Director's Final Findings and Orders ("Orders") are issued to Morgan Adhesives Company ("MACtac") pursuant to the authority vested in the Director of the Ohio Environmental Protection Agency ("Ohio EPA") under Ohio Revised Code ("ORC") sections 3704.03 and 3745.01.

II. PARTIES

These Orders shall apply to and be binding upon MACtac, its assigns and successors in interest.

III. DEFINITIONS

Unless otherwise stated, all terms used in these Orders shall have the same meaning as used in ORC Chapter 3704 and the regulations promulgated thereunder.

IV. MACtac FINDINGS OF FACT

The Director of the Ohio EPA has determined the following findings of fact:

1. Morgan Adhesives Company ("MACtac") - Stow Plant, which is located at 4560 Darrow Road, Stow (Summit County), Ohio, owns and operates a pressure sensitive tape and label manufacturing facility. MACtac is a manufacturer of a variety of pressure sensitive adhesive coated paper and plastic laminates. This facility currently uses nine coating lines to produce over 1000 products.

Approximately eighty different coatings are employed to produce these products. Coatings include solution or solvent based rubber, solvent and water based acrylics, hot melt adhesives, solvent and solid based silicones, water based inks, and solvent and water based primers and topcoats. Several coating methods including gravure, reverse gravure, die coating, and roll coating are used to apply coatings to the paper and film substrates including vinyl.

2. On October 19, 1979, VOC regulations were promulgated for paper coating and vinyl coating in OAC rule 3745-21-09(F) and OAC rule 3745-21-09(H), respectively, based on reasonably available control technology (RACT) that included compliance time schedules in OAC rule 3745-21-04, VOC emission limitations (lbs of VOC/gallon) in OAC rule 3745-21-09, and compliance test method procedures in OAC rule 3745-21-10.

   On March 27, 1981, the RACT limit for vinyl coating lines in OAC rule 3745-21-09(H) was revised to require compliance with either the VOC content limits or the VOC capture/control system requirements as follows:

   a. VOC content limit for each coating:
      i. 4.8 pounds of VOC per gallon of coating excluding water, or
      ii. 25 percent by volume of the total volatile content of the coating;

   b. VOC capture and control systems:
      i. capture efficiency of at least 75% or a maximum reasonable amount based upon good engineering design; and
      ii. control efficiency of at least 90%.

   On August 22, 1990, OAC rule 3745-21-09(H)(2)(a) was revised to require a VOC capture system to meet a minimum 75%, by weight, efficiency instead of a "maximum reasonable capture efficiency".

   On March 3, 1993, OAC rule 3745-21-09(F) was revised to specify a RACT-equivalent VOC emission limit, stated as 4.8 pounds of VOC per gallon of solids, for any paper coating line that complies by means of add-on VOC control.

   On March 3, 1993, OAC rules 3745-21-09(F) and 3745-21-09(H) were also revised to include the wording "and exempt solvents" after the words "excluding water" for clarification purposes.

   On March 3, 1993, OAC rule 3745-21-09(B)(6) was added to specify a RACT-equivalent provision whereby a paper coating line may employ a control system to meet an overall 81% VOC reduction and a 90% control equipment destruction efficiency in lieu of the applicable pounds of VOC per gallon of solids limitation.

3. In response to the adoption of OAC rule 3745-21-09(F) by the Ohio EPA on October 19, 1979, MACtac submitted a request for a variance ("bubble") on November 28, 1979 pursuant to OAC rule 3745-35-03. MACtac's original facility-

wide bubble included its paper coating operations and vinyl casting operations. That bubble was approved by the Ohio EPA on February 3, 1982 and submitted to USEPA on March 18, 1983 as a revision to Ohio's State Implementation Plan (SIP) for ozone for the Akron area. The bubble included twelve paper coating lines (K001 through K012) and a vinyl coating line (K013).

4. In mid-1982, MACtac completed the installation of a solvent recovery system designed to implement the bubble strategy.

5. On May 23, 1983, USEPA sent a letter to the Ohio EPA stating that the MACtac bubble must be revised because equivalency calculations must be on a solids basis and additional reductions beyond RACT may be required in some cases.

6. On September 1, 1983, USEPA sent a letter to the Ohio EPA stating that the MACtac bubble was being returned as incomplete in light of a July 29, 1983 internal Agency memo from Sheldon Myers.

7. On May 24, 1984, MACtac requested that its bubble be modified to include limitations on a solids-equivalency basis to conform with USEPA's May 23, 1983 comments.

