Golder Associates Inc.

6241 NW 23rd Street, Suite 500
Gainesville, FL 32653-1500
Telephone (352) 336-5600
Fax (352) 336-6603

Golder Associates

September 1, 2000

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SEP 05 2000

BUREAU OF AIR REGULATION

Florida Department of Environmental Protection
New Source Review Section
2600 Blair Stone Road
Tallahassee, FL, 32399-2400

Attention: A. A. Linero, P.E.

RE: NAILITE INTERNATIONAL, INC. NEW PANEL FINISHING SPRAY LINE DEP
DEP FILE NO. 0250407-003-AC (PSD-FL-289)

Dear Mr. Linero:

Golder is in receipt of the Department's draft air construction permit (PSD permit) concerning the construction by Nailite of a new panel spray coating line to be located at 1251 N.W. 165th Street, Miami, Florida. The draft permit also imposes certain conditions with respect to Nailite's existing, Title V permitted, paint line which will be relocated to the new facility after the new line is in operation. Golder has discussed the draft permit for the above referenced facility with John Reynolds of DEP and Mallika Muthiah of Miami-Dade County DERM in order to review certain aspects of the draft permit about which Nailite is unclear and to discuss the possibility of some relatively minor rewording prior to finalization to avoid uncertainty and to insure that all aspects of the permit documents are consistent. In order to accommodate these discussions and hopefully resolve these issues without the formal requirement of an administrative hearing, Golder, after obtaining assurances from DEP staff that an extension would not present a problem, filed a request with Ms. Teri Donaldson of DEP for a 60 day extension of time in which to file for an administrative (a copy of this August 21, 2000 request is attached hereto). Nailite appreciates the extent to which DEP has worked with us in getting to this stage of the permitting process. The purpose of this letter is to present our comments and some draft language to assist the DEP with understanding a few of Nailite's concerns with the draft permit, as currently worded. Hopefully the matters discussed herein can serve as an outline for a possible meeting to discuss how best to resolve these issues. We have also attached hereto copies of the permit documents which contain Nailite's requested revisions, as redlined text. As a review will show, these requested changes, which are minor in nature, are designed to clarify certain issues and keep the documents consistent with one another. The requested revisions do not significantly change the terms of the permit and are consistent with the permit application and filings with the DEP to date.

By way of background, for many years Nailite has been manufacturing plastic shingles used in the construction industry out of a plant located at 1251 N.W. 165th Street, Miami, Florida. Nailite provides jobs for many employees in the Miami-Dade County area and has done its share to support the community over the years. Due to the surge in construction across the nation over

the last decade, Nailite has outgrown its existing facility and is relocating to a new manufacturing facility at 1111 N.W. 165th Street, Miami, Florida. This new facility will be a big improvement over the old facility not only in terms of capacity, but also in terms of air emissions. The new facility will incorporate state-of-the-art spraying equipment as well as a Regenerative Thermal Oxidizer (RTO) to significantly reduce emissions associated with the facility, while at the same time increasing production. It is the intent of Nailite International to increase the production of their facility while making substantial improvements on reducing emissions associated with the facility. These efforts have been demonstrated to both DEP and DERM by Nailite's investment of substantial capital in state-of-the-art spraying equipment and an RTO to destroy volatile organic compounds and hazardous air pollutants. As part of the relocation of its manufacturing plant, which is being done in stages so as to avoid a shut-down, Nailite plans to move the spray paint booths from its existing facility, which is currently operating pursuant to a Title V permit, to the new facility. During the permitting process Nailite agreed with DEP and DERM to connect the spray line from its existing plant to the RTO, thereby further reducing emissions from the new plant. When these existing booths are relocated to the new plant they will also be hooked up to the RTO, thereby significantly reducing emissions from current levels. In fact, when the new spray line and the existing spray line are eventually combined at the new plant and connected to the RTO, total emissions from the plant will be lower then that of the existing facility. More specifically, total facility emissions, even after the addition of the new spray paint line, is expected to be approximately 147.7 tpy lower then emissions from the current facility, and to be below 250 tpy for VOC.

Other than an issue related to the capture efficiency of the new spray line, the primary concerns Nailite has with certain language incorporated into the draft permit arise mostly from uncertainty as to whether and when certain permit requirements apply to the new paint line, the old paint line or both. As described in more detail, Nailite would request that: 1) the capture efficiency for the new spray line be set at 90 percent to take into account the actual mechanics of the line and other relevant factors as set forth in the application and accompanying documents, 2) that the draft permit be reworded at certain locations to clarify that the facility limit of 130.5 tpy applies only to the new paint line as noted in the permit application and supporting documents, 3) that the terms of the permit allow Nailite at least 90 days to relocate the existing paint line from Nailite's current plant to its new plant in order to prevent economic hardship and allow the orderly construction of the new plant, and 4) that the permit reflect the change from propane to natural gas as fuel for the RTO. These requested revisions are discussed in more detail below and, as previously noted, specific language recommendations have been incorporated as redlined text on the attached draft permit documents.

The application submitted by Nailite is a PSD/MACT application solely for a new panel coating line. However, the draft permit has been expanded in certain respects to include the existing line. Unfortunately, a few of the conditions intended for the new line, such as capture efficiency and destruction efficiency testing, may, under the current wording of the draft permit, be construed as being applicable to the existing line, even though they are not achievable by this older equipment. While connecting the existing line to the RTO will substantial reduce current emission levels, the design of the existing line simply cannot meet the same capture efficiency and destruction efficiency testing limits as the new line. While we believe that the likely intent

of the permit language is to cover only the new paint line in connection with these items, the suggested changes attached hereto would serve to clarify these issues. Moreover, the 95 percent capture efficiency limit on the new spray line is not practicable as described below given the design of the line itself.

Although the new spray line is a state-of-the-art spray line designed with sustained negative air pressure at each booth to capture and direct all flash off occurring in each booth to the RTO, the possibility of fugitive emissions between the spray booths may occur and cannot be captured. Golder previously provided DEP with an evaluation of the flash off between the spray booths and the estimate of fugitive emissions using mass balance and laboratory testing. This evaluation determined that fugitives are actually much lower than stated in the permit application. The test method suggested in the draft permit to measure concentration at the start of the spraying operations and at the inlet of the RTO, however, will not account for Nailite's complex spray line that includes three separate spray booths, flash-off between the booths, and retention of VOC on the panels, and will generate results which will not comply with the requested 95 percent capture efficiency for the entire paint line, even though the interior of each spray booth will capture 95 percent of what is sprayed. For this reason, Nailite requests that capture efficiency for the new spray line be set at 90 percent.

While the existing spray line has a valid Title V permit and is arguably not subject to PSD and new conditions through the draft permit, Nailite has agreed to subject the existing line to the RTO and otherwise improve the capture and destruction efficiency of the same. Nailite simply requests that any requirements sought to be placed on the existing paint line through the instant permit process be reasonable and practicable taking into account the overall improvements being made and the economic considerations involved. It must be remembered that overall efficiency is improving even when new paint lines are being added.

The installation of the new spray line with controls is estimated to emit no more than 130.5 TPY (fugitive and stack emissions with control). This is based on 90 percent capture and 95 percent destruction efficiency. Connecting the existing spray line to the RTO, assuming 80 percent capture will result in estimated emissions of the existing paint line of 87.8 TPY (14.6 TPY stack emissions with control and 73.2 TPY fugitives). By voluntarily providing RTO control to the existing spray line, a reduction of emissions of 278 TPY based on 1999 emissions of 366 TPY is estimated to be achieved (366 TPY-87.8 TPY). This represents an overall reduction of nearly 150 TPY while increasing the production rate of the facility. This improvement in the overall reduction of emissions for this facility provides a benefit for the environment as well as a benefit to Nailite from an increased production standpoint.

existing line

Based on our review and understanding of Nailite's operations, the intent of the Nailite to comply with all permit limits, and the accuracy of test procedures that reflect the capture efficiency, the applicant respectfully requests that the draft permit be revised as follows:

1. Capture efficiency for the new spray line should be set at 90 percent as opposed to the current figure of 95 percent. Nailite will agree to test for capture and destruction efficiency on the new line and proposes that the limits be expressed as a combined

capture/destruction efficiency limit as suggested in the permit.

2. We would request that the permit language be clarified to indicate that the 130.5 TPY facility limit applies solely to the new spray line.
3. Nailite would also request that it be provided a 90-day period after the installation of the new spray line within which to relocate the existing spray line to the new facility. This is necessary in order to avoid Nailite having to shut down for a period of time, which would obviously present a substantial economic hardship.
4. We have proposed to change the fuel from propane to natural gas for the RTO. This has been reflected in the comments and in the attached recommended changes to the permit.

Please call if you have any questions concerning this information and the attached drafts and we greatly appreciate your consideration and cooperation with this matter. Additionally, we will be contacting you within the next few days to discuss these issues and any recommendations you may have on how best to proceed in a timely manner.

Sincerely,
GOLDER ASSOCIATES INC.

9/1/00

Benny Susi, P.E.
Principal Engineer
Florida P.E. #35042

BS/jkw

cc: David Steedman, Nailite
David Buff, Golder

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Golder Associates Inc.

6241 NW 23rd Street, Suite 500
Gainesville, Fl 32653-1500
Telephone (352) 336-5600
Fax (352) 336-6603

September 1, 2000

0037523

Florida Department of Environmental Protection
Twin Towers Office Building
2600 Blair Stone Road
Tallahassee, Fl 32399-2400

Attention: Office of General Council

RE: NAILITE INTERNATIONAL, INC.-NEW PANEL FINISHING LINE
DEP FILE NO. 0250407-003AC (PSD-FL-289)
EXTENSION REQUEST

Dear: Ms. Teri Donaldson

This correspondence is submitted on behalf of Nailite International, Inc. (Nailite). The draft permit was issued on August 4, 2000 and received on August 7, 2000. Nailite has received a draft permit regarding the installation of a new panel spray coating line. In addition, Nailite has agreed in concept to connect an existing panel coating line to new pollution control equipment being installed. The specific permit conditions regarding technical aspects of the new coating and existing lines require further discussions with the FDEP staff.