8. On May 16, 1985, MACtac requested that its bubble be further modified to subtract out any hot melt (100% solids) usage during the baseline period and to include an additional 20% reduction from baseline emissions.

9. On November 2, 1987, USEPA issued a proposed disapproval of MACtac's original 1979 bubble application and did not act on the subsequently requested modifications.

10. On February 3, 1988, MACtac submitted written comments to USEPA - Region V describing the 1984 and 1985 modification requests previously sent to USEPA and attached additional copies of those requests for the administrative record.

11. Ohio EPA issued draft bubble permits and variances that included these modifications on July 26, 1988. MACtac then requested the Ohio EPA to finalize the draft solids-basis bubble, including corrections and additional documentation that would satisfy the previously-received USEPA comments.

12. On July 29, 1988, the Ohio EPA submitted to USEPA MACtac's modified bubble permits and variances for parallel processing by USEPA, stating that they are amendments to the previous actions submitted on March 18, 1983. The modified bubble included thirteen paper coating lines (K001 through K011, K014, and K015). Line K014 was a new coating line applying only water based and high solids coatings subject to "best available technology" under OAC rule 3745-31-05(A)(3) and the federal New Source Performance Standard under 40 CFR Part 60, Subpart RR. Line K015 is a pilot coater for testing new coatings and products and is not used for production purposes. The vinyl coating line, K013, was shut down in 1985 and removed from the facility. Operation of coating lines K001 and K002

was suspended in 1985 but since they remained at the facility, were included in the amended bubble.

13. On September 9, 1988, USEPA furnished comments to the Ohio EPA on the July 26, 1988 modified bubble indicating that the 1977-78 emission data should be used as the baseline and the L-line (K014) should not be included.

14. On April 7, 1989, John Calcagni, Director, Air Quality Management Division, USEPA, issued a memorandum entitled "Baseline for Cross-Line Averaging." This memorandum provided clarification on an exception to the federal Emissions Trading Policy Statement in which there is no need for enforceable restrictions on capacity utilization, hours of operation, or overall emissions for emission trades involving cross-line averaging. Since the vinyl casting operation (K013) was removed from MACtac, the bubble being sought by MACtac is essentially a cross-line average for the source catagory of paper coating.

15. On August 15, 1989, USEPA disapproved the original 1982 version of MACtac's bubble, withholding action on the draft solids-basis bubble until its formal submission as a final SIP revision by Ohio EPA.

16. On April 2, 1991, MACtac submitted data and documentation for a modification of its emission control program (bubble) wherein the baseline emission rate for its twelve paper coating lines would be based on the lower of actual or allowable for the two years prior to its original November 29, 1979 submittal (i.e., 1978 and 1979), plus an additional 20 percent reduction. The modified control program requires allowable VOC emissions to be, in effect, 72% of the RACT allowable rate. This is illustrated as an estimated plantwide, cross-line allowable average of 5.41 pounds VOC/gallon solids based on RACT for each coating , which was reduced to 4.84 pounds VOC/gallon solids based on the lower of RACT or actual for each coating, which was further reduced to 3.88 pounds VOC/gallon solids based on an additional 20 percent reduction. Under the proposed modified program, the daily allowable emissions from the plantwide combined paper coating lines would be calculated using an equation that has a factor of 0.72 times the formula contained in the can coating regulation.

17. On October 23, 1991, Ohio EPA issued draft actions (permits to operate and variances) wherein the daily allowable emission rate for the combined eleven paper coating lines K001 to K011 would be 3.44 pounds VOC/gallon solids. This allowable emission rate was based on the solids applied RACT equivalency of 4.8 pounds VOC/gallon solids, which was lowered to 4.3 pounds VOC/gallon solids based on high solids coatings employed in the baseline years, and then lowered to 3.44 pounds VOC/gallon solids based on an additional 20 percent reduction for nonattainment areas lacking an approved SIP demonstration. The draft actions included daily records on coating formulation, coating usage, and actual emission rate; weekly records on control equipment performance (actual, measured VOC solvent recovery vs. estimated VOC solvent recovery), and quarterly reporting on actual daily VOC emission estimates, weekly solvent recovery (actual vs. estimated), corrective action for a daily actual emission rate greater than the daily

allowable emission rate, and corrective action for a measured solvent recovery less than 95% of the estimated solvent recovery. Coating line R (K012), which operated during 1978, was excluded from the draft actions because it had been dismantled. The proposed bubble addressed all of USEPA's reasons for disapproving the 1982 version of MACtac's bubble, including the lack of an equivalency on a solids basis, the lack of an additional 20% emission reduction (required for bubbles in areas lacking an approved attainment demonstration), and the lack of line-by-line production information for the two years prior to the bubble submission. These additional requirements agree with the final Emissions Trading Policy Statement issued by USEPA on December 4, 1986 (51 FR 43814). Final issuance of the draft variances and draft modified permits to operate are contingent upon final approval by USEPA.

18. On February 18, 1992, USEPA-Region V sent comments to Ohio EPA on the draft actions issued on October 23, 1991. Region V recommended disapproval of the draft actions for the following reasons: (1) the baseline years should be two years prior to the 1991 modification application instead of the 1979 application and (2) the fixed-average emission limit of 3.44 pounds VOC/gallon solids should be replaced with a limit that varies on a daily basis and reflects the relative usage of each line similar to the provisions of Ohio's can coating regulations.

19. On April 16, 1992, MACtac submitted to Ohio EPA a response to Region V's February 18, 1992 comments. MACtac found it ironic that USEPA should insist on a formula contained in the Ohio can coating rule since the original bubble was based on the can coating formula as stated in the Stipulation and Settlement Agreement of January 5, 1982. MACtac provided arguments on why the November 28, 1979 application should be the baseline for the alternative compliance program and not the April 2, 1991 modification. MACtac stated that the modified bubble submission had been neither substantially expanded in scope nor changed to involve primarily different sources of emission reduction credits. MACtac also provided a 13-year chronology of events showing the various modifications from the original submission that were done to revise the supporting data or implement tighter emission limits in response to changes in USEPA's evolving bubble policy.

20. On June 4, 1992, MACtac sent a letter to Ohio EPA, with a copy to Region V, in response to a request for information on the various adhesive coatings (solvent-based, emulsion, and hot melt) employed during 1983 through 1992.

21. On July 30, 1992, USEPA-Region V sent a letter to Ohio EPA in response to MACtac's letter of April 17, 1992 to USEPA's Assistant Administrator for Policy, Planning, and Evaluation regarding its bubble application. Region V stated that a 1979 application date may be used for the bubble because the 1991 draft bubble "reasonably resembles" the 1979 application. Included was a July 15, 1992 memorandum from John Calcagni that stated: "We now believe that the earlier 1979 date is more appropriate and equitable." Region V noted that the additional data provided by MACtac labeled "Confidential" (in June 4, 1992 correspondence) should be submitted in a form which can be part of a public record. Region V

suggested a narrative description on which lines were included in the 1979 bubble application and which lines are included in the present bubble application. Region V suggested that line-by-line coating information for 1979 and the present time could be coating type (i.e., high solvent, no solvent, mixed, etc.) rather than precise coating information, supplemented by information justifying the solvent content in the bubble baseline.

22. On September 25, 1992, MACtac sent a letter to Ohio EPA requesting that the bubble include: (1) a daily allowable emission calculated by means of the can coating bubble equation with a factor of 0.72 and (2) a daily actual emission calculation that uses an average weekly solvent recovery efficiency, which is determined from actual daily measurements of solvent recovered. The 0.72 adjustment factor is based on a consideration of the lower of actual or allowable for the baseline years and an additional 20% reduction for nonattainment areas lacking an approved demonstration. MACtac argued that the use of a standard solvent density of 7.36 pounds/gallon, in lieu of the actual solvent density, produces no change in the adjustment factor. MACtac stated that it sees no difference between the fixed daily emission rate limit of 3.44 pounds VOC/gallon solids and the daily equation currently proposed.

23. On November 18, 1992, USEPA-Region V sent a fax to Ohio EPA regarding comments on the equation requested by MACtac in its September 25, 1992 letter. Region V required the following changes: (1) adjustment factor of 0.8, (2) all coating volumes based on gallons minus water and exempt solvents, (3) value for "D" (solvent density) of 7.36 pounds of VOC per gallon of VOC, and (4) value for "L" (limit) must be lowest of actual, RACT allowable, or SIP allowable at the time of application for the bubble. Region V identified the "L" value as 2.9 pounds VOC per gallon of coating, minus water and exempt solvents, for lines K001-K009 and 0 (zero) pounds VOC per gallon of coating, minus water and exempt solvents, for lines K010 and K011 (hot melt lines).

24. On October 4, 1993, Ohio EPA sent a fax to MACtac that contained guidance from USEPA on a general description of an alternative solution for the MACtac situation. The alternative solution is a daily emission cap based on historical production for two years prior to the application. The emission cap would include only RACT sources, i.e., hot melt lines would be left out of the bubble baseline. Compliance with the daily emission cap would be determined on a continuous basis through the use of a rolling, 30-day average, which is calculated each day for the preceding 30 days.