As a result, a 60-day extension to file an administrative hearing pursuant to 120.569 and 120.57 F.S. is requested. The request has been discussed with the Department's permitting staff and they indicated no problem with granting the extension.

Please call if you have any questions.

Sincerely,

GOLDER ASSOCIATES INC.

Benny Susi, P.E.
Assoicate

BS/jkw
cc: David Steedman, Nailite International, Inc.
A.A. Linero, FDEP BAR

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PERMITTEE

Nailite International, Inc.
1111 and 1251 N.W. 165th Street
Miami, Florida 33169

Permit No.	0250407-003-AC (PSD-FL-289)
Project:	New Panel Spray Line and Relocation of Existing Line
Expires:	December 31, 2001
Location:	Miami-Dade County

AUTHORIZED REPRESENTATIVE:

Mr. David G. Steedman, Vice President of Operations

PROJECT AND LOCATION

This permit authorizes the applicant to construct a new plastics panel spray coating line and relocate the existing spray line so that it can be incorporated with the air pollution control system being installed for the new line. Any increased production capacity resulting in utilization of paints and solvents in excess of 300,000 gallons per line per year will require a modification of this permit per Rule 62-4.080 and Chapters 62-210 and 62-212 of the Florida Administrative Code. The SIC code for this facility is 3089.

The project is located at 1111 and 1251 NW 165th Street, Miami, Dade County. The UTM coordinates are Zone 17; 578.4 km E; 2867.2 km N. The Everglades National Park is approximately 35 km west-southwest of the site.

STATEMENT OF BASIS

This construction/PSD permit is issued under the provisions of Chapter 403 of the Florida Statutes (F.S.), and the Florida Administrative Code (F.A.C.) Chapters 62-4, 62-204, 62-210, 62-212, 62-296, and 62-297. The above named permittee is authorized to construct the emissions units in accordance with the conditions of this permit and as described in the application, approved drawings, plans, and other documents on file with the Department of Environmental Protection (Department).

APPENDICES

The attached appendices are a part of this permit:

Appendix BD	BACT/MACT Determination
Appendix GC	General Permit Conditions

Howard L. Rhodes, Director
Division of Air Resources
Management

SECTION I. FACILITY INFORMATION

FACILITY DESCRIPTION

The existing Nailite facility is located at 1251 NW 165th Street in Miami, Dade County. The proposed new plastic panel spray line (No. 2) will be located in a new facility at 1111 NW 165th Street, approximately 500 feet west of the existing facility. On its existing No.1 Line, Nailite manufactures and coats plastic shingles molded from polypropylene pellets. The No. 1 Line at the existing facility consists of three paint spray booths and eight ~~two~~ injection molding machines as insignificant emission units. The new No. 2 Line will consist of three continuous spray booths and a curing oven. Air pollution controls will consist of a state-of-the-art Regenerative Thermal Oxidizer (RTO) for controlling VOC/HAP emissions. Within ~~N~~ninety (90) days from~~after~~ ~~Simultaneously~~ the ~~with~~ start-up of the new line, the existing line will be dismantled, moved to the new location, and connected to the RTO.

Details regarding the project are described in the Technical Evaluation and Preliminary Determination issued August 4, 2000 and the determinations of Best Available Control Technology (BACT) and Maximum Achievable Control Technology (MACT) appended to this permit.

The proposed facility including the relocated No. 1 line will consist of the following emissions units.

EMISSIONS UNIT NO.	EMISSIONS UNIT DESCRIPTION
001	No. 1 Line consisting of 3 Paint Spray Booths
002	Eight ~~Two~~ Injection Molding Machines
003	No. 2 Line consisting of 3 Continuous Spray Booths and a Curing Oven

REGULATORY CLASSIFICATION

The facility, consisting of the three emissions units, is classified as a Major or Title V Source of air pollution because emissions of volatile organic compounds (VOC) exceed 100 tons per year (TPY), and because emissions of one hazardous air pollutant (HAP) exceed 10 tons per year and emissions of total HAP exceed 25 tons per year. This facility is not within an industry included in the list of the 28 Major Facility Categories per Table 62-212.400-1, F.A.C. Since potential emissions (at least until the connection of the No. ~~2~~1 Line to the RTO) are greater than 250 TPY for VOC, the facility is also a Major Facility with respect to Rule 62-212.400, Prevention of Significant Deterioration (PSD). Potential emissions from the new facility after relocation of the No. 1 Line and connection to the same to the RTO are estimated to be 218.3 tpy, a decrease of 147.7 tpy over emissions from the current facility. The emissions units are subject to limits determined as BACT for VOC and are subject to limits determined to be MACT for HAP.

REVIEWING AND PROCESS SCHEDULE

04-17-00	Date of Receipt of Application
05-04-00	First Request for Additional Information
06-16-00	Final Request for Additional Information
06-22-00	Date Application Complete
xx-xx-00	Notice of Intent Published in Newspaper

RELEVANT DOCUMENTS

The documents listed below constitute the basis for the permit and are on file with the Department.

- Permit application
- Applicant's additional information noted above
- Department's Technical Evaluation and Preliminary Determination and Intent to Issue

SECTION II. FACILITY-WIDE SPECIFIC CONDITIONS

The following specific conditions apply to all emissions units at this facility addressed by this permit.

ADMINISTRATIVE

1. Regulating Agencies: All documents related to applications for permits to operate, reports, tests, minor modifications and notifications shall be submitted to the Air Division of the Dade County Department of Environmental Resources Management (DERM), Suite 900, 33 Southwest Second Avenue, Miami, Florida 33130-1540 (phone number: 305/372-6925). All applications for permits to construct or modify an emission unit(s) *subject to the Prevention of Significant Deterioration or Nonattainment (NA) review requirements* should be submitted to the Bureau of Air Regulation (BAR), Florida Department of Environmental Protection (FDEP), 2600 Blairstone Road, Tallahassee, Florida 32399-2400 (phone number 850/488-0114).

2. General Conditions: The permittee is subject to and shall operate under the attached General Permit Conditions G.1 through G.15 listed in Appendix GC of this permit. General Permit Conditions are binding and enforceable pursuant to Chapter 403 of the Florida Statutes. [Rule 62-4.160, F.A.C.]

3. Terminology: The terms used in this permit have specific meanings as defined in the corresponding chapters of the Florida Administrative Code.

4. Applicable Regulations, Forms and Application Procedures: Unless otherwise indicated in this permit, the construction and operation of the subject emissions unit shall be in accordance with the capacities and specifications stated in the application. The facility is subject to all applicable provisions of Chapter 403, F.S. and Florida Administrative Code Chapters 62-4, 62-110, 62-204, 62-212, 62-213, 62-296, 62-297 and the Code of Federal Regulations Title 40, Part 60, adopted by reference in the Florida Administrative Code (F.A.C.) regulations. The permittee shall use the applicable forms listed in Rule 62-210.900, F.A.C. and follow the application procedures in Chapter 62-4, F.A.C. Issuance of this permit does not relieve the facility owner or operator from compliance with any applicable federal, state, or local permitting or regulations. [Rules 62-204.800, 62-210.300 and 62-210.900, F.A.C.]

5. New or Additional Conditions: Pursuant to Rule 62-4.080, F.A.C., for good cause shown and after notice and an administrative hearing, if requested, the Department may require the permittee to conform to new or additional conditions. The Department shall allow the permittee a reasonable time to conform to the new or additional conditions, and on application of the permittee, the Department may grant additional time. [Rule 62-4.080, F.A.C.]

6. Expiration: This air construction permit shall expire on December 31, 2001. The permittee, for good cause, may request that this construction/PSD permit be extended. Such a request shall be submitted to the Department's Bureau of Air Regulation prior to 60 days before the expiration of the permit. [Rules 62-210.300(1), 62-4.070(4), 62-4.080, and 62-4.210, F.A.C]

7. PSD Expiration: Approval to construct shall become invalid if construction is not commenced within 18 months after receipt of such approval, or if construction is discontinued for a period of 18 months or more, or if construction is not completed within a reasonable time. The Department may extend the 18-month period upon a satisfactory showing that an extension is justified. [40CFR52.21(r)(2) and Rules 62-4.070(4), 62-4.210(2) & (3), and 62-210.300(1)(a), F.A.C.]

8. BACT Determination: In conjunction with extension of the 18 month period to commence or continue construction or extension of the permit expiration date, the permittee may be required to demonstrate the adequacy of any previous determination of Best Available Control Technology (BACT) for the source as applied to any new or modified emission units. [40CFR52.21(j)(4) and Rules 62-4.070(4), 62-4.210(2) & (3), 62-210.300(1)(a), and 62-212.400(6)(b), F.A.C.]

9. Modifications: No emissions unit or facility subject to this permit shall be constructed or modified without obtaining an air construction permit from the Department. Such permit must be obtained prior to the beginning of construction or modification. [Rules 62-210.300(1) and 62-212.300(1)(a), F.A.C.]

10. Title V Operation Permit Required: This permit authorizes construction and/or installation of the permitted emissions unit and initial operation to determine compliance with Department rules. A Title V operation permit is required for regular operation of the permitted emissions unit. The owner or operator shall apply for and receive a Title V operation permit prior to expiration of this permit. To apply for a Title V operation permit, the applicant shall submit the appropriate application form, compliance test results, and such additional information as the Department may by law require. The application shall be submitted to the Department's appropriate District office. [Rules 62-4.030, 62-4.050, 62-4.220, and Chapter 62-213, F.A.C.]