25. On February 27, 1996, MACtac submitted the original Title V application to the Ohio EPA. Modifications to the original submittal were sent to Ohio EPA on March 1, 1996 and August 12, 1997 to address changes in emission estimates (due to the installation of catalytic incinerators) and terms and conditions specific to emissions unit K009 to avoid New Source Review (NSR). MACtac requested that an emissions cap be imposed on emissions unit K009 to avoid exceeding NSR thresholds.

    The original Title V application also excluded emissions units K001 and K002 since they had been shutdown in 1985 (see Finding #12) and subsequently dismantled. MACtac also decided that their exclusion from the application would not affect the

variance that had been requested. The pilot coater (K015) was also excluded from the bubble and listed in the application as an insignificant emissions unit.

26. On January 21, 1998, Ohio EPA, Akron Regional Air Quality Management District (Akron RAQMD), and MACtac held a conference call to discuss their Title V permit application and various permitting issues. Most coatings employed at the facility will now meet the requirements of OAC rule 3745-21-09(F) or OAC rule 3745-21-09(H). For days when coatings that do not meet OAC rule 3745-21-09(F) or OAC rule 3745-21-09(H) are employed, MACtac presented a proposal to meet a facility-wide daily emissions cap or a pounds per gallon bubble limit as an average for all lines, except hot melt coatings. It was requested that MACtac research and provide data to establish a facility-wide emissions cap to be in effect when the two types of coatings are employed, based upon the two years (1994-1995) preceding MACtac's Title V application submittal of February 27, 1996. It was also agreed that MACtac would calculate the pounds per gallon bubble limit as described in detail in the May 2, 1991 MACtac submittal and in OEPA's October 23, 1991 Draft Actions, excluding hot melt coatings and reducing the bubble limit by an additional 20% because the Stow Plant is located in Summit County, which previously was a non-attainment area that lacked an approved attainment demonstration. It was agreed that the Akron RAQMD would review the data and calculations submitted by MACtac and the Ohio EPA would develop Findings and Orders as the mechanism to be used to modify the Ohio SIP.

27. On March 11, 1998, MACtac submitted the data and calculations requested during the January 21, 1998 conference call. This submittal identified two alternative control strategies for limiting VOC emissions from MACtac's pressure sensitive tape and label manufacturing plant. MACtac proposed to demonstrate compliance each day by **either** meeting the current reasonably available control technology (RACT) standards in OAC rule 3745-21-09 for all of lines K003 through K009, on a line-by-line basis, **or** by meeting one of the following <u>more stringent</u> facility-wide alternative emission control strategies for lines K003 through K009:

    a. a daily facility-wide emissions cap of 3677 lbs/day of VOC (based on the lower of actual or allowable emissions for the two-year period of 1994 through 1995);

    or

    b. a cross-line average (bubble) of 3.44 pounds of VOC per gallon of solids applied (based on the lower of actual, SIP allowable, and RACT allowable emissions for the two production years immediately prior to the date MACtac submitted the bubble request, the exclusion of all hot melt coatings, and the reduction of the bubble limit by an additional 20% as described in Finding 17 above).

28. On July 14, 1999, a conference call was held with the USEPA to discuss MACtac's proposal to demonstrate compliance by meeting either a daily facility-wide emissions cap or a cross-line average as described in Finding 27. It was determined that allowing multiple alternative emission control strategies was inconsistent with the bubble policy and USEPA would prefer one control strategy or the other, but not both. In addition, if the cross-line average alternative were chosen, the methods and procedures in OAC rule 3745-21-09(D)(3) would be used, along with the specified record keeping, to calculate the daily allowable VOC emission limitation and the actual daily VOC emissions.

29. On August 3, 1999, a meeting was held with MACtac in which the company agreed to modify their proposal by removing the daily emissions cap and relying solely on a facility-wide, daily allowable VOC limitation. The daily allowable VOC limitation and the actual daily VOC emissions would be calculated using the methods and procedures in OAC rule 3745-21-09(D)(3) and the equations in Orders 7 and 8, respectively. (The equation for calculating the daily allowable VOC limitation utilizes a factor of .68 to reflect previous agreements, as described in these Findings, concerning the application of USEPA's Emission Trading Policy Statement.) Information and data were discussed, and officially submitted on August 4, 1999, that provided the Ohio EPA with a summary of allowable and actual emissions, on a facility-wide basis, for the month of June, 1999. The June data were determined to be representative of normal production at the Stow facility and demonstrate compliance with the daily VOC allowable limitation for each operating day during June, 1999.

30. Telephone discussions between Steve Rosenthal, USEPA Region V, and Tim Owens, MACtac were held in October and November,1999. Mr. Rosenthal noted that the MACtac proposal appeared for the most part to be consistent with EPA bubble policy but did have some questions concerning certain baseline data that had been submitted. He requested that some of the data be checked to determine if it was correct and to contact him to discuss the findings. This discussion took place on December 13, 1999 and questions concerning the data were resolved. The earlier telephone discussions also focused on the averaging time for determining solvent recovery efficiency. MACtac requested a 30-day rolling average stating that this would be more consistent with current MACT rules for the Printing and Publishing industry and with MACT rules anticipated for the Paper and Other Web Coating (POWC) industry. Mr. Rosenthal contacted Dan Brown, USEPA's project manager on the POWC MACT who confirmed that a 30-day calendar month averaging period would be consistent with current thinking on the proposed POWC MACT. However, Mr. Rosenthal indicated that his discussions with Tom Helms office at RTP suggested that for RACT, a 7-day rolling average is more appropriate. This was reported in the 1992 model VOC rule according to Mr. Rosenthal. After further discussions with the Ohio EPA, it was decided to revise MACtac's variance request to include a 7-day averaging period for determining the solvent recovery efficiency.

31. On December 6, 1999, MACtac submitted to the USEPA, Region 5 and the Ohio EPA revised baseline data for 1994 and 1995, along with a table titled "Actual and Allowable VOC Emissions Summary 1994-1995" which provided the calculations for the "bubble" cross-line average and the factor necessary to employ the alternative daily emission limitation equation from OAC rule 3745-21-09(D).

32. The Ohio EPA agrees with MACtac that the above-mentioned alternative emission control strategy is more stringent than the current RACT standards in OAC rule 3745-21-09 that are applicable to this facility. Although the VOC emission control strategy specified above is different from the VOC emission control requirements mentioned in OAC rule 3745-21-09(F) and OAC rule 3745-21-09(H), the Ohio EPA also finds that MACtac's proposal will not result in an increase in actual VOC emissions from MACtac's pressure sensitive tape and label manufacturing operations at the Stow facility.

Process flow diagrams for emissions units K003 through K009 are attached to these Orders.

33. The Ohio EPA will be using these Orders as a means to obtain USEPA approval of the revised VOC limitations as part of the Ohio State Implementation Plan.

28. The Director has given consideration to, and based his determination on, evidence relating to the technical feasibility and economic reasonableness of complying with the following Orders and their relation to benefits to the people of the State to be derived from such compliance.

V. ORDERS

The Director hereby issues the following Orders:

Applicable Emissions Limitations and/or Control Requirements

1. Upon the effective date of these Orders, in lieu of the applicable limitations in OAC rules 3745-21-09(F) and 3745-21-09(H), the actual daily emissions of VOC from all of the emissions units K003 through K009 at MACtac, calculated in accordance with Order 8, shall comply each day with the facility-wide, daily allowable VOC emission limitation, calculated in accordance with Order 7.

   The VOC contents of the coating materials shall be determined in accordance with OAC rule 3745-21-10(B) and USEPA Method 24.

   A flow diagram for each emissions unit affected by these Findings and Orders is attached to these Findings and Orders as **Attachment 1**.

Operating Restrictions

2. Each permanent total enclosure shall be maintained under negative pressure, at a minimum pressure differential that is not less than -0.007 inch of water, whenever the emissions unit controlled by the permanent total enclosures (K009) is in operation and employing VOC-containing coatings, excluding momentary fluctuations resulting from entering and exiting any permanent total enclosure to perform required maintenance or operational activities.

   The doors to each permanent total enclosure shall remain in a closed position during the routine operation of emissions unit K009, except to perform required maintenance or operational activities.

3. For each catalytic incinerator, the average temperature of the exhaust gases immediately before the catalyst bed, for any 3-hour block of time when the emissions units controlled by a catalytic incinerator are in operation and employing VOC-containing coatings, shall not be more than 50 degrees Fahrenheit below the average temperature during the most recent emission test that demonstrated the emissions units were in compliance.

4. Each catalytic incinerator shall be operated and maintained in accordance with the manufacturer's recommendations, instructions and operating manuals. The conversion efficiency of the catalyst in each catalytic incinerator, as determined during the annual catalytic activity test, shall be at least 90% at the test temperature equal to that temperature at which the inlet to the catalyst bed is set.