GENERAL EMISSIONS LIMITING STANDARDS

11. General Visible Emissions Standard: Except for emissions units that are subject to a particulate matter or opacity limit set forth or established by rule and reflected by conditions in this permit, no person shall cause, let, permit, suffer, or allow to be discharged into the atmosphere the emissions of air pollutants from any activity, the density if which is equal to or greater than that designated as Number 1 on the Ringelmann Chart (20% opacity). The test method for visible emissions shall be EPA Method 9, incorporated and adopted by reference in Chapter 62-297, F.A.C. Test procedures shall meet all applicable requirements of Chapter 62-297, F.A.C. [Rule 62-296.320(4)(b)1, F.A.C.]

12. Unconfined Emissions of Particulate Matter: [Rules 62-296.320(4)(c) and 62-212.400, F.A.C.]

    (a) No person shall cause, let, permit, suffer or allow the emissions of unconfined particulate matter from any activity, including vehicular movement; transportation of materials; construction, alteration, demolition or wrecking; or industrially related activities such as loading, unloading, storing or handling; without taking reasonable precautions to prevent such emissions.

    (b) Any permit issued to a facility with emissions of unconfined particulate matter shall specify the reasonable precautions to be taken by that facility to control the emissions of unconfined particulate matter.

    (c) Reasonable precautions include the following:

    - Paving and maintenance of roads, parking areas and yards.
    - Application of water or chemicals to control emissions from such activities as demolition of buildings, grading roads, construction, and land clearing.
    - Application of asphalt, water, oil, chemicals or other dust suppressants to unpaved roads, yards, open stock piles and similar activities.
    - Removal of particulate matter from roads and other paved areas under the control of the owner or operator of the facility to prevent reentrainment, and from buildings or work areas to prevent particulate from becoming airborne.
    - Landscaping or planting of vegetation.
    - Use of hoods, fans, filters, and similar equipment to contain, capture and/or vent particulate matter.
    - Confining abrasive blasting where possible.
    - Enclosure or covering of conveyor systems.

(d) In determining what constitutes reasonable precautions for a particular source, the Department shall consider the cost of the control technique or work practice, the environmental impacts of the technique or practice, and the degree of reduction of emissions expected from a particular technique or practice.

13. General Pollutant Emission Limiting Standards: [Rule 62-296.320(1)(a)&(2), F.A.C.]

(a) No person shall store, pump, handle, process, load, unload or use in any process or installation, volatile organic compounds or organic solvents without applying known and existing vapor emission control devices or systems deemed necessary and ordered by the Department.

(b) No person shall cause, suffer, allow or permit the discharge of air pollutants which cause or contribute to an objectionable odor. (Not federally enforceable)

[Note: An objectionable odor is defined in Rule 62-210.200(203), F.A.C., as any odor present in the outdoor atmosphere which by itself or in combination with other odors, is or may be harmful or injurious to human health or welfare, which unreasonably interferes with the comfortable use and enjoyment of life or property, or which creates a nuisance.]

OPERATIONAL REQUIREMENTS

14. Plant Operation - Problems: If temporarily unable to comply with any of the conditions of the permit due to breakdown of equipment or destruction by hazard of fire, wind or by other cause, the permittee shall immediately notify the Department's appropriate district office and the appropriate local program office. The notification shall include pertinent information as to the cause of the problem, and what steps are being taken to correct the problem and to prevent its recurrence, and where applicable, the owner's intent toward reconstruction of destroyed facilities. Such notification does not release the permittee from any liability for failure to comply with Department rules. [Rule 62-4.130, F.A.C.]

15. Circumvention: No person shall circumvent any air pollution control device or allow the emission of air pollutants without the applicable air pollution control device operating properly. [Rule 62-210.650, F.A.C.]

16. Excess Emissions:

For purposes of this permit, all limits established pursuant to the State Implementation Plan, including those limits established as BACT, include emissions during periods of startup and shutdown, and are not subject to the provisions of Rule 62-210.700(1), F.A.C. This provision can not be used to vary any NESHAP requirements from any subpart of 40 CFR 63. Excess emissions which are caused entirely or in part by poor maintenance, poor operation, or any other equipment or process failure which may reasonably be prevented during start-up, shutdown or malfunction shall be prohibited pursuant to Rule 62-210.700(4), F.A.C. [Rules 62-4.070(3) and 62-210.700(5), F.A.C.]

Excess emissions resulting from malfunction of any emissions units shall be permitted providing (1) best operational practices to minimize emissions are adhered to and (2) the duration of excess emissions shall be minimized, but in no case exceed two hours in any 24 hour period unless specifically authorized by the Department for longer duration. [Rule 62-210.700(1), F.A.C.]

COMPLIANCE MONITORING AND TESTING REQUIREMENTS

17. Required Number of Test Runs: For mass emission limitations, a compliance test shall consist of three complete and separate determinations of the total air pollutant emission rate through the test section of the stack or duct and three complete and separate determinations of any applicable process variables corresponding to the three distinct time periods during which the stack emission rate was measured; provided, however, that three complete and separate determinations shall not be required if

the process variables are not subject to variation during a compliance test, or if three determinations are not necessary in order to calculate the unit's emission rate. The three required test runs shall be completed within one consecutive five-day period. In the event that a sample is lost or one of the three runs must be discontinued because of circumstances beyond the control of the owner or operator, and a valid third run cannot be obtained within the five-day period allowed for the test, the Secretary or his or her designee may accept the results of two complete runs as proof of compliance, provided that the arithmetic mean of the two complete runs is at least 20% below the allowable emission limiting standard. [Rule 62-297.310(1), F.A.C.]

18. Operating Rate During Testing: Unless otherwise stated in the applicable emission limiting standard rule, testing of emissions shall be conducted with the emissions unit operation at permitted capacity. Permitted capacity is defined as 90 to 100 percent of the maximum operation rate allowed by the permit. If it is impractical to test at permitted capacity, an emissions unit may be tested at less than the minimum permitted capacity; in this case, subsequent emissions unit operation is limited to 110 percent of the test load until a new test is conducted. Once the unit is so limited, operation at higher capacities is allowed for no more than 15 consecutive days for the purpose of additional compliance testing to regain the authority to operate at the permitted capacity. [Rule 62-297.310(2), F.A.C.]

19. Calculation of Emission Rate: The indicated emission rate or concentration shall be the arithmetic average of the emission rate or concentration determined by each of the three separate test runs unless otherwise specified in a particular test method or applicable rule. [Rule 62-297.310(3), F.A.C.]

20. Test Procedures shall meet all applicable requirements of Rule 62-297.310(4), F.A.C. [Rule 62-297.310(4), F.A.C.]

21. Determination of Process Variables: [Rule 62-297.310(5), F.A.C.]

    (a) Required Equipment. The owner or operator of an emissions unit for which compliance tests are required shall install, operate, and maintain equipment or instruments necessary to determine process variables, such as process weight input or heat input, when such data are needed in conjunction with emissions data to determine the compliance of the emissions unit with applicable emission limiting standards.

    (b) Accuracy of Equipment. Equipment or instruments used to directly or indirectly determine process variables, including devices such as belt scales, weight hoppers, flow meters, and tank scales, shall be calibrated and adjusted to indicate the true value of the parameter being measured with sufficient accuracy to allow the applicable process variable to be determined within 10% of its true value.

22. Required Stack Sampling Facilities: Sampling facilities include sampling ports, work platforms, access to work platforms, electrical power, and sampling equipment support. All stack sampling facilities must meet any Occupational Safety and Health Administration (OSHA) Safety and Health Standards described in 29 CFR Part 1910, Subparts D and E. Sampling facilities shall also conform to the requirements of Rule 62-297.310(6), F.A.C. [Rule 62-297.310(6), F.A.C.]

23. Test Notification: The permittee shall notify the appropriate Department District Office and the appropriate local program at least 15 days prior to the date on which each formal compliance test is to begin. Notification shall include the date, time, and place of each such test, and the test contact person who will be responsible for coordinating and having such test conducted for the owner or operator. [Rule 62-297.310(7)(a)9., F.A.C.]

24. Special Compliance Tests: When the Department, after investigation, has good reason (such as complaints, increased visible emissions or questionable maintenance of control equipment) to believe that any applicable emission standard contained in a Department rule or in a permit issued pursuant to those rules is being violated, it shall require the owner or operator of the facility to conduct compliance tests which identify the nature and quantity of pollutant emissions from the emissions units and to provide a report on the results of said tests to the Department. [Rule 62-297.310(7)(b), F.A.C.]

REPORTING AND RECORD KEEPING REQUIREMENTS

25. Duration of Record Keeping: Upon request, the permittee shall furnish all records and plans required under Department rules. During enforcement actions, the retention period for all records will be extended automatically unless otherwise stipulated by the Department. The permittee shall hold at the facility or other location designated by this permit records of all monitoring information (including all calibration and maintenance records and all original strip chart recordings for continuous monitoring instrumentation) required by the permit, copies of all reports required by this permit, and records of all data used to complete the application for this permit. These materials shall be retained at least five years from the date of the sample, measurement, report, or application unless otherwise specified by Department rule. [Rules 62-4.160(14)(a)&(b) and 62-213.440(1)(b)2.b., F.A.C.]

26. Test Reports: The owner or operator of an emissions unit for which a compliance test is required shall file a report with the Department on the results of each such test. The required test report shall be filed with the Department as soon as practical but no later than 45 days after the last sampling run of each test is completed. The test report shall provide sufficient detail on the emissions unit tested and the test procedures used to allow the Department to determine if the test was properly conducted and the test results properly computed. As a minimum, the test report, other than for an EPA Method 9 test, shall provide the applicable information listed in Rule 62-297.310(8)(c), F.A.C. [Rule 62-297.310(8), F.A.C.]