5. For the carbon adsorption system, the average VOC concentration in the exhaust gases from the carbon adsorber, for any 3-hour block of time, shall not exceed a VOC concentration (ppm) which is 20 percent greater than the average concentration during the most recent emission test that demonstrated the emissions units controlled by the carbon adsorption system were in compliance.

Monitoring and/or Record Keeping Requirements

6. MACtac shall collect and record the following information each day for each coating employed in coating lines K003 through K009:

   a. the name and identification number;

   b. the VOC content, in pounds of VOC per gallon of coating, excluding water and exempt solvents;

   c. the volume of coating applied, in gallons of coating, excluding water and exempt solvents;

   d. the density of the VOC content, in pounds of VOC per gallon of VOC; and

   e. the line in which the coating is applied, and, if applicable, an identification of any VOC control system to which the coating's VOC emissions are being vented;

      i. if the control system is a carbon adsorber, record whether the VOC in the coating is recoverable or not recoverable via this control technology.

7. The daily allowable VOC emission limitation for coating lines K003 through K009 shall be calculated in accordance with the following equation and recorded on a daily basis:

$$A_d = (0.67) \sum_{i=1}^{n} V_i L_i \frac{(D - C_i)}{(D - L_i)}$$

where:

A_d = the daily allowable VOC emission limitation for coating lines K003 through K009, in pounds of VOC;

n = subscript denoting the total number of coatings employed for the day;

i = subscript denoting a specific coating;

V = volume of each surface coating applied for the day, in gallons of coating,

i. a solvent coating station is venting to a catalytic incinerator and the catalytic incinerator is shut down; or

ii. an operator attempts to run solvent coating stations with damper positions set to discharge to atmosphere.

10. MACtac shall install, maintain and operate monitoring devices and a recorder which continuously and simultaneously measures the pressure inside and outside of each permanent total enclosure on emissions unit K009 any time VOC-containing coatings are employed. The monitoring and recording devices shall be installed, calibrated, operated and maintained in accordance with the manufacturer's recommendations, instructions and operating manuals. Differential pressure monitoring and recording devices shall be installed within 60 days of the effective date of these Orders.

MACtac shall record and maintain, on a daily basis, the difference in pressure between the permanent total enclosure and the surrounding area(s) when VOC-containing coatings are employed.

11. The permittee shall operate and maintain continuous temperature monitors and recorder(s) which measure and record(s) the temperature immediately upstream and downstream of each catalytic incinerator's catalyst bed when the emissions units controlled with the catalytic incinerators are in operation. Units shall be in degrees Fahrenheit. The monitoring and recording devices shall be capable of accurately measuring the desired parameter. The temperature monitors and recorder(s) shall be installed, calibrated, operated and maintained in accordance with the manufacturer's recommendations, with any modifications deemed necessary by the permittee.

The permittee shall collect and record the following information each day any VOC-containing coatings are employed:

a. all 3-hour blocks of time (when any emissions unit was in operation and employing VOC-containing coatings) during which the average temperature of the exhaust gases immediately before any catalyst bed was more than 50 degrees Fahrenheit below the average temperature during the most recent emission test that demonstrated the emissions units were in compliance;

b. a log of the periods of time when any temperature monitoring device was not operating and the associated emissions unit(s) was/were in operation; and

c. a log of the periods of time when any catalytic oxidizer alarm system indicates a malfunction of any catalytic oxidizer or an indication from any catalytic oxidizer fail-safe control system that the capacity of any catalytic oxidizer has been exceeded.

12. The permittee shall perform a preventive maintenance inspection of each catalytic incinerator on an annual basis to evaluate the performance of each catalyst bed. The inspection shall consist of internal and visual inspections as detailed in the preventive maintenance checklist submitted to the Ohio EPA on February 12,

1999, and shall include a physical inspection of each unit and checks of associated equipment, including but not limited to burners, controls, dampers, valves, and monitoring and recording equipment. The checks of associated equipment shall be performed in accordance with the manufacturer's recommendations. Repair and replacement of equipment shall be performed as necessitated by the inspection. Samples of catalyst material shall be collected from each catalyst bed to perform the catalyst activity test described in Order 22. The preventive maintenance checklist document is attached to these Findings and Orders as **Attachment 2.**

The permittee shall maintain a record of the results of each annual inspection, as well as the results of each catalyst activity test required in Order 22.