27. Excess Emissions Report: If excess emissions occur, the owner or operator shall notify the appropriate Department District Office and the appropriate local program within one working day of: the nature, extent, and duration of the excess emissions; the cause of the excess emissions; and the actions taken to correct the problem. In addition, the Department may request a written summary report of the incident. Pursuant to the NESHAP requirements, excess emissions shall also be reported in accordance with 40 CFR 63, Subpart A. [Rule 62-4.130, F.A.C.]

28. Excess Emissions Report - Malfunctions: In case of excess emissions resulting from malfunctions, each owner or operator shall notify the appropriate Department District Office and the appropriate local program in accordance with Rule 62-4.130, F.A.C. A full written report on the malfunctions shall be submitted in a quarterly report if requested by the Department. [Rule 62-210.700(6), F.A.C.]

29. Annual Operating Report for Air Pollutant Emitting Facility: The Annual Operating Report for Air Pollutant Emitting Facility shall be completed each year and shall be submitted to the appropriate Department District Office and the appropriate local program by March 1 of the following year. [Rule 62-210.370(3), F.A.C.]

The following specific conditions apply to the following emissions units:

EMISSIONS UNIT NO.	EMISSIONS UNIT DESCRIPTION
001	No. 1 Spray Coating Line
002	Injection Molding Machines
003	No. 2 Spray Coating Line

[Note: Emissions Units ~~001, 002 and~~ 003 is are subject to PSD for VOC; subject to MACT for HAP; and ~~are~~is subject to the requirements of the state rules as indicated in this permit. This permit includes the MACT requirements, and constitutes MACT for this project.]

1. This permit supersedes the existing air operation permit for the existing No. 1 Spray Coating Line effective upon relocation and startup of the existing No. 1 Spray Coating Line in its new location. Emissions Units 001, 002 and 003 may each operate for up to 8,760 hours/year. The facility is required to keep daily records of the operating hours. [Rules 62-210.200, Definitions-Potential to Emit (PTE) and 62-213.440(1)(b)1.b., F.A.C.]

2. The maximum amount of coating applied shall be 300,000 gallons per line per year. ~~Simultaneously with the startup of spray coating on the new No. 2 Spray Coating Line (Emissions Unit 003), the existing No. 1 Spray Coating Line (Emissions Unit 001) shall be appropriately connected to the Regenerative Thermal Oxidizer (RTO) so that its emissions are controlled along with those from Emissions Unit 003~~. Total emissions of volatile organic compounds (VOC) and hazardous air pollutants (HAPs) from the RTO due to Emissions Unit 003 shall not exceed 76.5 ~~130.5~~ tons per year in any consecutive 12-month period.

[Rules 62-4.070(3), 62-204.800(10)(d)2., and 62-210.200 (PTE), F.A.C., and BACT/MACT]

3. Within ~~N~~ninety (90) days after the startup of spray coating on the new No. 2 Spray Coating Line (Emissions Unit 003), the existing No. 1 Spray Coating Line (Emissions Unit 001) shall be connected to the Regenerative Thermal Oxidizer (RTO) so that its emissions are controlled along with those from Emissions Unit 003

~~3.~~4. The air pollution control system installed shall consist of a Regenerative Thermal Oxidizer (RTO) as specified in the application and subsequent documents submitted in support thereof. The VOC/HAP capture and treatment system for Emission Unit 003 shall be designed to capture at least 90 ~~95~~ percent of the total VOC/HAP emissions generated from the panel spraying operation while destroying at least 95 percent (85.5~~90.3~~ percent overall capture and destruction). Appropriate short-term emission limits and compliance requirements for the RTO control system shall be established by the Department within 45 days following receipt of the capture and destruction efficiency test results required by Specific Condition 4 below and shall be incorporated into the Title V permit for this facility.
[Rules 62-4.070(3) and 62-212.400, F.A.C., and BACT]

~~4.~~5. Pursuant to the requirements of Specific Condition 4 ~~3~~ above, the permittee shall demonstrate the VOC/HAP capture and destruction efficiency of Emissions Unit 003 by comparing raw VOC/HAP emissions generated over a 3-hour period (based on material usage rates and appropriate emission factors) with captured emissions based on measured flow rates and VOC/HAP concentrations in the RTO inlet duct as determined by EPA Methods 2 and 18, 25 or 25A, as described in 40 CFR 60 Appendix A. ~~A capture efficiency and destruction efficiency test shall also be performed for Emissions Units 001/002 within 45 days after startup of the relocated line~~. A destruction efficiency test shall be performed annually on the RTO. Within 45 days following test completion, results of the above tests shall be submitted along with a complete test report to the Bureau of Air Regulation in

Tallahassee, the Department's Southeast District and the Miami-Dade County Environmental Resources Management Department. [Rule 62-4.070(3) and 62-212.400, F.A.C., and BACT]

~~5.~~6. Testing of emissions shall be conducted annually with the emissions units operating at permitted capacity, which is defined as 90-100% of the maximum operating rate allowed by the permit. If it is impracticable to test at permitted capacity, then the emissions units may be tested at less than 90% of the maximum operating rate allowed by the permit; in this case, subsequent source operation is limited to 110% of the test load until a new test is conducted. Once the emissions unit is so limited, then operation at higher capacities is allowed for no more than fifteen consecutive days for the purpose of additional compliance testing to regain the permitted capacity in the permit. [Rules 62-204.800, 62-297.310, 62-297.400, 62-297.401, F.A.C., and 40 CFR 60 Appendix A and 40 CFR 60.8, Subpart A].

~~6.~~7. The permittee shall continuously keep and maintain a five-year ongoing compilation of the following records to demonstrate compliance with the VOC/HAP emissions limitations of Specific Condition No. 2 of this section. Records shall be completed no later than five working days after the end of each month.

- Amounts in pounds of each material used each month that contains VOC/HAP.
- Weight percentage of VOC/HAP in materials using the highest value listed on the Manufacturer's Safety Data Sheets.
- Amount in pounds of VOC/HAP emitted each month from each material used during the month, calculated by multiplying the amount of each material used by its VOC/HAP content and then by the appropriate emission factor.
- Total amount in pounds of VOC/HAP emitted each month, calculated as the sum of VOC/HAP emitted from each material used during the month as determined above.
- Rolling 12-month total amount in pounds and tons of VOC/HAP emitted in the most recent consecutive 12-month period, calculated as the sum of VOC/HAP emitted for the current month and the preceding eleven months.

  [Rules 62-4.070(3), 62-212.400, F.A.C., MACT and BACT]

~~7.~~8. The permittee shall not cause, suffer, allow, or permit the discharge of air pollutants which cause or contribute to an objectionable odor. [Rule 62-296.320, F.A.C.]

~~8.~~9. The subject emissions units shall be subject to the following:

- Excess emissions resulting from relocation, startup, shutdown or malfunction of any source shall be permitted providing (1) best operational practices to minimize emissions are adhered to and (2) the duration of excess emissions shall be minimized but in no case exceed two hours in any 24 hour period unless specifically authorized by the Department for longer duration. [Rule 62-210.700, F.A.C.]
- Excess emissions which are caused entirely or in part by poor maintenance, poor operation, or any other equipment or process failure which may reasonably be prevented during startup, shutdown, or malfunction shall be prohibited. [Rule 62-210.700, F.A.C.]
- Considering operational variations in types of industrial equipment operations affected by this rule, the Department may adjust maximum and minimum factors to provide reasonable and practical regulatory controls consistent with the public interest. [Rule 62-210.700, F.A.C.]
- In case of excess emissions resulting from malfunctions, each source shall notify the Department or the appropriate Local Program in accordance with Rule 62-4.130, F.A.C. A full written report on the malfunctions shall be submitted in a quarterly report, if requested by the Department. [Rule 62-210.700, F.A.C.]

~~9.~~10. The permittee shall submit an Annual Operating Report using DEP Form 62-210.900(5) to the Department's Southeast District Office and the Miami-Dade County Environmental Resources Management Department by March 1 of the following year for the previous year's operation. [Rule 62-210.370, F.A.C.]

~~10.~~11. The facility shall adhere to the BACT/MACT Determination that is attached as part of this permit following this page.

TECHNICAL EVALUATION

AND

PRELIMINARY DETERMINATION

Nailite International, Inc.

New Plastic Panel Finishing Spray Line/Relocation of Existing Line

Miami-Dade County

DEP File No. 0250407-003-AC (PSD-FL-289)

Department of Environmental Protection
Division of Air Resources Management
Bureau of Air Regulation

August 4, 2000

TECHNICAL EVALUATION/PRELIMINARY DETERMINATION

1. APPLICATION INFORMATION

Applicant Name and Address

Nailite International, Inc.
1111 NW 165th Street
Miami, Florida 33169

Authorized Representative: David G. Steedman, Vice President of Operations

Application Review Schedule

Date of Receipt of Application	04-17-00
First Request for Additional Information	05-04-00
Final Request for Additional Information	06-16-00
Date Application Complete	06-22-00
Intent Issued	08-04-00

2. FACILITY INFORMATION

The existing Nailite facility is located at 1251 NW 165th Street in Miami, Dade County (see Figures 1 and 2). The proposed new panel spray line will be located at 1111 NW 165th Street, approximately 500 feet west of the existing facility. The UTM coordinates of the proposed site are Zone 17, 578.4 km East and 2867.2 km North.

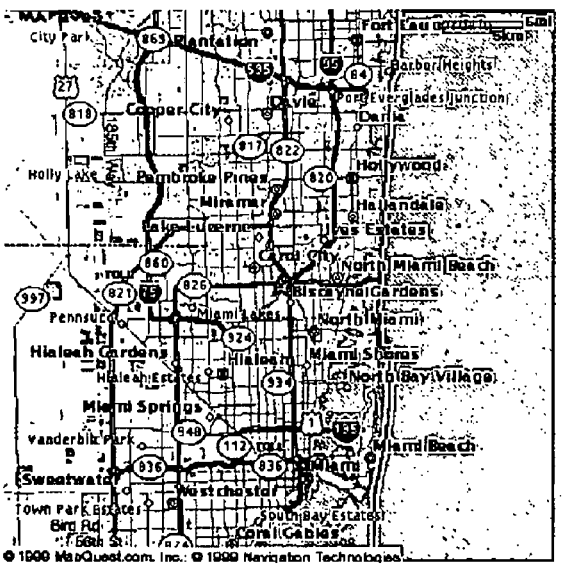


Figure 1 - General Location

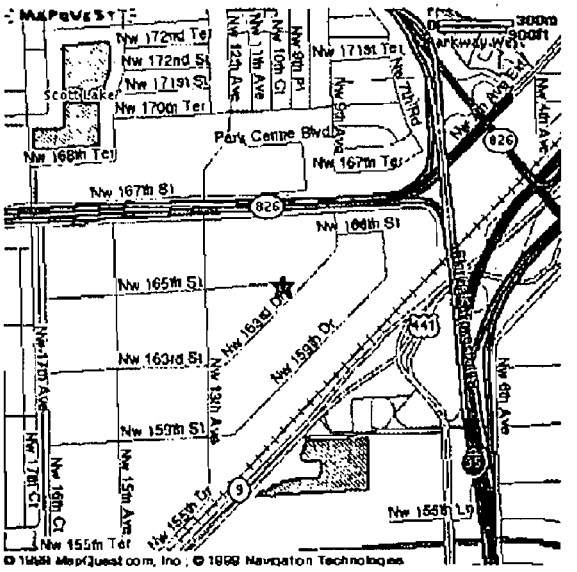


Figure 2 - Site Location

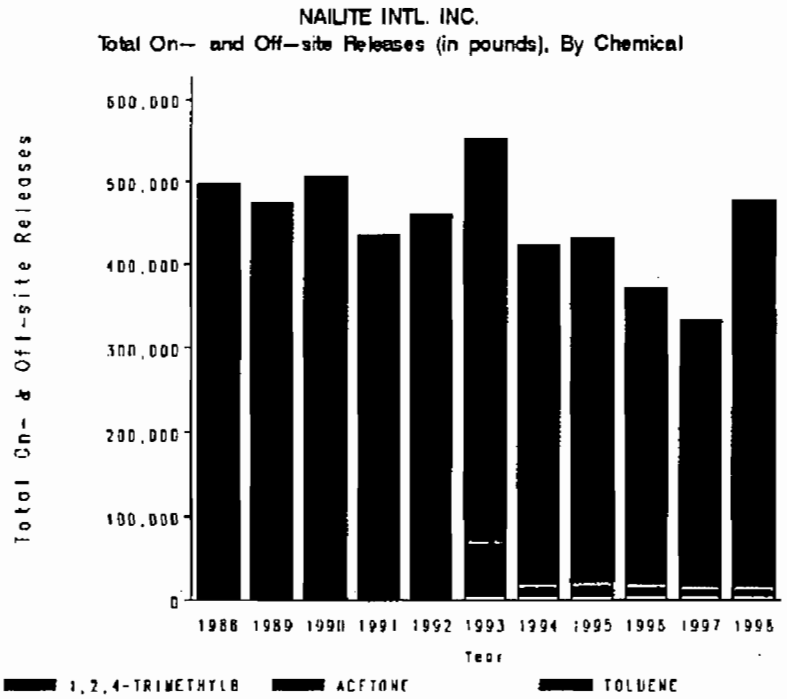
Standard Industrial Classification Codes (SIC)

Industry Group No.	30	Plastic Products
Industry No.	3089	All Other Plastic Products Manufacturing

Facility Category

The existing facility is a Major or Title V Source of air pollution because emissions of volatile organic compounds (VOC) exceed 100 tons per year (TPY) or because emissions of a hazardous air pollutant (HAP) exceed 10 TPY. It is also a Major Facility with respect to Rule 62-212.400, F.A.C., Prevention of Significant Deterioration (PSD), because emissions of VOC exceed 250 TPY.

Following is a graph developed from EPA's Toxic Release Inventory that indicates the trend of HAPs emissions at Nailite through 1998. These HAP emissions comprise most of the VOC emitted from the facility.



3. PROJECT DESCRIPTION

This permit addresses the following emissions units at the proposed site:

EMISSION UNIT	SYSTEM	EMISSION UNIT DESCRIPTION
001	Existing Coating Line	Three point spray booths using lacquers to coat shingles
002	Existing Coating Line	Eight ~~Two~~ injection molding machines/hydraulic tanks
003	New Coating Line	Three continuous spray booths/curing oven

Emissions from the new Emission Unit, Unit No. 003, ~~the proposed plant~~ were estimated by the applicant as follows: 130.5 TPY of VOC (approximately 69 percent toluene and 1.5 percent xylene by weight); 4.7 TPY of Particulate Matter (PM/PM_{10}); and less than 1.0 TPY of Nitrogen Oxides (NO_X), Sulfur Dioxide (SO_2), and Carbon Monoxide (CO).

4. PROCESS DESCRIPTION

Nailite is proposing to construct and operate a new panel finishing spray line. Within ~~N~~ninety (90) days from~~after~~ the ~~Simultaneously with~~ startup of the new line, the existing spray line using older technology will be relocated and connected to the proposed control system for the new line.

Three spray booths will be operated in one continuous spray line with a curing oven at the end of the spray line. The spray line is designed to finish approximately 1,400 panels per hour. The panel sizes range from 20 inches by 40 inches to 20 inches by 60 inches. The finish system will be designed with three parallel conveyors, which form a 60-inch flat line conveyor system. The conveyor system will have an adjustable speed ranging from 10 to 30 feet per minute. The components of the finishing spray line include a fluid handling system, an application system, spray booths, an oven and a conveyor.

The proposed coating delivery system for each spray booth consists of a ten-second color change system. Paint will be pumped from 55-gallon drums located in the paint mixing room. Each loop will be equipped with an "air pig" paint loop purge system. This will allow old paint to be returned to a 55-gallon drum for reuse with little paint waste. The air pig is designed to recover 90 percent of the old paint from the circulation loop. The loop system must be flushed when new colors are changed. The fluid management system and spray guns will utilize an advance Secondary Heat Transfer System to provide heat control at the spray gun.

Each of the first two spray booths will be equipped with a Static Heat Stripping HP60 in-line paint heater. The heater is used to control the coating temperature to provide repeatable finishing results regardless of ambient temperature conditions. Maintaining the coating temperature at the spray guns at the viscosity flat line temperature will reduce the solvent usage by approximately 15 percent compared to Nailite's existing operations.

The third spray booth in the spray line will be utilized for shading. This booth will have six different colors supporting the application system. Each color will be pumped directly from 55-gallon drums. Each drum will have a wall mounted pump, required air controls, a siphon assembly, circulation control valve, a 55 gallon cover with air-powered agitator and cover lift assembly to keep pigmented colors in constant suspension through the loop. The fluid pressure will be regulated all the way to the spray gun and the six circulation loops will be equipped with a secondary heat transfer system to provide constant controlled heat transfer.

Eight spray guns will be used in Spray Booth Nos. 1 and 2. Each spray booth is equipped with a constant speed gun mover with a stroke travel of seven feet. The guns are automatically toed away from the direction of the gun mover travel to allow the atomized velocity of 2 feet per second to work with the gun tip speed of 150 feet per minute. This allows for a higher application transfer efficiency and minimizes the over-spray in the spray

booth. Spray Booth No. 3 will be identical to Spray Booths Nos. 1 and 2; however, it will be equipped with HVLP guns.

The proposed spray line will reduce the amount of solvent usage by approximately 29 percent as compared to Nailite's existing spray line. This improved transfer efficiency MR result in a significant reduction in VOC and HAP emissions.

The proposed spray booths are designed with a closed-faced side draft booth with built in air circulation. The only opening in the spray booth will be the conveyor slot which will be 6-ft wide and one foot tall. Air movement within the booth will be maintained at 100 feet per minute. A circulation fan will circulate the air in the spray booth into the exhaust filters at the rear of the spray booth. The filtered air is then repressurized and ducted back to the inlet plenum mounted in front of the spray booth on the roof. The plenum will uniformly reintroduce the circulation air back into the spray booth. This process will maintain a uniform 100 feet per minute airflow without interference from outside airflows.

The spray booths will be 10 ft wide, 16 ft 4 inch deep and 8 ft tall. The working depth of the booths will be 12 ft. Each booth will be equipped with a 9,200 cfm recirculation fan at 1/4 inch static pressure. The VOC buildup in the booths will be maintained under the lower explosive limit (LEL) level by a bleed air duct. The bleed air will be controlled to 1,200 cfm by dampers. The bleed air duct from each booth will be directed to a Regenerative Thermal Oxidizer (RTO) for VOC/HAP destruction.

The controls for the finishing system will be contained in a system controller panel located at each of the three spray booths. Each panel provides remote fluid pressure control to the fluid pressure controls in each spray booth. Spray Booth Nos. 1 and 2 have two remote fluid pressure regulators, while Spray Booth No. 3 has six controls. The guns are interlocked into the system controller. If the spray booth exhaust fan is not operating, the guns will not spray in either automatic or manual modes.