13. The permittee shall operate and maintain a continuous organic monitoring device and recorder which measures and records the VOC concentrations in the exhaust gases from the carbon adsorption system when the emissions units controlled by the carbon adsorption system are in operation. The organic monitoring device and recorder shall be capable of satisfying the performance requirements specified in 40 CFR Part 60, Appendix B, Performance Specification 8 or Performance Specification 9. Prior to any compliance demonstration, the permittee shall demonstrate that the organic monitoring device and recorder satisfy the requirements of Performance Specification 8 or Performance Specification 9. The organic monitoring device and recorder shall be installed, calibrated, operated and maintained in accordance with the manufacturer's recommendations, with any modifications deemed necessary by the permittee.

The permittee shall collect and record the following information each day any VOC-containing coatings are employed:

a. a log of the periods of time when the capture (collection) system, control device, and monitoring equipment were not operating and the associated emissions units were in operation; and

b. all 3-hour blocks of time (when the emissions units were in operation) during which the average VOC concentration in the exhaust gases was more than 20 percent greater than the average concentration during the most recent performance test that demonstrated the emissions units were in compliance.

14. The permittee also shall collect and record the following information each day for the carbon adsorption system:

a. the total uncontrolled VOC emissions from all the coatings being vented to the carbon adsorption system, in pounds per day (T);

b. the rolling, 7-day summation of the total uncontrolled VOC emissions from all the coatings being vented to the carbon adsorption system, in pounds (T_7);

c. the amount of VOC recovered by the carbon adsorption system, in pounds per day (VOC_{rec});

d. the rolling, 7-day summation of the amount of VOC recovered by the carbon adsorption system, in pounds ($VOC_{rec,7}$); and

e. the rolling, 7-day average overall, fractional control efficiency of the carbon adsorption system (SRE_7).

15. The overall control efficiency of the carbon adsorption system shall be determined each day by directly comparing the input liquid VOC to the recovered liquid VOC. The procedure for use in this situation is specified in 40 CFR 60.433 with the following modifications: The permittee shall obtain data each day for the solvent usage and solvent recovery and determine the solvent recovery efficiency of the system each day using a rolling, 7-day period. The recovery efficiency for each day is computed as the ratio of the total recovered solvent for that day and the prior 6 consecutive operating days to the total solvent usage for the same 7-day period used for the recovered solvent, rather than a 30-day weighted average as given in 40 CFR 60.433. This ratio shall be expressed as a percentage. This shall be done within 72 hours following each 24-hour period.

Reporting Requirements

16. In lieu of the applicable reporting requirements in OAC rule 3745-21-09(B)(3), MACtac shall submit quarterly deviation (excursion) reports which identify any daily record that demonstrates a failure to comply with the daily allowable VOC emission limitation calculated each day in accordance with the equation specified in Order 7.

    Each quarterly deviation report also shall include the total annual VOC emissions from emissions unit K009, in tons, through that quarter for which the report is submitted.

    If no excursions occur during a calendar quarter, MACtac shall submit a report stating such, along with the total annual VOC emissions from emissions unit K009, in tons, through that quarter for which the report is submitted.

17. MACtac shall submit pressure differential deviation (excursion) reports, on a quarterly basis, that identify all periods of time during which the permanent total enclosure was not maintained at the required differential pressure specified in Order 2.

18. MACtac shall submit deviation (excursion) reports, on a quarterly basis, that identify all 3-hour blocks of time when the emissions units controlled by a catalytic incinerator were in operation during which the average temperature of the exhaust gases immediately before any catalyst bed does not comply with the temperature limitation specified in Order 3.

19. MACtac shall submit deviation (excursion) reports, on a quarterly basis, which identify all 3-hour blocks of time when the emissions units controlled by the carbon adsorption system were in operation during which the average VOC concentration of the exhaust gases from the carbon adsorption system exceeded the concentration limitation specified in Order 5.

20. MACtac shall submit an annual report that includes the results of the annual catalyst activity tests required in Order 22. This annual report shall be submitted within 45 days after each catalyst activity test is performed.

Testing Requirements

21. The permittee shall conduct, or have conducted, emission testing in accordance with the following requirements:

a. The emission testing shall be conducted no later than 6 months after permit issuance and within 6 months prior to permit expiration.

b. The emission testing shall be conducted to determine the control efficiency of the catalytic incinerators and the carbon adsorption system, the capture efficiency for coating lines vented to the catalytic incinerators and the carbon adsorption system, and the percent overall VOC emissions reduction of the carbon adsorption system.

c. The control efficiency (i.e., the percent reduction in mass emissions between the inlet and outlet) shall be determined in accordance with the test methods and procedures specified in OAC rule 3745-21-10(C) or such alternatives approved by USEPA. The test methods and procedures selected shall be based on a consideration of the diversity of the organic species present and their total concentration, and on a consideration of the potential presence of interfering gases.

The capture efficiency shall be determined using Methods 204 through 204F, as specified in 40 CFR Part 51, Appendix M, or the permittee may request to use an alternative method or procedure for the determination of capture efficiency in accordance with the USEPA's "Guidelines for Determining Capture Efficiency," dated January 9, 1995. The Ohio EPA will consider the request, including an evaluation of the applicability, necessity, and validity of the alternative, and may approve the use of the alternative if such approval does not contravene any other applicable requirement.

The percent overall VOC emission reduction of the carbon adsorption system shall be determined in accordance with the test methods and procedures specified in 40 CFR Part 60.433 with a rolling, 7-day average, as specified in Order15.

All testing must follow the requirements of OAC rule 3745-21-10(A).

d. The test(s) shall be conducted while the emissions unit is operating at or near its maximum capacity, unless otherwise specified or approved by the appropriate Ohio EPA District Office or local air agency.

Not later than 30 days prior to the proposed test date(s), the permittee shall submit an "Intent to Test" notification to the appropriate Ohio EPA District Office or local air agency. The "Intent to Test" notification shall describe in detail the proposed test methods and procedures, the emissions unit operating parameters, the time(s) and date(s) of the test(s), and the person(s) who will be conducting the test(s). Failure to submit such notification for review and approval prior to the test(s) may result in the Ohio EPA District Office's or local air agency's refusal to accept the results of the emission test(s).

Personnel from the appropriate Ohio EPA District Office or local air agency shall be permitted to witness the test(s), examine the testing equipment, and acquire data and information necessary to ensure that the operation of the emissions unit and the testing procedures provide a valid characterization of the emissions from the

VI. OTHER APPLICABLE LAWS

All actions required to be taken pursuant to these Orders shall be undertaken in accordance with the requirements of all applicable local, state and federal laws and regulations. These Orders do not waive or comprise the applicability or enforcement of any other statutes or regulations applicable to MACtac other than those expressly mentioned herein.

VII. NOTICE

All documents required by these Orders, unless otherwise specified in writing, shall be submitted to:

Akron Regional Air Quality Management District
146 South High Street, Room 904
Akron, Ohio 44308
Attn: Sean Vadas

and to:

Ohio Environmental Protection Agency
Division of Air Pollution Control
P.O. Box 1049
Columbus, Ohio 43216-1049
Attn: Dave Morehart

VIII. RESERVATION OF RIGHTS

Nothing contained herein prevents the Ohio EPA from seeking legal or equitable relief to enforce the terms of these Orders or from taking other administrative, legal or equitable action as deemed appropriate and necessary, including penalties against MACtac for noncompliance with these Orders. Nothing contained herein prevents the Ohio EPA from exercising its lawful authority to require MACtac to perform additional activities at the facility pursuant to ORC Chapter 3704 or any other applicable law in the future. Nothing herein restricts the right of MACtac to raise any administrative, legal or equitable claim or defense with respect to such further actions that the Ohio EPA may seek to require of MACtac.

IX. TERMINATION AND SATISFACTION

These Orders shall terminate upon the effective date of any USEPA approval of an Ohio EPA request for a revision to the SIP for ozone that incorporates the requirements prescribed in Orders 1 through 22 within OAC Chapter 3745-21.

X. SIGNATORIES

Each undersigned representative of a party to these Orders certifies that he or she is fully authorized to enter into these Orders and to legally bind such party to this document.

XI. WAIVER

In order to resolve disputed claims, without admission of fact, violation or liability, MACtac agrees to comply with these Orders. Compliance with these Orders shall be a full accord and satisfaction for any liability MACtac may have incurred while relying on its approvable bubble strategy to demonstrate compliance. MACtac hereby waives the right to appeal the issuance, terms and service of these Orders and it hereby waives any and all rights it might have to seek administrative or judicial review of these Orders either in law or equity.

Notwithstanding the preceding, the Ohio EPA and MACtac agree that if these Orders are appealed by any other party to the Environmental Review Appeals Commission, or any court, MACtac retains the right to intervene and participate in such an appeal. In such event, MACtac shall continue to comply with these Orders unless said Orders are stayed, vacated, or modified.

IT IS SO ORDERED AND AGREED:

Ohio Environmental Protection Agency

Christopher Jones
Director

7-5-00
Date

IT IS AGREED:

Morgan Adhesives Company

By

VP/GM
Title

6/26/00
Date