The electric oven will be designed to heat the coated panels with hot air impinged onto the top surfaces of the panels near the oven entrance, in order to begin rapid evaporation of the solvents and create a flow of air to the return duct near the oven exit. The oven will be 45 ft long, 6 ft 10 inches wide, and 3 ft high. A circulation blower will be utilized rated at 8,000 cfm at 2.5 static pressure with a 10 hp motor. The exhaust from the oven will be vented to the RTO.

5. VOC/HAP CONTROL TECHNOLOGY

The emission control technology proposed by the applicant and by the Department is discussed at length in the draft BACT/MACT determination issued with this review. VOC/HAP emissions consist of toluene and xylene that is evolved during the coating process. As stated above, VOC/HAP emissions will be controlled using a twin-bed RTO. The RTO will be designed for a process gas flow rate of 27,000 acfm and 95 percent destruction efficiency. Natural gas ~~Propane~~ will be used at start-up as a secondary fuel, while the captured solvent will be the primary fuel.

VOC/HAP potential emissions from the new finishing spray line are estimated at approximately 130.5 TPY. Approximately 90 percent of the VOC/HAP in the coating will be released in the paint booths while 10 percent remains as fugitives. ~~in the coating~~. The design capture efficiency of the spray booths will be approximately 90 ~~95~~ percent. It is therefore assumed that 10 ~~5~~ percent of the VOC/HAPs are emitted into the building as fugitive emissions.

Paint filters will be used to control particulate emissions from the spray booth operations. Accordion-type filters with a 95% percent minimum efficiency are proposed for the project.

PM/PM_{10} potential emissions are estimated at 4.7 TPY based on 25 percent over-spray of coating in the booths and 95 percent removal by the paint filter pads.

Emissions of SO_2, NO_X and CO are projected to be well below 1.0 TPY. Therefore, the proposed finish spray line is subject to PSD review for VOC only.

6. RULE APPLICABILITY

The proposed project is subject to preconstruction review and permitting requirements under the provisions of Chapter 403, Florida Statutes, and Chapters 62-4, 62-204, 62-210, 62-212, 62-296, and 62-297 of the Florida Administrative Code (F.A.C.). This facility is located in Dade County, an area designated as an air quality maintenance area for the pollutant ozone and as a PSD area for the pollutants Particulate Matter, Sulfur Dioxide, and Nitrogen Oxides in accordance with Rule 62-204.360, F.A.C. The proposed project is subject to Rule 62-212.400, F.A.C., Prevention of Significant Deterioration (PSD), for VOC.

Florida's PSD regulations at Rule 62-212.400, F.A.C. have been approved by the Environmental Protection Agency per 40 CFR 52, Approval and Promulgation of Implementation Plans, Subpart K - Florida. PSD regulations require that all new major stationary facilities or major modifications to existing major facilities, which emit air pollutants regulated under the Clean Air Act (CAA), must be reviewed and a permit issued before the commencement of construction.

The control technology review requirements of the federal and state PSD regulations require that all applicable federal and state emission-limiting standards be met, and that Best available Control Technology be applied to control emissions from the source (Rule 62-212.400, F.A.C.). The BACT requirements are applicable to all regulated pollutants for which the increase in emissions from the facility or modification exceeds the respective significant emission rates given in Table 62-212.400-1.

BACT is defined in 40CFR52.21 (b)(12) and Rule 62-210.200(40), F.A.C., as: "An emissions limitation (including a visible emission standard) based on the maximum degree of reduction of each pollutant subject to regulation under the Act which would be emitted by any proposed major stationary source or major modification which the Administrator, on a case-by-case basis, taking into account energy, environmental, and economic impacts, and other costs, determines is achievable through application of production processes and available methods, systems, and techniques (including fuel cleaning or treatment or innovative fuel combustion techniques) for control of such pollutant. In no event shall

application of best available control technology result in emissions of any pollutant which would exceed the emissions allowed by any applicable standard under 40 CFR Parts 60 and 61. If the Administrator determines that technological or economic limitations on the application of measurement methodology to a particular part of a source or facility would make the imposition of an emission standard infeasible, a design, equipment, work practice, operational standard or combination thereof, may be prescribed instead to satisfy the requirement for the application of BACT. Such standard shall, to the degree possible, set forth the emissions reductions achievable by implementation of such design, equipment, work practice, or operation and shall provide for compliance by means which achieve equivalent results."

In addition to BACT, a case-by-case determination of Maximum Achievable Control Technology (MACT) is required for HAP emissions because EPA has not yet promulgated a MACT standard applicable to Nailite. Therefore, the proposed project is subject to Rule 62-204.800(10)(d)2, F.A.C., which requires a MACT determination for all major sources of HAPs to be constructed or reconstructed. MACT requirements apply to all new major sources of HAPs (i.e., greater than 10 TPY of any single HAP, or greater than 25 TPY of total HAPs).

MACT is defined in Rule 62-204.800(10)(d)2., F.A.C., as: "An emissions limitation not less stringent than the emission control which is achieved in practice by the best controlled similar source, as determined by the permitting authority." MACT reflects the maximum degree of reduction in emissions of HAP that can be achieved by utilizing those control technologies that can be identified from available information, taking into consideration costs of achieving such emission reduction and any non-air quality health and environmental impacts and energy requirements associated with the emission reduction.

Nailite is also subject to the Rule 62-296.500, F.A.C., Reasonably Available Control Technology (RACT) for VOC Emitting Facilities. This rule provision applies to existing VOC-emitting facilities in all designated ozone nonattainment and air quality maintenance areas. In addition, the emission limiting standards of the rules apply to new and modified VOC emission limiting facilities in all designated ozone nonattainment and air quality maintenance areas.

The emission-limiting standard as set forth in Rule 62-296.500 for Nailite provides a limiting standard of 6 pound of VOC per gallon of coating applied. All volatile organic compounds emissions from solvent washings shall be considered in the emission limitations in Rule 62-296.500, F.A.C.

The emission units affected by this permit shall comply with all applicable provisions of the Florida Administrative Code (including applicable portions of the Code of Federal Regulations incorporated therein) and, specifically, the following Chapters and Rules:

Chapter 62-4	Permits.
Rule 62-204.220	Ambient Air Quality Protection
Rule 62-204.240	Ambient Air Quality Standards
Rule 62-204.800	Federal Regulations Adopted by Reference (40CFR63 in Particular)
Rule 62-210.300	Permits Required
Rule 62-210.350	Public Notice and Comments
Rule 62-210.370	Reports
Rule 62-210.550	Stack Height Policy
Rule 62-210.650	Circumvention
Rule 62-210.700	Excess Emissions
Rule 62-210.900	Forms and Instructions
Rule 62-212.300	General Preconstruction Review Requirements
Rule 62-212.400	Prevention of Significant Deterioration (including BACT)
Rule 62-213	Operation Permits for Major Sources of Air Pollution
Rule 62-296.320	General Pollutant Emission Limiting Standards
Rule 62-297.310	General Test Requirements
Rule 62-297.401	Compliance Test Methods

7. AIR QUALITY IMPACTS

There are no ambient air quality standards for VOC. The purpose of regulating VOC under the PSD Rules is to control the formation of ozone. The applicant presented the potential VOC emissions increases to the Department, and discussed options available to predict potential impacts associated with the emissions of VOC and subsequent formation of ozone. No stationary point source models are available and approved for use in predicting ozone impacts.

Based on the available information, the Department has determined that the use of a regional model that incorporates the complex chemical mechanisms for predicting ozone formation is not applicable to this project. The contribution of VOC from Nailite to formation of regional ground-level ozone is too small to measure or predict because of the much higher regional emissions of VOC from traffic and NO_X (another ozone precursor). In fact, VOC emissions from the faciltiy will likely decrease as a result of the project.

The PSD ambient monitoring guidelines allow the use of existing data to satisfy preconstruction review requirements. There are three existing ambient ozone-monitoring stations in Dade County. The ozone data from these stations were used to fulfill the monitoring requirement for ozone. Nailite will not cause or contribute in any meaningful way to any future exceedances of the ambient ozone standard in Miami-Dade County.

The nearest Class I area to the site is the Everglades National Park (ENP) which is about 35 km from the site. No significant impacts on soil, vegetation, wildlife, and visibility are expected in the ENP due to this project. In addition, no significant impact on growth near or in the ENP is expected.

A very important purpose of Title III of the Clean Air Act is to reduce risks associated with public exposure to HAPs emitted from industries. The HAPs from this industry are also VOC. Therefore control of VOC will minimize exposure of the public to HAPs from the proposed project. The Department believes that concentrations of both VOC and HAPs will be reduced as a result of this project despite the increase in production capacity.

8. CONCLUSION

The proposed BACT/MACT for VOC/HAP emissions from the new line will be the use of a RTO to capture and control these emissions from the new spray booths and curing oven by 85.5 ~~90.3~~ percent (90~~5~~ percent capture and. 95 percent destruction). Since the proposed MACT also provides the maximum degree of control of HAP emissions for the new spray line, no other BACT/MACT control technologies were evaluated for cost effectiveness.

Based on information provided by the applicant, supplemented by other information available to the Department, the Department has reasonable assurance that the proposed project will not cause a violation of any air quality standard or PSD increment.

J. M. Reynolds, Permit Engineer
A. A. Linero, P.E. Administrator
Cleve Holladay, Meteorologist

APPENDIX BD – DRAFT DETERMINATIONS OF

BEST AVAILABLE CONTROL TECHNOLOGY (BACT)

AND

MAXIMUM ACHIEVABLE CONTROL TECHNOLOGY (MACT)

Nailite International, Inc.

New Plastic Panel Finishing Spray Line/Relocation of Existing Line
Miami-Dade County

DEP File No. 0250407-003-AC (PSD-FL-289)

Department of Environmental Protection
Division of Air Resources Management
Bureau of Air Regulation

Month Day, 2000

APPENDIX BD – DRAFT BACT/MACT DETERMINATION

Nailite International, Inc.
New Panel Finishing Spray Line
Miami, Dade County

Nailite International, Inc. proposes to construct a new plastic panel finishing spray line near its existing facility at 1251 NW 165th Street in Miami, Dade County. The address of the proposed site is 1111 NW 165th Street which is approximately 500 feet west of Nailite's existing facility. The new spray line will be housed in a new building that will also contain the existing operation after the new line is up and running.

The proposed project will result in a significant emissions increase of volatile organic compounds (VOC) with respect to Table 212.400-2, Florida Administrative Code (F.A.C.). The project is therefore subject to review for the Prevention of Significant Deterioration (PSD) and a determination of Best Available Control Technology (BACT) in accordance with Rule 62-212.400, F.A.C. The project is also subject to a case-by-case Maximum Achievable Control Technology (MACT) Determination in accordance with Rule 62-204.800(10)(d)2, F.A.C. since it will be a major source of hazardous air pollutants (HAP).

The details of PSD applicability and a description of the process are presented in the separate Technical Evaluation and Preliminary Determination issued concurrently with these determinations.

DATE OF RECEIPT OF APPLICATION:

The application was received on April 17, 2000.

BACT/MACT DETERMINATION REQUESTED BY THE APPLICANT:

SOURCE	VOC CONTROL TECHNOLOGY	PROPOSED BACT LIMIT
Mix Room	Regenerative Thermal Oxidizer	130.5 TPY Total VOC/HAP
Paint Booths	"	
Drying Oven	"	

The Department determined that the applicant's proposed new line and the existing operation are "adjacent" according to the PSD rules and therefore will, once the existing operation is relocated to the new building, comprise a single facility. PSD applies to the proposed project since the VOC emission increases at a major facility will exceed significant levels. This BACT/MACT determination covers the requirements of both the PSD and NESHAP regulations. The applicant requested that the Department's BACT and MACT determinations be the same and as indicated above.

BACT/MACT DETERMINATION PROCEDURE:

In accordance with Chapter 62-212, F.A.C., this BACT determination is based on the maximum degree of reduction of each pollutant emitted which the Department of Environmental Protection (Department), on a case by case basis, taking into account energy, environmental and economic

impacts, and other costs, determines is achievable through application of production processes and available methods, systems, and techniques. In addition, the regulations state that, in making the BACT determination, the Department shall give consideration to:

- Any Environmental Protection Agency determination of BACT pursuant to Section 169, and any emission limitation contained in 40 CFR Part 60 - Standards of Performance for New Stationary Sources or 40 CFR Part 61 - National Emission Standards for Hazardous Air Pollutants.
- All scientific, engineering, and technical material and other information available to the Department.
- The emission limiting standards or BACT determination of any other state.
- The social and economic impact of the application of such technology.
-

The EPA currently stresses that BACT should be determined using the "top-down" approach. The first step in this approach is to determine, for the emission unit in question, the most stringent control available for a similar or identical emission unit or emission unit category. If it is shown that this level of control is technically or economically unfeasible for the emission unit in question, then the next most stringent level of control is determined and similarly evaluated. This process continues until the BACT level under consideration cannot be eliminated by any substantial or unique technical, environmental, or economic objections.

There are no promulgated emission limitations contained in 40 CFR Part 60 - Standards of Performance for New Stationary Sources (NSPS) or 40 CFR Part 61 - National Emission Standards for Hazardous Air Pollutants (NESHAP) that apply to the manufacturing of polypropylene shingles.

The U.S. Environmental Protection Agency (EPA) is currently developing MACT standards for plastic parts coating processes and will propose them in the future. Until a NESHAP is proposed, the Department is required by its rules to develop a case-by-case determination of Maximum Achievable Control Technology (MACT) for new major sources of HAP. In this instance, the MACT determination forms the basis for the minimum level of control required by the BACT determination. The MACT determination procedure is outlined below.

The provisions of 40 CFR 63, Subpart B, Requirements for Control Technology Determinations for Major Sources in Accordance with Clean Air Act Sections, Sections 112(g) and 112(j), were adopted as Rule 62-204.800(10)(d)2, F.A.C. Section 112(g) requires the case-by-case MACT determination mentioned above. Following is the definition of case-by-case MACT pursuant to Section 112(g) for new sources of hazardous air pollutants:

> *Maximum Achievable Control Technology (MACT) emission limitation for new sources means* "the emission limitation which is not less stringent than the emission limitation achieved by the best controlled similar source, and which reflects the maximum degree of reduction in emissions that the permitting authority, taking into consideration the cost of achieving such emission reduction, and any non-air quality health and environmental impacts and energy requirements, determines is achievable by the constructed source."
>
> *Similar source* means "a stationary source or process that has comparable emissions and is structurally similar in design and capacity to a constructed or reconstructed source such that the source could be controlled using the same control technology."

Per Federal Register Volume 61, Number 250, Pages 68394-95, EPA believes that because the Clean Air Act specifically indicates that *existing source* MACT should be determined from *within* the source category (e.g. Plastic Parts) and does not make this distinction for *new source* MACT, that Congress intends for transfer technologies to be considered when establishing the minimum criteria for new sources. EPA believes that Congress could have explicitly restricted the minimum level of control for new sources, but did not. The use of the term "best controlled source" rather than "best controlled source within the source category" suggests that the intent is to consider transfer technologies when appropriate.

In addition, the regulations state that in making the MACT Determination, the Department should give consideration to:

(a) Any Environmental Protection Agency proposed relevant emission standard pursuant to section 112(d) or section 112(h) of the Act or an adopted presumptive MACT determination for the source category which includes the constructed or reconstructed major source.

(b) Available information as defined in 40 CFR 63.41. *Available information* means, for purposes of identifying control technology options for the affected source, information contained in the following information sources as of the date of the approval of the MACT determination by the permitting authority:

(1) A relevant proposed regulation, including all supporting information;

(2) Background information documents for a draft or proposed regulation;

(3) Data and information available for the Control Technology Center developed pursuant to Section 113 of the Act;

(4) Data and information contained in the Aerometric Informational Retrieval System including information in the MACT data base;

(5) Any additional information that can be expeditiously provided by the Administrator; and

(6) For the purpose of determinations by the permitting authority, any additional information considered available by the permitting authority.

BACT/MACT DETERMINATIONS BY EPA AND STATES:

The EPA is currently working on a proposed MACT standard for plastic parts coating sources, although the proposed regulations have not been published as of this issuance. Therefore, it is not known what type of add-on control equipment may be required by the time EPA issues new source MACT requirements for the industry pursuant to Section 112(d). This uncertainty does not affect consideration of add-on control equipment under Section 112(g) case-by-case MACT determinations or case-by-case BACT determinations.

The following table lists some of the PSD/BACT installations obtained from the EPA RACT/BACT/LAER Clearinghouse for projects involving coating of plastic parts and materials.

PROJECT LOCATION	INSTALLATION DATE	TECHNOLOGY	PROCESS TYPE	COMMENTS
Evart Products Textron, Inc., MI	1994	Thermal Oxidizer	Coating Line, Plastic Parts	Automatic booth w/ 80% recirculation controlling 516 TPY
Donnelly Corporation, MI	1994	Thermal Oxidizer	Coating Line, Plastic Parts	Automatic booth w/ 90% recirculation controlling 230 TPY
I. I. Stanley Co., MI	1992	Catalytic Incinerator	Coating Process	Process involves two booths w/ 70% regeneration for the total process

OTHER INFORMATION AVAILABLE TO THE DEPARTMENT

In addition to the information submitted by the applicant and that mentioned above, other information available to the Department includes the references at the end of this review and the following:

- Technical literature from control equipment manufacturers.
- Personal communications with control equipment manufacturers, and
- Personal communications with state environmental agencies.

PROPOSED PROJECT AND EMISSIONS

Nailite is proposing to construct and operate a new panel finishing spray line. Within 90 days from the time the ~~Once the~~ new state-of-the-art spray line is operating, the existing spray line using older technology will be relocated and connected to the proposed control system for the new line.

Three spray booths will be operated in one continuous spray line with a curing oven at the end of the spray line. The spray line is designed to finish approximately 1,400 panels per hour. The panel sizes range from 20 inches by 40 inches to 20 inches by 60 inches. The finish system will be designed with three parallel conveyors, which form a 60-inch flat line conveyor system. The conveyor system will have an adjustable speed ranging from 10 to 30 feet per minute. The components of the finishing spray line include a fluid handling system, an application system, spray booths, an oven and a conveyor.

The proposed coating delivery system for each spray booth consists of a ten-second color change system. Paint will be pumped from 55-gallon drums located in the paint mixing room. Each loop will be equipped with an "air pig" paint loop purge system. This will allow old paint to be returned to a 55-gallon drum for reuse with little paint waste. The air pig is designed to recover 90 percent of the old paint from the circulation loop. The loop system must be flushed when new colors are changed. The fluid management system and spray guns will utilize an advance Secondary Heat Transfer System to provide heat control at the spray gun.

Each of the first two spray booths will be equipped with a Static Heat Stripping HP60 in-line paint heater. The heater is used to control the coating temperature to provide repeatable finishing results regardless of ambient temperature conditions. Maintaining the coating temperature at the spray guns at the viscosity flat line temperature will reduce the solvent usage by approximately 15 percent compared to Nailite's existing operations.

The third spray booth in the spray line will be utilized for shading. This booth will have six different colors supporting the application system. Each color will be pumped directly from 55-gallon drums. Each drum will have a wall mounted pump, required air controls, a siphon assembly, circulation control valve, a 55 gallon cover with air-powered agitator and cover lift assembly to keep pigmented colors in constant suspension through the loop. The fluid pressure will be regulated all the way to the spray gun and the six circulation loops will be equipped with a secondary heat transfer system to provide constant controlled heat transfer.

Eight spray guns will be used in Spray Booth Nos. 1 and 2. Each spray booth is equipped with a constant speed gun mover with a stroke travel of seven feet. The guns are automatically toed away from the direction of the gun mover travel to allow the atomized velocity of 2 feet per second to work with the gun tip speed of 150 feet per minute. This allows for a higher application transfer efficiency and minimizes the over-spray in the spray booth. Spray Booth No. 3 will be identical to Spray Booth Nos. 1 and 2; however, it will be equipped with HVLP guns.

The proposed spray line will reduce the amount of solvent usage by approximately 29 percent as compared to Nailite's existing spray line. This improved transfer efficiency MR result in a significant reduction in VOC and HAP emissions.

The proposed spray booths are designed with a closed-faced side draft booth with built in air circulation. The only opening in the spray booth will be the conveyor slot which will be 6-ft wide and one foot tall. Air movement within the booth will be maintained at 100 feet per minute. A circulation fan will circulate the air in the spray booth into the exhaust filters at the rear of the spray booth. The filtered air is then repressurized and ducted back to the inlet plenum mounted in front of the spray booth on the roof. The plenum will uniformly reintroduce the circulation air back into the spray booth. This process will maintain a uniform 100 feet per minute airflow without interference from outside airflows.

The spray booths will be 10 ft wide, 16 ft-4 inches deep and 8 ft tall. The working depth of the booths will be 12 ft. Each booth will be equipped with a 9,200 cfm recirculation fan at 1/4 inch static pressure. The VOC buildup in the booths will be maintained under the lower explosive limit (LEL) level by a bleed air duct. The bleed air will be controlled to 1,200 cfm by dampers. The bleed air duct from each booth will be directed to a Regenerative Thermal Oxidizer (RTO) for VOC/HAP destruction.

The controls for the finishing system will be contained in a system controller panel located at each of the three spray booths. Each panel provides remote fluid pressure control to the fluid pressure controls in each spray booth. Spray Booth Nos. 1 and 2 have two remote fluid pressure regulators, while Spray Booth No. 3 has six controls. The guns are interlocked into the system controller. If the spray booth exhaust fan is not operating, the guns will not spray in either automatic or manual modes.

The electric oven will be designed to heat the coated panels with hot air impinged onto the top surfaces of the panels near the oven entrance, in order to begin rapid evaporation of the solvents and create a flow of air to the return duct near the oven exit. The oven will be 45 ft long, 6 ft-10 inches wide, and 3 ft high. A circulation blower will be utilized rated at 8,000 cfm at 2.5 inches w.g. static pressure with a 10 hp motor. The exhaust from the oven will be vented to the RTO.

VOC/HAP emissions consist of toluene and xylene that is evolved during the coating process. As stated above, VOC/HAP emissions will be controlled using a twin bed RTO which will be described in more detail in the following section. The RTO will be designed for a process gas flow rate of 27,000 acfm and 95 percent destruction efficiency. Natural gas ~~Propane~~ will be used at start-up as a secondary fuel, while the captured solvent will be the primary fuel.

VOC/HAP potential emissions from the new finishing spray line are estimated at approximately 130.5 TPY. Approximately 90 percent of the VOC/HAP in the coating will be released in the paint booths. ~~while 10 percent remains in the coating~~. The design capture efficiency of the new spray booths will be approximately 90 ~~95~~ percent. It is therefore assumed that 10 ~~5~~ percent of the VOC/HAPs are emitted into the building as fugitive emissions and/ retained on panels.

Paint filters will be used to control particulate emissions from the spray booth operations. Accordion-type filters with a 95% percent minimum efficiency are proposed for the new finishing spray line project. PM/PM_{10} potential emissions are estimated at 4.7 TPY based on 25 percent over-spray of coating in the booths and 95 percent removal by the paint filter pads. Emissions of SO_2, NO_X and CO are projected to be well below 1.0 TPY.

BACT CONTROL OPTIONS

Regenerative Thermal Oxidation (RTO)

The applicant proposes to install this control option, which exposes the gas stream to high temperatures to oxidize the VOC/HAP to carbon dioxide and water. An auxiliary fuel is used to initially reach the high operating temperatures (1600-1700°F) required. A regenerative thermal incinerator (RTO) typically uses ceramic materials to store a large thermal mass generated by the thermal incinerator and then uses the fuel value of the inlet gas stream to maintain the incineration process.

The oxidizer for this application consists of a reinforced, insulated twin bed chamber filled with ceramic heat exchanger media. The gas flow is automatically controlled by a poppet valve mechanism that changes the direction of the gas flow at regular intervals via an integral programmable logic control system. An external burner is used only for initial cold startup, which would typically be for one hour. With a sufficient concentration of solvents in the incoming process gas, the destruction of VOC/HAP will be self-sustaining and no auxiliary heat is required from the fuel source. Thermal incineration is technically feasible and commercially available.

Catalytic Oxidation (CatOx)

CatOx technology passes the contaminated gas stream over a catalyst bed at a moderate temperature sufficient to oxidize the organic compounds to carbon dioxide and water. An auxiliary fuel is required to elevate the gas stream to the required temperature range. Ideally, once this temperature is reached and the incineration process begins, there would be enough fuel value in the inlet gas stream so that only minor amounts of auxiliary fuel would be required to maintain the operating temperature.

A heat exchanger may be added to preheat the inlet gas stream prior to incineration (recuperative incineration). Likewise, ceramic materials may be included in the design to store a large thermal mass generated by the incinerator in order to make use of the fuel value of the inlet gas stream to maintain the incineration process (regenerative incineration). Both of these methods attempt to reduce the operating costs incurred by the combustion of an auxiliary fuel. Typically, the selection of a catalytic oxidizer depends on the exhaust gas volume and the concentration of the gas stream. At concentrations above 3,000 ppm at 27,000 scfm, which is the design flow for this case, the selection of a catalytic oxidizer may be appropriate.

Activated Carbon Adsorption

The captured gas stream is passed across a bed of activated carbon to adsorb VOC/HAP. Activated carbon is generally used because its internal pore structure provides a very large surface area on which to adsorb the volatile organic compounds. Once the carbon bed becomes saturated with organic compounds, hot air or steam is used to release the VOC for recovery or destruction and regenerate the bed for another cycle. For these systems, when one carbon bed is in operation, another carbon bed is being regenerated. Selection criteria depend on concentration and flow characteristics.

Biofiltration

This relatively new technology has been used successfully to control odors from organic compounds. The VOC/HAP-laden gas stream is collected and passed under an active bed of soil containing microorganisms. As the air rises through the bed, the microorganisms consume the chemicals and convert them to carbon dioxide and water. Economics can be favorable depending on the application.

Chemical Scrubber

Chemical scrubbers are absorption systems designed to dissolve a specific pollutant in a solvent, usually water, but based on the chemistry of the exhaust stream. Exhaust streams that include a variety of chemicals may also require a variety of solvents, adding complexity to the control system and potential disposal costs if recovery is not practical. Typically, a VOC concentration above 200 ppm is necessary to make chemical scrubbing practical.

Condensation

A condensation system includes refrigeration units to cool the exhaust stream and condense out the chemical contaminants. The condensate is collected and either separated for reuse or disposed of as a waste. For highly concentrated gas streams, these systems can be more than 95% efficient. However, the gas stream from this plant would be very dilute and the condensate would have little or no value for reuse. Therefore, a condensation system is not considered a viable option for this project.

EMERGING BACT TECHNOLOGIES

The Department also identified the following emerging add-on control technologies that are in various stages of development: membrane technology, biofilter systems, ultraviolet oxidation technology, and photocatalytic oxidation. Currently, ultraviolet oxidation technology has been applied successfully in California and elsewhere and is being evaluated as a control option by a Florida boat manufacturer.

BACT DETERMINATION

The applicant proposed to install the top control technology (RTO) as BACT and did not provide cost effectiveness calculations for the other options. The Department does not necessarily accept that such calculations are not required in general. However the Department agrees that the proposed technology represents Top technology at this time and that it would not be cost-effective to install more restrictive controls.

Cost effectiveness calculations for the RTO are based on the following quotation supplied by Adwest Technologies of Anaheim, California:

New Paint Line Capture System	$225,600
RTO Installed Capital Cost	$451,145
Total Capital Cost	$676,745
Annualized Capital Cost	$96,400 (7% @ 10 yrs, TCC x. 0.1424)
Annual Operation Cost	$13,230
Total	$109,600
Tons VOC/HAP Removed	770 tons
Cost Effectiveness	$142/ton

This cost per ton is well within the Department's guidelines for cost-effective add-on controls. Therefore, the RTO proposed by the applicant is selected as the best available control technology for this project. Appropriate short-term BACT emission limits will be established after the tests required by the permit are completed.

MACT DETERMINATION:

The BACT determination above is adopted as the MACT determination.

DETAILS OF THE ANALYSIS MAY BE OBTAINED BY CONTACTING:

John Reynolds, Permit Engineer
A. A. Linero, P.E. Administrator _____
Bureau of Air Regulation
2600 Blair Stone Road, MS # 5505
Tallahassee, Florida 32399-2400
850/488-0114

Recommended By:

_____
C. H. Fancy, P.E., Chief
Bureau of Air Regulation

_____
Date:

Approved By:

_____
Howard L. Rhodes, Director
Division of Air Resources Management

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Date: