

Check Sheet

Company Name:
Permit Number:
PSD Number:
Permit Engineer:

Olin Corporation
AC 105-176101

Cross References:
 AC 105-163478

Application:

- Initial Application
- Incompleteness Letters
- Responses
- Waiver of Department Action
- Department Response
- Other

Intent:

- Intent to Issue
- Notice of Intent to Issue
- Technical Evaluation
- BACT or LAER Determination
- Unsigned Permit

Correspondence with:

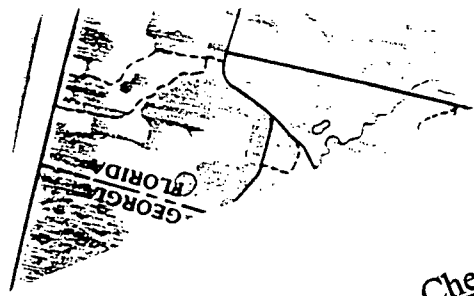
- EPA
- Park Services
- Other
- Proof of Publication
- Petitions - (Related to extensions, hearings, etc.)
- Waiver of Department Action
- Other

Final Determination:

- Final Determination
- Signed Permit
- BACT or LAER Determination
- Other

Post Permit Correspondence:

- Extensions/Amendments/Modifications
- Other



In the folder labeled as follows there are documents, listed below, which were not reproduced in this electronic file. That folder can be found in one of the file drawers labeled Supplementary Documents Drawer. Folders in that drawer are arranged alphabetically, then by permit number.

Folder Name: Olin Corporation

Permit(s) Numbered:

AC	65	-	176101
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Period during
which
document was Detailed Description
received:

APPLICATION 8 FEB 1990	1.	18"x24" DRAWING: PLOT PLAN - (16-4) N.E. BARREL Q.D. & BLD'G LOCATION (DRAWING NUMBER: D-12-0-086 REV. A)
	2.	18"x24" DRAWING: EQUIPMENT LAYOUT - PLAN AND ELEVATION (DRAWING NUMBER: D-16-4-8 REV. 3)
	3.	18"x24" DRAWING: EQUIPMENT LAYOUT - SECTION 'A' (DRAWING NUMBER: D-16-4-036 REV. A)
	4.	18"x24" DRAWING: EQUIPMENT LAYOUT - SECTION 'D' (DRAWING NUMBER: D-16-4-039 REV. A)
	5.	18"x24" DRAWING: PROCESS FLOW DIAGRAM (DRAWING NUMBER: D-16-8-004 REV. 0)
	6.	18"x24" DRAWING: PROCESS FLOW DIAGRAM (DRAWING NUMBER: D-16-8-005 REV. B)
	7.	18"x24" DRAWING: PIPING & INSTRUMENT DIAGRAM (DRAWING NUMBER: D-16-9-005 REV. 17)
	8.	18"x24" DRAWING: PIPING & INSTRUMENT DIAGRAM (DRAWING NUMBER: D-16-9-005 REV. 18)
	9.	18"x24" DRAWING: P & ID - SCRUBBER SYSTEM (DRAWING NUMBER: D-16-9-012 REV. B)

SENDER: Complete items 1 and 2 when additional services are desired, and complete items 3 and 4.
 Put your address in the "RETURN TO" Space on the reverse side. Failure to do this will prevent this card from being returned to you. The return receipt fee will provide you the name of the person delivered to and the date of delivery. For additional fees the following services are available. Consult postmaster for fees and check box(es) for additional service(s) requested.

1. Show to whom delivered, state, and addressee's address. (Extra charge)
 2. Restricted Delivery (Extra charge)

3. Article Addressed to: Mr. D. E. Findley Direcotr, St. Marks Operations Olin Corporation P. O. Box 222 St. Marks, Florida 32355	4. Article Number P 052 482 236
	Type of Service: <input type="checkbox"/> Registered <input type="checkbox"/> Insured <input checked="" type="checkbox"/> Certified <input type="checkbox"/> COD <input type="checkbox"/> Express Mail <input type="checkbox"/> Return Receipt for Merchandise
	Always obtain signature of addressee or agent and DATE DELIVERED .
5. Signature - Address X <i>William Henry</i>	8. Addressee's Address (ONLY if requested and fee paid)
6. Signature - Agent X	
7. Date of Delivery 4/6/90	

PS Form 3811, Mar. 1988 * U.S.G.P.O. 1988-212-865 DOMESTIC RETURN RECEIPT

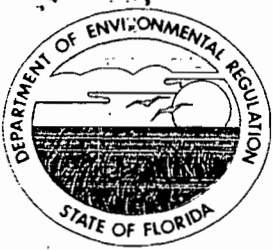
P 052 482 236

RECEIPT FOR CERTIFIED MAIL

NO INSURANCE COVERAGE PROVIDED
 NOT FOR INTERNATIONAL MAIL
 (See Reverse)

Sent to Mr. D. E. Findley, Olin Corp.	
Street and No. P. O. Box 222	
P.O., State and ZIP Code St. Marks, FL 32355	
Postage	\$
Certified Fee	
Special Delivery Fee	
Restricted Delivery Fee	
Return Receipt showing to whom and Date Delivered	
Return Receipt showing to whom, Date, and Address of Delivery	
TOTAL Postage and Fees	\$
Postmark or Date Mailed: 4-5-90 Permit: AC 65-176101	

PS Form 3800, June 1985



Florida Department of Environmental Regulation

Twin Towers Office Bldg. • 2600 Blair Stone Road • Tallahassee, Florida 32399-2400

Bob Martinez, Governor

Dale Twachtmann, Secretary

John Shearer, Assistant Secretary

STATE OF FLORIDA
DEPARTMENT OF ENVIRONMENTAL REGULATION
NOTICE OF PERMIT

Mr. D. E. Findley
Director, St. Marks Operations
Olin Corporation
P. O. Box 222
St. Marks, Florida 32355

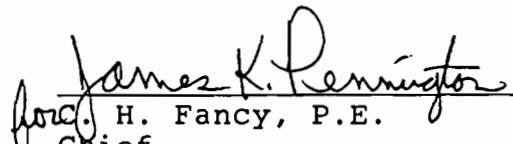
April 5, 1990

Enclosed is construction permit No. AC 65-176101 for Olin Corporation to construct North and Northeast Sweetie Barrels at the Olin Corporation Complex in Wakulla County, Florida. This permit is issued pursuant to Section 403, Florida Statutes.

Any party to this permit has the right to seek judicial review of the permit pursuant to Section 120.68, Florida Statutes, by the filing of a Notice of Appeal pursuant to Rule 9.110, Florida Rules of Appellate Procedure, with the Clerk of the Department in the Office of General Counsel, 2600 Blair Stone Road, Tallahassee, Florida 32399-2400; and by filing a copy of the Notice of Appeal accompanied by the applicable filing fees with the appropriate District Court of Appeal. The Notice of Appeal must be filed within 30 days from the date this permit is filed with the Clerk of the Department.

Executed in Tallahassee, Florida.

STATE OF FLORIDA DEPARTMENT
OF ENVIRONMENTAL REGULATION


James K. Pennington
H. Fancy, P.E.
Chief
Bureau of Air Regulation

Copy furnished to:

E. Middleswart, NE District
P. J. Troina, P.E.
D. Myers

CERTIFICATE OF SERVICE

The undersigned duly designated deputy clerk hereby certifies that this NOTICE OF PERMIT and all copies were mailed before the close of business on April 5, 1990.

FILING AND ACKNOWLEDGEMENT
FILED, on this date, pursuant to
§120.52(9), Florida Statutes, with
the designated Department Clerk,
receipt of which is hereby
acknowledged.

Kevin J. Baker
Clerk

4-5-90
Date

Final Determination

Olin Corporation
Wakulla County
St. Marks, Florida

Permit No. AC 65-176101
North Sweetie Barrel
Northeast Sweetie Barrel

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

April 3, 1990

Final Determination

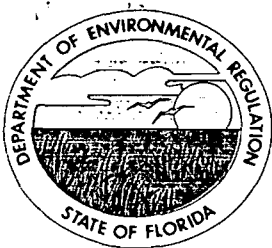
Olin Corporation's application for permit to construct North and Northeast Sweetie Barrels with scrubbers at their existing facility in Wakulla County, Florida, has been reviewed by the Bureau of Air Regulation.

Public Notice of the Department's Intent to Issue the construction permit was published in the Tallahassee Democrat on March 15, 1990.

Copies of the Preliminary Determination have been available for public inspection at the Department's Northwest District office in Pensacola, Florida, and the Department's Bureau of Air Regulation in Tallahassee.

Comments were received from Mr. D. E. Findley, Olin Corporation, as a result of the public notice period. These comments are attached. The Department agreed to his comments and modified some of the pages as requested. A typographical error was corrected in specific condition No. 1 of the permit.

The final action of the Department will be to issue the permit with the changes requested during the public notice period.



Florida Department of Environmental Regulation

Twin Towers Office Bldg. • 2600 Blair Stone Road • Tallahassee, Florida 32399-2400

Bob Martinez, Governor

Dale Twachtmann, Secretary

John Shearer, Assistant Secretary

PERMITTEE:
Olin Corporation
P. O. Box 222
St. Marks, Florida 32355

Permit Number: AC 65-176101
Expiration Date: April 30, 1991
County: Wakulla
Latitude/Longitude: 30°10'48"N
84°13'24"W

Project: Installation of a North
and Northeast Sweetie Barrel

This permit is issued under the provisions of Chapter 403, Florida Statutes, and Florida Administrative Code Chapters 17-2 and 17-4. The above named permittee is hereby authorized to perform the work or operate the facility shown on the application and approved drawing(s), plans, and other documents attached hereto or on file with the Department and made a part hereof and specifically described as follows:

For the construction/installation of two (2) BECO Multi-Micro Venturi Scrubbers in series with a second stage packed column to be located at the Olin Corporation Complex, in St. Marks, Wakulla County, Florida.

The source shall be constructed in accordance with the permit application, plans, documents, amendments and drawings, except as otherwise noted in the General and Specific Conditions.

Attachments are listed below:

1. Application to construct Air Pollution Sources, DER Form 17-1.122(16) dated February 13, 1990.

PERMITTEE:
Olin Corporation

Permit Number: AC 65-176101
Expiration Date: April 30, 1991

GENERAL CONDITIONS:

1. The terms, conditions, requirements, limitations, and restrictions set forth in this permit are "Permit Conditions" and are binding and enforceable pursuant to Sections 403.161, 403.727, or 403.859 through 403.861, Florida Statutes. The permittee is placed on notice that the Department will review this permit periodically and may initiate enforcement action for any violation of these conditions.
2. This permit is valid only for the specific processes and operations applied for and indicated in the approved drawings or exhibits. Any unauthorized deviation from the approved drawings, exhibits, specifications, or conditions of this permit may constitute grounds for revocation and enforcement action by the Department.
3. As provided in Subsections 403.087(6) and 403.722(5), Florida Statutes, the issuance of this permit does not convey any vested rights or any exclusive privileges. Neither does it authorize any injury to public or private property or any invasion of personal rights, nor any infringement of federal, state or local laws or regulations. This permit is not a waiver of or approval of any other Department permit that may be required for other aspects of the total project which are not addressed in the permit.
4. This permit conveys no title to land or water, does not constitute State recognition or acknowledgement of title, and does not constitute authority for the use of submerged lands unless herein provided and the necessary title or leasehold interests have been obtained from the State. Only the Trustees of the Internal Improvement Trust Fund may express State opinion as to title.
5. This permit does not relieve the permittee from liability for harm or injury to human health or welfare, animal, or plant life, or property caused by the construction or operation of this permitted source, or from penalties therefore; nor does it allow the permittee to cause pollution in contravention of Florida Statutes and Department rules, unless specifically authorized by an order from the Department.

PERMITTEE:
Olin Corporation

Permit Number: AC 65-176101
Expiration Date: April 30, 1991

GENERAL CONDITIONS:

6. The permittee shall properly operate and maintain the facility and systems of treatment and control (and related appurtenances) that are installed or used by the permittee to achieve compliance with the conditions of this permit, as required by Department rules. This provision includes the operation of backup or auxiliary facilities or similar systems when necessary to achieve compliance with the conditions of the permit and when required by Department rules.

7. The permittee, by accepting this permit, specifically agrees to allow authorized Department personnel, upon presentation of credentials or other documents as may be required by law and at a reasonable time, access to the premises, where the permitted activity is located or conducted to:

- a. Have access to and copy any records that must be kept under the conditions of the permit;
- b. Inspect the facility, equipment, practices, or operations regulated or required under this permit; and
- c. Sample or monitor any substances or parameters at any location reasonably necessary to assure compliance with this permit or Department rules.

Reasonable time may depend on the nature of the concern being investigated.

8. If, for any reason, the permittee does not comply with or will be unable to comply with any condition or limitation specified in this permit, the permittee shall immediately provide the Department with the following information:

- a. a description of and cause of non-compliance; and
- b. the period of noncompliance, including dates and times; or, if not corrected, the anticipated time the non-compliance is expected to continue, and steps being taken to reduce, eliminate, and prevent recurrence of the non-compliance.

PERMITTEE:
Olin Corporation

Permit Number: AC 65-176101
Expiration Date: April 30, 1991

GENERAL CONDITIONS:

The permittee shall be responsible for any and all damages which may result and may be subject to enforcement action by the Department for penalties or for revocation of this permit.

9. In accepting this permit, the permittee understands and agrees that all records, notes, monitoring data and other information relating to the construction or operation of this permitted source which are submitted to the Department may be used by the Department as evidence in any enforcement case involving the permitted source arising under the Florida Statutes or Department rules, except where such use is proscribed by Sections 403.73 and 403.111, Florida Statutes. Such evidence shall only be used to the extent it is consistent with the Florida Rules of Civil Procedure and appropriate evidentiary rules.

10. The permittee agrees to comply with changes in Department rules and Florida Statutes after a reasonable time for compliance, provided, however, the permittee does not waive any other rights granted by Florida Statutes or Department rules.

11. This permit is transferable only upon Department approval in accordance with Florida Administrative Code Rules 17-4.120 and 17-30.300, F.A.C., as applicable. The permittee shall be liable for any non-compliance of the permitted activity until the transfer is approved by the Department.

12. This permit or a copy thereof shall be kept at the work site of the permitted activity.

13. The permittee shall comply with the following:

- a. 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.
- b. 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

PERMITTEE:
Olin Corporation

Permit Number: AC 65-176101
Expiration Date: April 30, 1991

GENERAL CONDITIONS:

records of all data used to complete the application for this permit. These materials shall be retained at least three years from the date of the sample, measurement, report, or application unless otherwise specified by Department rule.

c. Records of monitoring information shall include:

- the date, exact place, and time of sampling or measurements;
- the person responsible for performing the sampling or measurements;
- the dates analyses were performed;
- the person responsible for performing the analyses;
- the analytical techniques or methods used; and
- the results of such analyses.

14. When requested by the Department, the permittee shall within a reasonable time furnish any information required by law which is needed to determine compliance with the permit. If the permittee becomes aware that relevant facts were not submitted or were incorrect in the permit application or in any report to the Department, such facts or information shall be corrected promptly.

SPECIFIC CONDITIONS:

1. Total volatile organic emissions (VOC) from this source shall not exceed 14.9 lbs/hr for the North Sweetie Barrel and 14.9 lbs/hr for the Northeast Sweetie Barrel facilities. Combined emissions from the two facilities shall not exceed 21.4 tons/year.

2. Compliance with VOC standard will be determined by EPA Method 18, Measurement of Gaseous Organic Compound Emissions by Gas Chromatography. Prior to conducting each compliance test the owner must obtain approval of the Bureau of Air Regulation's Compliance and Enforcement Section for the specific reference method 18 protocol to be used. Concentration data and calculated mass emission rate will be reported to the Northwest District. Thereafter, compliance with the VOC emission limitations will be maintained based on the monitoring and recording of the scrubber water flow rate previously established during initial compliance tests. The district office shall be notified at least 15 days prior to test.

3. No objectionable odors are allowed from this facility.

4. This permit replaces current construction permit No. AC 65-140731.

PERMITTEE:
Olin Corporation

Permit Number: AC 65-176101
Expiration Date: April 30, 1991

SPECIFIC CONDITIONS:

5. Upon obtaining an operating permit, the permittee will be required to submit annual reports on the actual operation and emissions of the facility. The scrubber water flow rate data shall be monitored and recorded. This data must be based on written operation and maintenance instructions and logs.

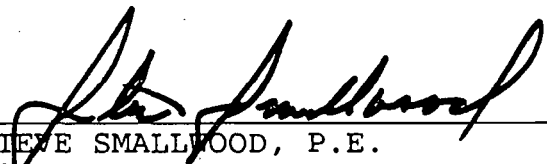
6. These facilities (North and Northeast Sweetie Barrels) shall comply with all applicable provisions of Chapter 17-2 and Chapter 17-4, Florida Administrative Code, and Chapter 403, Florida Statutes.

7. The permittee, for good cause, may request that this construction permit be extended. Such a request shall be submitted to the Bureau of Air Regulation prior to 60 days before the expiration of the permit (F.A.C. Rule 17-4.090).

8. An application for an operation permit must be submitted to the Northwest District office at least 90 days prior to the expiration date of this construction permit or within 45 days after completion of compliance testing, whichever occurs first. To properly apply for an operation permit, the applicant shall submit the appropriate application form, fee, certification that construction was completed noting any deviations from the conditions in the construction permit, and compliance test reports as required by this permit (F.A.C. Rule 17-4.220).

Issued this 5th day
of April, 1990

STATE OF FLORIDA DEPARTMENT
OF ENVIRONMENTAL REGULATION



STEVE SMALLWOOD, P.E.
Director
Division of Air Resources
Management



State of Florida
DEPARTMENT OF ENVIRONMENTAL REGULATION

For Routing To Other Than The Addressee	
To: _____	Location: _____
To: _____	Location: _____
To: _____	Location: _____
From: _____	Date: _____

Interoffice Memorandum

TO: Steve Smallwood
FROM: Clair Fancy *CAF*
DATE: April 4, 1990
SUBJ: Approval of Olin Corporation Air Construction Permit
No. AC 65-176101

Attached for your approval and signature is a permit prepared by the Bureau of Air Regulation for the above mentioned company to construct North and Northeast Sweetie Barrels at their existing facility in Wakulla County, Florida.

Comments were received by the company and addressed in the Final Determination. Day 90, after which the permit will be issued by default, is June 1, 1990.

I recommend your approval and signature.

CF/TH/plm

Attachment



ST. MARKS OPERATIONS
RECEIVED
MAR 19 1990
DER-BAQM

March 15, 1990

Mr. C. H. Fancy, P.E.
Chief, Bureau of Air Regulation
Florida Dept. of Environmental Regulation
Twin Towers Office Building
2600 Blairstone Road
Tallahassee, FL 32399-2400

Re: DER File No. AC 65-176-101

Dear Mr. Fancy:

The public notice of the FDER's intent to issue the subject permit was published March 15, 1990 in the Tallahassee Democrat. Proof of that publication is enclosed.

Sincerely,

A handwritten signature in cursive script, appearing to read "D. E. Findley".

D. E. Findley
Director, St. Marks Operations

DEF/RLM/dfm

RLM
Enclosure

Tallahassee Democrat

PUBLISHED DAILY

TALLAHASSEE - LEON - FLORIDA

STATE OF FLORIDA COUNTY OF LEON:


Before the undersigned authority personally appeared Carrie Coons who on oath says that she is Legal Advertising Representative of the Tallahassee Democrat, a daily newspaper published at Tallahassee in Leon County, Florida; that the attached copy of advertising being a Legal Ad in the matter of

Department of Environmental regulation
Notice of Intent to Issue Permit

in the
Court, was published in said newspaper in the
issues of:

March 15, 1990

Affiant further says that the said Tallahassee Democrat is a newspaper published at Tallahassee, in the said Leon County, Florida, and that the said newspaper has heretofore been continuously published in said Leon County, Florida, each day and has been entered as second class mail matter at the post office in Tallahassee, in said Leon County, Florida, for a period of one year next preceding the first publication of the attached copy of advertisement; and affiant further says that she has neither paid nor promised any person, firm or corporation any discount, rebate, commission or refund for the purpose of securing this publication in the said newspaper.

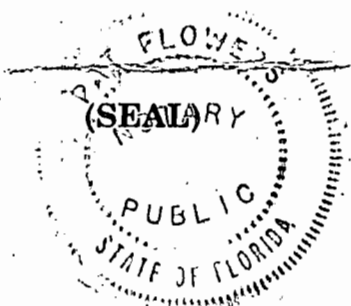


Carrie Coons,
Legal Advertising Representative

Sworn To And Subscribed Before Me
This

15th Day of March

A.D. 19 90



Pat Flowers
Notary Public
Notary Public, State of Florida
My Commission Expires Jan. 31, 1993
Bonded Thru Troy Fela - Insurance Inc.

State of Florida
Department of Environmental Regulation
Notice of Intent To Issue Permit

The Department of Environmental Regulation hereby gives notice of its intent issue a permit to Olin Corporation, P.O. Box 222, St. Marks, Florida 32355 to construct the North and Northeast Sweetie Barrels to be located at the Olin Corporation complex in St. Marks, Wakulla County, Florida. A determination of Best Available Control Technology (BACT) was not required. The Department is issuing this Intent to Issue for the reasons stated in the Technical Evaluation and Preliminary Determination.

A person whose substantial interests are affected by the Department's proposed permitting decision may petition for an administrative proceeding (hearing) in accordance with Section 120.57, Florida Statutes. The petition must contain the information set forth below and must be filed (received) in the Office of General Counsel of the department at 2600 Blair Stone Road, Tallahassee, Florida 32399-2400, within 14 days of publication of this notice. Petitioner shall mail a copy of the petition to the applicant at the address indicated above at the time of filing. Failure to file a petition within the this time period shall constitute a waiver of any right such person may have to request an administrative determination (hearing) under Section 120.57, Florida Statutes.

The petition shall contain the following information:

(a) The name, address, and telephone number of each petitioner, the applicant's name and address, the Department Permit File Number and the county in which the project is proposed;

(b) A statement of how and when each petitioner received notice of the Department's action or proposed action;

(c) A statement of how each petitioner's substantial interests are affected by the Department's action or proposed action;

(d) A statement of the material facts disputed by Petitioner, if any;

(e) A statement of facts which petitioner contends warrant reversal or modification of the Department's action or proposed action;

(f) A statement of which rules or statutes petitioner contends require reversal or modification of the Department's action or proposed action; and

(g) A statement of the relief sought by petitioner, stating precisely the action petitioner wants the Department to take with respect to the Department's action or proposed action.

If a petition is filed, the administrative hearing process is designed to formulate agency action. Accordingly, the Department's final action may be different from the position taken by it in this Notice. Persons whose substantial interests will be affected by any decision of the Department with regard to the application have the right to petition to become a party to the proceeding. The petition must conform to the requirements specified above and be filed (received) within 14 days of publication of this notice in the Office of General Counsel at the above address of the Department. Failure to petition within the allowed time frame constitutes a waiver of any right such person has to request a hearing under Section 120.57, F.S. and to participate as a party to this proceeding. Any subsequent intervention will only be at the approval of the presiding officer upon motion filed pursuant to Rule 28-5.207, F.A.C.

The application is available for public inspection during normal business hours, 8:00 a.m. to 5:00 p.m., Monday through Friday except legal holidays, at:

Department of Environmental Regulation
Bureau of Air Regulation
2600 Blair Stone Road
Tallahassee, Florida 32399-2400

Department of Environmental Regulation
Northwest District
160 Governmental Center
Pensacola, Florida 32501-5794

Any person may send written comments on the proposed action to Mr. Bill Thomas at the Department's Tallahassee address. All comments mailed within 14 days of the publication of this notice will be considered in the Department's final determination.

March 15, 1990

Ad No. 3C640150



ST. MARKS OPERATIONS

March 14, 1990

Mr. Bill Thomas
Florida Dept. of Environmental Regulation
Bureau of Air Regulation
Twin Towers Office Building
2600 Blainstone Road
Tallahassee, Florida 32399-2400

Re: DER File No. AC 65-176101

Dear Mr. Thomas:

During a March 14, 1990 meeting with Ms. Heron of the FDER, and Mr. Myers and Mr. Carroll of Olin, some of the items contained in the Technical Evaluation and Preliminary Determination and the draft permit were discussed. As a result of that discussion, the following changes were agreed upon:

Technical Evaluation and Preliminary Determination

III. Facility Information

Facility Category

- Change 10.6 tons per year to 10.7 tons per year.

IV. Process Description

Vinsol Coating

- In next to last paragraph, delete "and exhaust air flow".
- Delete last paragraph and replace with new, more up-to-date material which is enclosed.

V. Background Information

- Add paragraph addressing reduced water flow when normal blending (no IPA) is in progress. Added paragraph is enclosed.

RECEIVED
MAR 15 1990
DER - BAOM/J

DER File No. AC 65-176101

Page 2

V. Background Information (continued)

- Modifications are required on maximum and potential emissions table. Ms. Heron has the information.

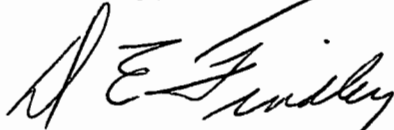
Permit Number: AC 65-176101

- Page 5 - Specific Condition no 1. Change 10.6 to 14.9.

In order to simplify making these changes, a copy of the existing permit, specific pages of the draft permit with red markings and copies of the two new paragraphs are enclosed.

We certainly appreciate the cooperation extended to Olin during this permitting effort by you and your staff.

Sincerely,



D. E. Findley
Director of Operations, St. Marks

DEF/RLM/dfm

Rfm

Enclosures

cc: J. Heron

~~*~~ New paragraph I

One increment of powder will be coated at a time at each Sweetie Barrel. Increment sizes range nominally from 900 to 1600 pounds. The maximum emission rate is determined to be the highest instantaneous rate. The emission basis is shown below:

Increment Size	=	930 lbs.
% Vinsol	=	1.5 %
Ratio Alcohol/Vinsol	=	55/45
Continuous Add Period	=	13 minutes
Residual Alcohol	=	0.1 %
Scrubber Efficiency	=	80 %
Total Batch Cycle	=	3 hrs. 36 minutes

Alcohol Added = $(930)(0.015)(55/45) = 17.05$ lbs/increment

Alcohol Retained with Powder = $(0.001)(930) = 0.93$ lbs/increment

Alcohol to Scrubber = 16.12 lbs/increment

On Hourly Basis,

Alcohol to Scrubber = $(16.12)/(13) \times (60) = 74.4$ lbs/hr

Potential Emissions = 74.4 lbs/hr @ each Sweetie Barrel

Maximum Allowable Emissions = $(74.4)(.2) = 14.9$ lbs/hr @ each Sweetie Barrel

Annual allowable emissions and annual potential are defined in the existing permit (65-163478) as 21.4 tons per year and 107.0 tons per year, respectively.

~~**~~ New paragraph II

Olin blends Vinsol coated powders that have been processed through the alcohol removal process steps with non-Vinsol coated powders. Olin also blends different non-Vinsol coated powders together. Since alcohol removal and recovery is not part of these blending operations, Olin will utilize only the venturi section of the scrubber (for particulate removal) during blending (a water flow of 10 gpm). The 20 gpm normally supplied to the packed section for alcohol removal will be valved off during blending. This will be done to minimize well water usage and reduce the hydraulic loading on the waste treatment plant.

complete evaporation of IPA. Additional graphite will be added to the batch, and it will then be tumbled under cooling conditions (process water circulated through the jacket) until its temperature decreases to 32°C and the powder is free-flowing.

The finished batch of coated powder is finally dumped from the Sweetie Barrel to a hopper, where it is returned to the remote packout building via the airveying system. The coated powder is then trucked to a temporary storage magazine. At a later date the coated powder is returned to the packout building and pneumatically transferred to a Sweetie Barrel where it is blended with uncoated powder to obtain a mixture that yields the desired ballistic characteristics.

Each scrubber will use single-pass process water for scrubbing in order to get the required efficiency. The IPA-laden water will be discharged from the bottom of the scrubber to the area sump, from which it is then pumped to the Wastewater Treatment Plant. Scrubber water flow ~~and exhaust air flow~~ will be monitored to insure that scrubber efficiency is maintained.

X
Insert new paragraph I

One increment of powder will be coated at a time. The increment may be 1089, 1260, or 1440, pounds. The 1080-pound increment utilizes the most IPA and is used as the basis for determining both instantaneous and yearly IPA emissions. The increment cycle time for a 1080-pound increment may be as short as three (3) hours and the IPA removal period as short as 68 minutes.

V. BACKGROUND INFORMATION

Olin's original intention was to process all Vinsol coating applications at the North Sweetie Barrel. Consistent with this was Olin's air permit which was based on increased Vinsol Applications through 1995. By improving efficiencies, thereby reducing cycle times, it was anticipated that future Vinsol volumes could be achieved at the North Sweetie Barrel. Although some improvements have been achieved, the North Sweetie Barrel does not have capability to meet the future Vinsol volume requirements.

In order to meet the Vinsol requirements, Olin plans to install a new Sweetie Barrel facility (the Northeast Sweetie Barrel facility). Both the existing North Sweetie Barrel facility and the new Northeast Sweetie Barrel facility will share the same packout facility and powder transfer systems. This will enable Olin to meet its future Vinsol requirements, but will not double the capacity due to the shared equipment. Also, both facilities will be used to blend powders other than those which are Vinsol coated. No isopropyl alcohol is used in the blending of these powders.

Insert new paragraph II

In order to maximize Vinsol application efficiencies, some propellants require faster application rates. These rates are requested in this permit application. It should be noted that although Olin is requesting higher instantaneous alcohol rates at two (2) separate barrels, no increase in maximum annual emissions is requested.

	Maximum Emissions		Potential*** Emissions	
	lbs/hr	tons/yr	lbs/hr	tons/yr
Existing North Sweetie Barrel Permit Emissions	13.5	21.4	67.4	107.0
Requested North Sweetie Barrel Permit Emissions	14.9	10.7 X	74.4	53.5 5
Requested New Northeast Sweetie Barrel Permit Emissions	14.9	10.7	74.4	53.5
Requested Combined Emissions	29.8	21.4*	148.8	107.0 5

* Existing Permit Condition

~~** Existing Permit Condition~~

*** Potential (uncontrolled) emissions

VI. RULE APPLICABILITY

The proposed project is subject to preconstruction review under the provisions of Chapter 403, Florida Statutes, and Rule 17-2, Florida Administrative Code.

The proposed facility, is located at the Olin Corporation complex in an area (Wakulla County) currently designated attainment for all criteria pollutants in accordance with Florida Administrative Code Rule 17-2.420. This facility site is close to the St. Marks National Wildlife Refuge (Class I area).

The proposed project is exempt from provisions of Rule 12-2.500, Prevention of Significant Deterioration because the increase of emissions do not exceed the significant emission rate (Table 500-2).

The proposed project shall be permitted under Rule 17-2.520, Sources Not Subject to Prevention of Significant Deterioration or Nonattainment Requirements.

The proposed facility shall comply with Rule 17-2.620(1) and (2) General Pollutant Emission Limiting Standard.

PERMITTEE:
Olin Corporation

Permit Number: AC 65-176101
Expiration Date: April 30, 1991

GENERAL CONDITIONS:

records of all data used to complete the application for this permit. These materials shall be retained at least three years from the date of the sample, measurement, report, or application unless otherwise specified by Department rule.

c. Records of monitoring information shall include:

- the date, exact place, and time of sampling or measurements;
- the person responsible for performing the sampling or measurements;
- the dates analyses were performed;
- the person responsible for performing the analyses;
- the analytical techniques or methods used; and
- the results of such analyses.

14. When requested by the Department, the permittee shall within a reasonable time furnish any information required by law which is needed to determine compliance with the permit. If the permittee becomes aware that relevant facts were not submitted or were incorrect in the permit application or in any report to the Department, such facts or information shall be corrected promptly.

SPECIFIC CONDITIONS:

1. Total volatile organic emissions (VOC) from this source shall not exceed 14.9 lbs/hr for the North Sweetie Barrel and ~~10.3~~ for the Northeast Sweetie Barrel facilities. Combined emissions from the two facilities shall not exceed 21.4 tons/year.

2. Compliance with VOC standard will be determined by EPA Method 18, Measurement of Gaseous Organic Compound Emissions by Gas Chromatography. Concentration data and calculated mass emission rate will be reported to the Northwest District. Thereafter, compliance with the VOC emission limitations will be maintained based on the monitoring and recording of the scrubber water flow rate previously established during initial compliance tests. The district office shall be notified 15 days prior to test.

3. No objectionable odors are allowed from this facility.

4. This permit replaces current construction permit No. AC 65-140731.

cc: Myers

RECEIVED

JUN 06 1989

D.E. FINDLEY

STATE OF FLORIDA
DEPARTMENT OF ENVIRONMENTAL REGULATION
NOTICE OF PERMIT ISSUANCE

CERTIFIED

In the matter of an
Application for Permit
By:
Mr. D. E. Findley, Director
St. Marks Operations
Olin Corporation
P. O. Box 222
St. Marks, Florida 32355

DER File No. 163478
Wakulla County

Enclosed is Permit Number A065-163478 to operate the North Sweetie Barrel, issued pursuant to Section 403, Florida Statutes.

A person whose substantial interests are affected by this permit may petition for an administrative proceeding (hearing) in accordance with Section 120.57, Florida Statutes. The petition must contain the information set forth below and must be filed (received) in the Office of General Counsel of the Department at 2600 Blair Stone Road, Tallahassee 32399-2400, within 14 days of receipt of this Permit. Petitioner shall mail a copy of the petition to the applicant at the address indicated above at the time of filing. Failure to file a petition within this time period shall constitute a waiver of any right such person may have to request an administrative determination (hearing) under Section 120.57, Florida Statutes.

The Petition shall contain the following information;

(a) The name, address, and telephone number of each petitioner, the applicant's name and address, the Department Permit File Number and the county in which the project is proposed;

(b) A statement of how and when each petitioner received notice of the Department's action or proposed action;

(c) A statement of how each petitioner's substantial interests are affected by the Department's action or proposed action;

(d) A statement of the material facts disputed by Petitioner, if any;

(e) A statement of facts which petitioner contends warrant reversal or modification of the Department's action or proposed action;

(f) A statement of which rules or statutes petitioner contends require reversal or modification of the Department's action or proposed action; and

(g) A statement of the relief sought by petitioner, stating precisely the action petitioner wants the Department to take with respect to the Department's action or proposed action.

If a petition is filed, the administrative hearing process is designed to formulate agency action. Accordingly, the Department's final action may be different from the position taken by it in this permit. Persons whose substantial interests will be affected by any decision of the Department with regard to the application have the right to petition to become a party to the proceeding. The petition must conform to

the requirements specified above and be filed (received) within 14 days of receipt of this notice in the Office of General Counsel at the above address of the Department. Failure to petition within the allowed time frame constitutes a waiver of any right such person has to request a hearing under Section 120.57, Florida Statutes, and to participate as a party to this proceeding. Any subsequent intervention will only be at the approval of the presiding officer upon motion filed pursuant to Rule 28-5.207, F.A.C.

This permit is final and effective on the date filed with the Clerk of the Department unless a petition is filed in accordance with the above paragraphs or unless a request for extension of time in which to file a petition is filed with the time specified for filing a petition and conforms to Rule 17-103.070, F.A.C. Upon timely filing of a petition or a request for an extension of time this permit will not be effective until further Order of the Department.

When the Order (Permit) is final, any party to the Order has the right to seek judicial review of the Order pursuant to Section 120.68, Florida Statutes, by the filing of a Notice of Appeal pursuant to Rule 9.110, Florida Rules of Appellate Procedure, with the Clerk of the Department in the Office of General Counsel, 2600 Blair Stone Road, Tallahassee, Florida 32399-2400; and by filing a copy of the Notice of Appeal accompanied by the applicable filing fees with the appropriate District Court of Appeal. The Notice of Appeal must be filed within 30 days from the date the Final Order is filed with the Clerk of the Department.

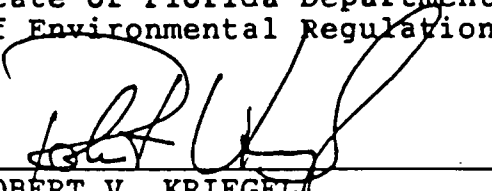
Executed in Pensacola, Florida.

State of Florida Department
of Environmental Regulation

Copies furnished to:

A. F. McElfresh, P.E.
Olin Corp.

DER, Tallahassee Branch
Office


ROBERT V. KRIEGEL
Deputy Assistant Secretary

160 Governmental Center
Pensacola, Florida 32501-5794
(904) 436-8300

CERTIFICATE OF SERVICE

This is to certify that this NOTICE OF PERMIT and all
copies were mailed before the close of business
on June 5, 1989 to the listed persons.

Filing and Acknowledgement filed,
on this date, pursuant to §120.52(9),
Florida Statutes, with the designated
Department clerk, receipt of which is
hereby acknowledged.


Clerk

6/5/89

Date



Florida Department of Environmental Regulation

Northwest District • 160 Governmental Center • Pensacola, Florida 32501-5794 • 904-436-8300

Bob Martinez, Governor

Dale Twachtmann, Secretary

John Shearer, Assistant Secretary
Robert Kriegel, Deputy Assistant Secretary

PERMITTEE:

Olin Corporation

I.D. Number: 10TLH65000301

Permit/Certification Number: A065-163478

Date of Issue: **JUN 02 1989**

Expiration Date: June 1, 1994

County: Wakulla

Latitude/Longitude: 30°10'48W"84°13'24W"

Section/Township/Range: 34/3S/1E

Project: North Sweetie Barrel

This permit is issued under the provisions of Section 403.087, Florida Statutes, and Florida Administrative Code Rules 17-2 and 17-4. The above named applicant, hereinafter called Permittee, is hereby authorized to perform the work or operate the facility shown on the application and approved drawing(s), plans, and other documents attached hereto or on file with the department and made a part hereof and specifically described as follows:

Operation of North Sweetie Barrel. Graphite and other surface coating material is applied to an increment (1080 to 1440 pounds) of propellant powder using isopropyl alcohol (IPA) as the carrier. The IPA is evaporated and exhausted. Particulate and IPA emissions are controlled by a venturi scrubber (Beco Multi-Microvention) followed by a packed column (Brush-Pack) topped by a mist eliminator (Mist-Master). Compliance with the allowed IPA emissions is assured by the surrogate parameter of scrubber water flow rate. The input IPA is controlled to a maximum. The IPA concentration in the scrubber water is controlled by once through operation. The design efficiency of 80% IPA removal has been confirmed by emissions test.

Located: US 98 and SR 363, north of St. Marks.

PERMITTEE:
Olin Corporation

I.D. Number: 10TLH65000301
Permit/Certification Number: A065-163478
Date of Issue: JUN 02 1989
Expiration Date: June 1, 1994

GENERAL CONDITIONS:

1. The terms, conditions, requirements, limitations, and restrictions set forth herein are "Permit Conditions", and as such are binding upon the permittee and enforceable pursuant to the authority of Sections 403.161, 403.727, or 403.859 through 403.861, Florida Statutes. The permittee is hereby placed on notice that the Department will review this permit periodically and may initiate enforcement action for any violation of the "Permit Conditions" by the permittee, its agents, employees, servants or representatives.
2. This permit is valid only for the specific processes and operations applied for and indicated in the approved drawings or exhibits. Any unauthorized deviation from the approved drawings, exhibits, specifications, or conditions of this permit may constitute grounds for revocation and enforcement action by the department.
3. As provided in Subsections 403.087(6) and 403.722(5), Florida Statutes, the issuance of this permit does not convey any vested rights or any exclusive privileges. Nor does it authorize any injury to public or private property or any invasion of personal rights, nor any infringement of federal, state or local laws or regulations. This permit does not constitute a waiver of or approval of any other department permit that may be required for other aspects of the total project which are not addressed in the permit.
4. This permit conveys no title to land or water, does not constitute state recognition or acknowledgement of title, and does not constitute authority for the use of submerged lands unless herein provided and the necessary title or leasehold interests have been obtained from the state. Only the Trustees of the Internal Improvement Trust Fund may express state opinion as to title.
5. This permit does not relieve the permittee from liability for harm or injury to human health or welfare, animal, plant or aquatic life or property and penalties therefor caused by the construction or operation of this permitted source, nor does it allow the permittee to cause pollution in contravention of Florida Statutes and department rules, unless specifically authorized by an order from the department.
6. The permittee shall at all times properly operate and maintain the facility and systems of treatment and control (and related appurtenances) that are installed or used by the permittee to achieve compliance with the conditions of this permit, as required by department rules. This provision includes the operation of backup or auxiliary facilities or similar systems when necessary to achieve compliance with the conditions of the permit and when required by department rules.

PERMITTEE:

Olin Corporation

I.D. Number: 10TLH65000301

Permit/Certification Number: A065-163478

Date of Issue: JUN 02 1989

Expiration Date: June 1, 1994

GENERAL CONDITIONS:

7. The permittee, by accepting this permit, specifically agrees to allow authorized department personnel, upon presentation of credentials or other documents as may be required by law, access to the premises, at reasonable times, where the permitted activity is located or conducted for the purpose of:

- a. Having access to and copying any records that must be kept under the conditions of this permit;
- b. Inspecting the facility, equipment, practices, or operations regulated or required under this permit; and,
- c. Sampling or monitoring any substances or parameters at any location reasonably necessary to assure compliance with this permit or department rules.

Reasonable time may depend on the nature of the concern being investigated.

8. If, for any reason, the permittee does not comply with or will be unable to comply with any condition or limitation specified in this permit, the permittee shall immediately notify and provide the department with the following information:

- a. A description of and cause of noncompliance; and
- b. The period of noncompliance, including exact dates and times; or, if not corrected, the anticipated time the noncompliance is expected to continue, and steps being taken to reduce, eliminate, and prevent recurrence of the noncompliance.

The permittee shall be responsible for any and all damages which may result and may be subject to enforcement action by the department for penalties or revocation of this permit.

9. In accepting this permit, the permittee understands and agrees that all records, notes, monitoring data and other information relating to the construction or operation of this permitted source, which are submitted to the department, may be used by the department as evidence in any enforcement case arising under the Florida Statutes or department rules, except where such use is proscribed by Sections 403.73 and 403.111, Florida Statutes.

PERMITTEE:

Olin Corporation

I.D. Number: 10TLH65000301

Permit/Certification Number: A065-163478

Date of Issue: JUN 02 1989

Expiration Date: June 1, 1994

GENERAL CONDITIONS:

10. The permittee agrees to comply with changes in department rules and Florida Statutes after a reasonable time for compliance, provided however, the permittee does not waive any other rights granted by Florida Statutes or department rules.

11. This permit is transferable only upon department approval in accordance with Florida Administrative Code Rules 17-4.12 and 17-30.30, as applicable. The permittee shall be liable for any noncompliance of the permitted activity until the transfer is approved by the department.

12. This permit is required to be kept at the work site of the permitted activity during the entire period of construction or operation.

13. The permittee shall comply with the following monitoring and record keeping requirements:

- a. Upon request, the permittee shall furnish all records and plans under department rules. The retention period for all records will be extended automatically, unless otherwise stipulated by the department, during the course of any unresolved enforcement action.
- b. The permittee shall retain 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), copies of all reports required by this permit, and records of all data used to complete the application for this permit. The time period of retention shall be at least three years from the date of the sample, measurement, report or application unless otherwise specified by department rule.
- c. Records of monitoring information shall include:
 - the date, exact place, and time of sampling or measurement;
 - the person responsible for performing the sampling or measurement;
 - the date(s) analyses were performed;
 - the person responsible for performing the analyses;
 - the analytical techniques or methods used; and
 - the results of such analyses.

PERMITTEE:

Olin Corporation

I.D. Number: 10TLH65000301

Permit/Certification Number: A065-163478

Date of Issue: JUN 02 1989

Expiration Date: June 1, 1994

GENERAL CONDITIONS:

14. When requested by the department, the permittee shall within a reasonable time furnish any information required by law which is needed to determine compliance with the permit. If the permittee becomes aware that relevant facts were not submitted or were incorrect in the permit application or in any report to the department, such facts or information shall be submitted or corrected promptly.

SPECIFIC CONDITIONS:

15. The maximum allowable operating rate is 67.4 pounds of IPA feed per hour. This is the operating rate at which compliance with standards shall be demonstrated.

16. IPA emissions shall not exceed 13.5 pounds per hour.

17. IPA emissions shall not exceed 21.4 tons per year.

18. Compliance with condition 15 shall be verified by process orders and operating logs.

19. Compliance with condition 16 shall be assured by operation at design conditions, specifically scrubber water flow shall be 30 gpm or more.

20. Compliance with condition 17 shall be verified by a record of production increments per year (assumed IPA emissions 15.2 pounds per increment). These emissions shall be a part of the annual operation report (condition 21).

21. An annual operation report (DER Form 17-1.202(6) attached) shall be submitted by March 1 each year. The attached form shall be reproduced by the permittee and used for future annual submittals.

22. IPA emissions tests are required to show continuing compliance with the standards of the Department. The test results must provide reasonable assurance that the source is capable of compliance at the permitted maximum operating rate. Tests shall be conducted in accordance with EPA Method 25. Such tests shall be conducted in 1994 before the end of February to be submitted with the application for renewal of this permit. More frequent tests may be required if Department inspections show a need for such tests. Scrubber water flow rate and IPA feed rate during testing shall be part of the test report.

23. This permit does not authorize any discharges of liquid effluents or contaminated runoff from this source.

PERMITTEE:

Olin Corporation

I.D. Number: 10TLH65000301

Permit/Certification Number: A065-163478

Date of Issue: JUN 02 1989

Expiration Date: June 1, 1994

SPECIFIC CONDITIONS:

24. This source shall be operated in such a fashion so as to preclude objectionable odors.

25. An application to renew this permit shall be submitted prior to April 1, 1994.


26. The permanent source identification number for this point source is 10TLH65000301. Please cite this number on all test reports and other correspondence specific to this permitted point source.

Expiration date:

Issued this 2 day of _____, 1989.

June 1, 1994

STATE OF FLORIDA DEPARTMENT
OF ENVIRONMENTAL REGULATION


ROBERT V. KRIEGEL
Deputy Assistant Secretary

● **SENDER:** Complete items 1 and 2 when additional services are desired, and complete items 3 and 4.
 Put your address in the "RETURN TO" Space on the reverse side. Failure to do this will prevent this card from being returned to you. The return receipt fee will provide you the name of the person delivered to and the date of delivery. For additional fees the following services are available. Consult postmaster for fees and check box(es) for additional service(s) requested.

1. Show to whom delivered, date, and addressee's address. (Extra charge)
 2. Restricted Delivery (Extra charge)

3. Article Addressed to: Mr. D. E. Findley Director, St. Marks Operations Olin Corporation P. O. Box 222 St. Marks, Florida 32355	4. Article Number P 938 762 846 Type of Service: <input type="checkbox"/> Registered <input type="checkbox"/> Insured <input checked="" type="checkbox"/> Certified <input type="checkbox"/> COD <input type="checkbox"/> Express Mail <input type="checkbox"/> Return Receipt for Merchandise Always obtain signature of addressee or agent and DATE DELIVERED.
5. Signature - Addressee X <i>[Signature]</i>	8. Addressee's Address (ONLY if requested and fee paid)
6. Signature - Agent X	
7. Date of Delivery 3/13/90	

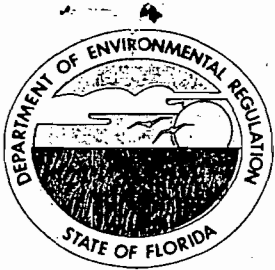
PS Form 3811, Mar. 1988 * U.S.G.P.O. 1988-212-865 DOMESTIC RETURN RECEIPT

P 938 762 846

RECEIPT FOR CERTIFIED MAIL
 NO INSURANCE COVERAGE PROVIDED
 NOT FOR INTERNATIONAL MAIL
 (See Reverse)

Sent to Mr. D. E. Findley, Olin Corp.	
Street and No. P. O. Box 222	
P.O., State and ZIP Code St. Marks, FL 32355	
Postage	\$
Certified Fee	
Special Delivery Fee	
Restricted Delivery Fee	
Return Receipt showing to whom and Date Delivered	
Return Receipt showing to whom, Date, and Address of Delivery	
TOTAL Postage and Fees	\$
Postmark or Date Mailed: 3-9-90 Permit: AC 65-176101	

PS Form 3800, June 1985



Florida Department of Environmental Regulation

Twin Towers Office Bldg. • 2600 Blair Stone Road • Tallahassee, Florida 32399-2400

Bob Martinez, Governor

Dale Twachtmann, Secretary

John Shearer, Assistant Secretary

March 9, 1990

CERTIFIED MAIL-RETURN RECEIPT REQUESTED


Mr. D. E. Findley
Director, St. Marks Operations
Olin Corporation
P. O. Box 222
St. Marks, Florida 32355

Dear Mr. Findley:

Attached is one copy of the Technical Evaluation and Preliminary Determination and proposed permit to construct the North and Northeast Sweetie Barrels at the Olin Corporation complex in St. Marks, Wakulla County, Florida.

Please submit any written comments you wish to have considered concerning the Department's proposed action to Mr. Bill Thomas of the Bureau of Air Regulation.

Sincerely,


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

CHF/TH/plm

Attachments

c: E. Middleswart, NW District
P. J. Troina, P.E.

BEFORE THE STATE OF FLORIDA
DEPARTMENT OF ENVIRONMENTAL REGULATION

In the Matter of
Application for Permit by:

Olin Corporation
P. O. Box 222
St. Marks, Florida 32355

DER File No. AC 65-176101

INTENT TO ISSUE

The Department of Environmental Regulation hereby gives notice of its intent to issue a permit (copy attached) for the proposed project as detailed in the application specified above. The Department is issuing this Intent to Issue for the reasons stated in the attached Technical Evaluation and Preliminary Determination.

The applicant, Olin Corporation, applied on February 8, 1990, to the Department of Environmental Regulation for a permit to construct the North and Northeast Sweetie Barrels at the Olin Corporation complex in St. Marks, Wakulla County, Florida.

The Department has permitting jurisdiction under Chapter 403, Florida Statutes, and Florida Administrative Code Rules 17-2 and 17-4. The project is not exempt from permitting procedures. The Department has determined that an air construction permit is required for the proposed work.

Pursuant to Section 403.815, F.S. and DER Rule 17-103.150, F.A.C., you (the applicant) are required to publish at your own expense the enclosed Notice of Intent to Issue Permit. The notice shall be published one time only within 30 days, in the legal ad section of a newspaper of general circulation in the area affected. For the purpose of this rule, "publication in a newspaper of general circulation in the area affected" means publication in a newspaper meeting the requirements of Sections 50.011 and 50.031, F.S., in the county where the activity is to take place. The applicant shall provide proof of publication to the Department, at the address specified within seven days of publication. Failure to publish the notice and provide proof of publication within the allotted time may result in the denial of the permit.

The Department will issue the permit with the attached conditions unless a petition for an administrative proceeding (hearing) is filed pursuant to the provisions of Section 120.57, F.S.

A person whose substantial interests are affected by the Department's proposed permitting decision may petition for an administrative proceeding (hearing) in accordance with Section 120.57, Florida Statutes. The petition must contain the information set forth below and must be filed (received) in the Office of General Counsel of the Department at 2600 Blair Stone Road, Tallahassee, Florida 32399-2400. Petitions filed by the permit applicant and the parties listed below must be filed within 14 days of receipt of this intent. Petitions filed by other persons must be filed within 14 days of publication of the public notice or within 14 days of receipt of this intent, whichever first occurs. Petitioner shall mail a copy of the petition to the applicant at the address indicated above at the time of filing. Failure to file a petition within this time period shall constitute a waiver of any right such person may have to request an administrative determination (hearing) under Section 120.57, Florida Statutes.

The Petition shall contain the following information;

- (a) The name, address, and telephone number of each petitioner, the applicant's name and address, the Department Permit File Number and the county in which the project is proposed;
- (b) A statement of how and when each petitioner received notice of the Department's action or proposed action;
- (c) A statement of how each petitioner's substantial interests are affected by the Department's action or proposed action;
- (d) A statement of the material facts disputed by Petitioner, if any;
- (e) A statement of facts which petitioner contends warrant reversal or modification of the Department's action or proposed action;
- (f) A statement of which rules or statutes petitioner contends require reversal or modification of the Department's action or proposed action; and
- (g) A statement of the relief sought by petitioner, stating precisely the action petitioner wants the Department to take with respect to the Department's action or proposed action.

If a petition is filed, the administrative hearing process is designed to formulate agency action. Accordingly, the Department's final action may be different from the position taken by it in this notice. Persons whose substantial interests will be affected by any decision of the Department with regard to the application(s) have the right to petition to become a party to the proceeding. The petition must conform to the requirements specified above and be filed (received) within 14 days of publication of this notice in the Office in General Counsel at the above address of the Department. Failure to petition within the allowed time frame constitutes a waiver of any right such

person has to request a hearing under Section 120.57, F.S., and to participate as a party to this proceeding. Any subsequent intervention will only be at the approval of the presiding officer upon motion filed pursuant to Rule 28-5.207, F.A.C.

Executed in Tallahassee, Florida.

STATE OF FLORIDA DEPARTMENT
OF ENVIRONMENTAL REGULATION



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

Copies furnished to:

E. Middleswart, NW District
P. J. Troina, P.E.

CERTIFICATE OF SERVICE

The undersigned duly designated deputy clerk hereby certifies that this NOTICE OF INTENT TO ISSUE and all copies were mailed before the close of business on 3-9-90.

FILING AND ACKNOWLEDGEMENT
FILED, on this date, pursuant to
§120.52(9), Florida Statutes, with
the designated Department Clerk,
receipt of which is hereby
acknowledged.

Kern Jones
Clerk

3-9-90
Date

State of Florida
Department of Environmental Regulation
Notice of Intent to Issue

The Department of Environmental Regulation hereby gives notice of its intent to issue a permit to Olin Corporation, P.O. Box 222, St. Marks, Florida 32355 to construct the North and Northeast Sweetie Barrels to be located at the Olin Corporation complex in St. Marks, Wakulla County, Florida. A determination of Best Available Control Technology (BACT) was not required. The Department is issuing this Intent to Issue for the reasons stated in the Technical Evaluation and Preliminary Determination.

A person whose substantial interests are affected by the Department's proposed permitting decision may petition for an administrative proceeding (hearing) in accordance with Section 120.57, Florida Statutes. The petition must contain the information set forth below and must be filed (received) in the Office of General Counsel of the Department at 2600 Blair Stone Road, Tallahassee, Florida 32399-2400, within fourteen (14) days of publication of this notice. Petitioner shall mail a copy of the petition to the applicant at the address indicated above at the time of filing. Failure to file a petition within this time period shall constitute a waiver of any right such person may have to request an administrative determination (hearing) under Section 120.57, Florida Statutes.

The Petition shall contain the following information:

- (a) The name, address, and telephone number of each petitioner, the applicant's name and address, the Department Permit File Number and the county in which the project is proposed;
- (b) A statement of how and when each petitioner received notice of the Department's action or proposed action;
- (c) A statement of how each petitioner's substantial interests are affected by the Department's action or proposed action;
- (d) A statement of the material facts disputed by Petitioner, if any;
- (e) A statement of facts which petitioner contends warrant reversal or modification of the Department's action or proposed action;
- (f) A statement of which rules or statutes petitioner contends require reversal or modification of the Department's action or proposed action; and
- (g) A statement of the relief sought by petitioner, stating precisely the action petitioner wants the Department to take with respect to the Department's action or proposed action.

If a petition is filed, the administrative hearing process is designed to formulate agency action. Accordingly, the

Department's final action may be different from the position taken by it in this Notice. Persons whose substantial interests will be affected by any decision of the Department with regard to the application have the right to petition to become a party to the proceeding. The petition must conform to the requirements specified above and be filed (received) within 14 days of publication of this notice in the Office of General Counsel at the above address of the Department. Failure to petition within the allowed time frame constitutes a waiver of any right such person has to request a hearing under Section 120.57, F.S., and to participate as a party to this proceeding. Any subsequent intervention will only be at the approval of the presiding officer upon motion filed pursuant to Rule 28-5.207, F.A.C.

The application is available for public inspection during business hours, 8:00 a.m. to 5:00 p.m., Monday through Friday, except legal holidays, at:

Department of Environmental Regulation
Bureau of Air Regulation
2600 Blair Stone Road
Tallahassee, Florida 32399-2400

Department of Environmental Regulation
Northwest District
160 Governmental Center
Pensacola, Florida 32501-5794

Any person may send written comments on the proposed action to Mr. Bill Thomas at the Department's Tallahassee address. All comments mailed within 14 days of the publication of this notice will be considered in the Department's final determination.

Technical Evaluation
and
Preliminary Determination

Olin Corporation
Wakulla County
St. Marks, Florida

Permit No. AC 65-176101
North Sweetie Barrel
Northeast Sweetie Barrel

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

March 9, 1990

I. NAME AND ADDRESS OF APPLICANT

Olin Corporation
P. O. Box 222
St. Marks, Florida 32355

II. REVIEWING AND PROCESS SCHEDULE

Date of Receipt of Application: February 8, 1990.

Completeness Review: Pre-submission meeting was held on February 8, 1990 between Olin Corporation's and Department's representatives.

Application Completeness Date: February 13, 1990.

III. FACILITY INFORMATION

Facility Location

The proposed facility will be located at U.S. 98 and S.R. 363 (Olin Corporation) in St. Marks, Wakulla County, Florida. The latitude and longitude of this site are 30°11'07"N and 84°13'30"W, respectively.

Standard Industrial Classification

The Olin Corporation facility is classified as follows:

Major Group 28: Chemicals and Allied Products
Group 289: Miscellaneous Chemical Products
Industry No. 2892: Explosives

Facility Category

Olin Corporation is classified as a major emitting facility for sulfur dioxide (SO₂). Permitted SO₂ emissions are 245 tons per year. The proposed project comprises the existing glazing drum (North Sweetie Barrel) exhaust air scrubber and the addition of the new Northeast Sweetie Barrel facility. This project will increase the actual VOC emissions at Olin Corporation's complex by 10.6 tons per year. Permitted emissions (21.4 tons per year) will not be increased. VOC emissions from the North Sweetie Barrel and the new Northeast Sweetie Barrel facilities will not exceed 21.4 tons per year.

IV. PROCESS DESCRIPTION

North and Northeast Sweetie Barrels

Vinsol coating operations will be performed in both the existing North Sweetie Barrel facility and the new Northeast Sweetie Barrel facility. Packout for both facilities will be accomplished in the existing North Sweetie Barrel Packout facility. Due to the hazardous nature of the process, all three facilities are separated by standard Department of Defense quantity/distance standards although the dump, coating/blend, and packout operations are considered to be one process. A diverter valve will be installed in the airveying line at the discharge of the dump hopper at the packout. By using the diverter valve uncoated powder can be airveyed to either Sweetie Barrel. Another diverter valve will be installed in the line feeding the cyclone that drops powder to the Bemis Scale at the packout. This will enable coated or blended powder from either Sweetie Barrel to be packed out at the existing packout.

Vinsol Coating

Olin purchases a pre-mixed 50% Vinsol/50% Isopropyl Alcohol (IPA) solution (by weight) in a 55-gallon drum, and uses a Vinsol unloading pump to transfer the solution from the drum to a 110-gallon, agitated, Vinsol tank located inside the Sweetie Barrel building.

Pure IPA is used to flush the equipment feeding Vinsol to the drum so that the Vinsol/IPA ratio ends up being 45/55. The source of the pure IPA is a 115-gallon IPA tank.

The interior surface of the Sweetie Barrel will first be pre-coated with graphite. An increment of powder which is to be Vinsol coated will be loaded into the barrel from the existing remote packout building using the existing pneumatic conveying system. Hot water will then be circulated through the jacket of the Sweetie Barrel as it rotates per the process order.

A metering pump and a spray nozzle, controlled by a timer, will be used to either continuously or intermittently feed a known volume of Vinsol/IPA mixture from the Vinsol tank to the rotating Sweetie Barrel over a period dictated by the process order, coating the powder as the mixture is sprayed into the barrel. The Vinsol component of the mixture adheres to the surface of the powder grains while the IPA evaporates. When the coating is complete, a small volume of pure IPA is used to flush the metering pump and the spray nozzle. The flush IPA is pumped onto the coated powder in the barrel where it also evaporates.

Vinsol coated powder continues to tumble in the heated barrel for a period dictated by the process order to ensure

complete evaporation of IPA. Additional graphite will be added to the batch, and it will then be tumbled under cooling conditions (process water circulated through the jacket) until its temperature decreases to 32°C and the powder is free-flowing.

The finished batch of coated powder is finally dumped from the Sweetie Barrel to a hopper, where it is returned to the remote packout building via the airveying system. The coated powder is then trucked to a temporary storage magazine. At a later date the coated powder is returned to the packout building and pneumatically transferred to a Sweetie Barrel where it is blended with uncoated powder to obtain a mixture that yields the desired ballistic characteristics.

Each scrubber will use single-pass process water for scrubbing in order to get the required efficiency. The IPA-laden water will be discharged from the bottom of the scrubber to the area sump, from which it is then pumped to the Wastewater Treatment Plant. Scrubber water flow and exhaust air flow will be monitored to insure that scrubber efficiency is maintained.

One increment of powder will be coated at a time. The increment may be 1089, 1260, or 1440, pounds. The 1080-pound increment utilizes the most IPA and is used as the basis for determining both instantaneous and yearly IPA emissions. The increment cycle time for a 1080-pound increment may be as short as three (3) hours and the IPA removal period as short as 68 minutes.

V. BACKGROUND INFORMATION

Olin's original intention was to process all Vinsol coating applications at the North Sweetie Barrel. Consistent with this was Olin's air permit which was based on increased Vinsol Applications through 1995. By improving efficiencies, thereby reducing cycle times, it was anticipated that future Vinsol volumes could be achieved at the North Sweetie Barrel. Although some improvements have been achieved, the North Sweetie Barrel does not have capability to meet the future Vinsol volume requirements.

In order to meet the Vinsol requirements, Olin plans to install a new Sweetie Barrel facility (the Northeast Sweetie Barrel facility). Both the existing North Sweetie Barrel facility and the new Northeast Sweetie Barrel facility will share the same packout facility and powder transfer systems. This will enable Olin to meet its future Vinsol requirements, but will not double the capacity due to the shared equipment. Also, both facilities will be used to blend powders other than those which are Vinsol coated. No isopropyl alcohol is used in the blending of these powders.

In order to maximize Vinsol application efficiencies, some propellants require faster application rates. These rates are requested in this permit application. It should be noted that although Olin is requesting higher instantaneous alcohol rates at two (2) separate barrels, no increase in maximum annual emissions is requested.

	Maximum Emissions		Potential*** Emissions	
	lbs/hr	tons/yr	lbs/hr	tons/yr
Existing North Sweetie Barrel Permit Emissions	13.5	21.4	67.4	107.0
Requested North Sweetie Barrel Permit Emissions	14.9	10.7*	74.4	53.5**
Requested New Northeast Sweetie Barrel Permit Emissions	14.9	*	74.4	**
Requested Combined Emissions	29.8	21.4*	148.8	107.0**

- * Existing Permit Condition
- ** Existing Permit Condition
- *** Potential (uncontrolled) emissions

VI. RULE APPLICABILITY

The proposed project is subject to preconstruction review under the provisions of Chapter 403, Florida Statutes, and Rule 17-2, Florida Administrative Code.

The proposed facility, is located at the Olin Corporation complex in an area (Wakulla County) currently designated attainment for all criteria pollutants in accordance with Florida Administrative Code Rule 17-2.420. This facility site is close to the St. Marks National Wildlife Refuge (Class I area).

The proposed project is exempt from provisions of Rule 12-2.500, Prevention of Significant Deterioration because the increase of emissions do not exceed the significant emission rate (Table 500-2).

The proposed project shall be permitted under Rule 17-2.520, Sources Not Subject to Prevention of Significant Deterioration or Nonattainment Requirements.

The proposed facility shall comply with Rule 17-2.620(1) and (2) General Pollutant Emission Limiting Standard.

For a future modification, this facility (Olin Corporation) may be subject to a PSD review if the net emissions increase of any criteria pollutant is equal to or greater than the significant emissions rate listed in Table 500-2.

VII. SOURCE IMPACT ANALYSIS

VII.1 Emission Limitations

The operation of this facility will produce emissions of isopropyl alcohol (IPA) and particulate matter to the atmosphere.

The amount of solvent used during the process and its emission is limited by permit conditions. This permitted emissions are in compliance with all applicable requirements of Chapter 17-2, Florida Administrative Code.

Table 1 summarizes potential to emit of all pollutants used in this process.

Table 1

Allowable Emissions

<u>Contaminant</u>	<u>VOC Emissions</u>	
	<u>lb/hr</u>	<u>ton/yr</u>
Isopropanol (IPA) Vapors		
North Sweetie Barrel	14.9	10.7
Northeast Sweetie Barrel	14.9	10.7
<u>Contaminant</u>	<u>PM Emissions</u>	
	<u>lb/hr</u>	<u>ton/yr</u>
Powder Dust & Graphite	0.01	0.04

This project will replace existing construction permit AC 65-140731 and existing operating permits AO 65-79867 and AO 65-163478.

	<u>TPY</u>
Existing Unit (AO 65-79867)	5.7
New Units (AC 65-17601)	21.40
Net Increase	15.63

VII.2 Air Quality Analysis

From a technical review of the application, the Department has determined that the construction and operation of this source will not have a detrimental impact on Florida's ambient air quality standards.

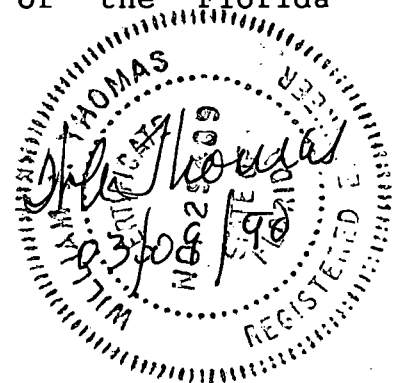
VII.3 Air Toxics Information

Currently, the Department is developing acceptable air emissions levels for toxic substances. Specifically, sources classified as Category A (high and moderate toxicity air contaminant) Category B (low toxicity air contaminant).

Isopropyl alcohol, is considered a Category A compound (moderately toxic air contaminant). The Threshold Limit Value (TLV) are 400 ppm and 980 mg/m³. The minimum safety factor that can be used for this compound is 1/100 of its TWA-TLV for an 8 hours per day operation or 1/420 of its TWA for a 168 hours per week operation.

VIII. CONCLUSION

Based on the information provided by Olin Corporation the Department has reasonable assurance that the proposed construction/installation of the North and Northeast Sweetie Barrels as described in this evaluation, and subject to the conditions proposed herein, will not cause or contribute to a violation of any air quality standard, PSD increment, or any other technical provision of Chapter 17-2 of the Florida Administrative Code.





Florida Department of Environmental Regulation

Twin Towers Office Bldg. • 2600 Blair Stone Road • Tallahassee, Florida 32399-2400

Bob Martinez, Governor

Dale Twachtmann, Secretary

John Shearer, Assistant Secretary

PERMITTEE:
Olin Corporation
P. O. Box 222
St. Marks, Florida 32355

Permit Number: AC 65-176101
Expiration Date: April 30, 1991
County: Wakulla
Latitude/Longitude: 30°10'48"N
84°13'24"W
Project: Installation of a North
and Northeast Sweetie Barrel

This permit is issued under the provisions of Chapter 403, Florida Statutes, and Florida Administrative Code Chapters 17-2 and 17-4. The above named permittee is hereby authorized to perform the work or operate the facility shown on the application and approved drawing(s), plans, and other documents attached hereto or on file with the Department and made a part hereof and specifically described as follows:

For the construction/installation of two (2) BECO Multi-Micro Venturi Scrubbers in series with a second stage packed column to be located at the Olin Corporation Complex, in St. Marks, Wakulla County, Florida.

The source shall be constructed in accordance with the permit application, plans, documents, amendments and drawings, except as otherwise noted in the General and Specific Conditions.

Attachments are listed below:

1. Application to construct Air Pollution Sources, DER Form 17-1.122(16) dated February 13, 1990.

PERMITTEE:
Olin Corporation

Permit Number: AC 65-176101
Expiration Date: April 30, 1991

GENERAL CONDITIONS:

1. The terms, conditions, requirements, limitations, and restrictions set forth in this permit are "Permit Conditions" and are binding and enforceable pursuant to Sections 403.161, 403.727, or 403.859 through 403.861, Florida Statutes. The permittee is placed on notice that the Department will review this permit periodically and may initiate enforcement action for any violation of these conditions.
2. This permit is valid only for the specific processes and operations applied for and indicated in the approved drawings or exhibits. Any unauthorized deviation from the approved drawings, exhibits, specifications, or conditions of this permit may constitute grounds for revocation and enforcement action by the Department.
3. As provided in Subsections 403.087(6) and 403.722(5), Florida Statutes, the issuance of this permit does not convey any vested rights or any exclusive privileges. Neither does it authorize any injury to public or private property or any invasion of personal rights, nor any infringement of federal, state or local laws or regulations. This permit is not a waiver of or approval of any other Department permit that may be required for other aspects of the total project which are not addressed in the permit.
4. This permit conveys no title to land or water, does not constitute State recognition or acknowledgement of title, and does not constitute authority for the use of submerged lands unless herein provided and the necessary title or leasehold interests have been obtained from the State. Only the Trustees of the Internal Improvement Trust Fund may express State opinion as to title.
5. This permit does not relieve the permittee from liability for harm or injury to human health or welfare, animal, or plant life, or property caused by the construction or operation of this permitted source, or from penalties therefore; nor does it allow the permittee to cause pollution in contravention of Florida Statutes and Department rules, unless specifically authorized by an order from the Department.

PERMITTEE:
Olin Corporation

Permit Number: AC 65-176101
Expiration Date: April 30, 1991

GENERAL CONDITIONS:

6. The permittee shall properly operate and maintain the facility and systems of treatment and control (and related appurtenances) that are installed or used by the permittee to achieve compliance with the conditions of this permit, as required by Department rules. This provision includes the operation of backup or auxiliary facilities or similar systems when necessary to achieve compliance with the conditions of the permit and when required by Department rules.

7. The permittee, by accepting this permit, specifically agrees to allow authorized Department personnel, upon presentation of credentials or other documents as may be required by law and at a reasonable time, access to the premises, where the permitted activity is located or conducted to:

- a. Have access to and copy any records that must be kept under the conditions of the permit;
- b. Inspect the facility, equipment, practices, or operations regulated or required under this permit; and
- c. Sample or monitor any substances or parameters at any location reasonably necessary to assure compliance with this permit or Department rules.

Reasonable time may depend on the nature of the concern being investigated.

8. If, for any reason, the permittee does not comply with or will be unable to comply with any condition or limitation specified in this permit, the permittee shall immediately provide the Department with the following information:

- a. a description of and cause of non-compliance; and
- b. the period of noncompliance, including dates and times; or, if not corrected, the anticipated time the non-compliance is expected to continue, and steps being taken to reduce, eliminate, and prevent recurrence of the non-compliance.

PERMITTEE:
Olin Corporation

Permit Number: AC 65-176101
Expiration Date: April 30, 1991

GENERAL CONDITIONS:

The permittee shall be responsible for any and all damages which may result and may be subject to enforcement action by the Department for penalties or for revocation of this permit.

9. In accepting this permit, the permittee understands and agrees that all records, notes, monitoring data and other information relating to the construction or operation of this permitted source which are submitted to the Department may be used by the Department as evidence in any enforcement case involving the permitted source arising under the Florida Statutes or Department rules, except where such use is proscribed by Sections 403.73 and 403.111, Florida Statutes. Such evidence shall only be used to the extent it is consistent with the Florida Rules of Civil Procedure and appropriate evidentiary rules.

10. The permittee agrees to comply with changes in Department rules and Florida Statutes after a reasonable time for compliance, provided, however, the permittee does not waive any other rights granted by Florida Statutes or Department rules.

11. This permit is transferable only upon Department approval in accordance with Florida Administrative Code Rules 17-4.120 and 17-30.300, F.A.C., as applicable. The permittee shall be liable for any non-compliance of the permitted activity until the transfer is approved by the Department.

12. This permit or a copy thereof shall be kept at the work site of the permitted activity.

13. The permittee shall comply with the following:

- a. 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.
- b. 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

PERMITTEE:
Olin Corporation

Permit Number: AC 65-176101
Expiration Date: April 30, 1991

GENERAL CONDITIONS:

records of all data used to complete the application for this permit. These materials shall be retained at least three years from the date of the sample, measurement, report, or application unless otherwise specified by Department rule.

c. Records of monitoring information shall include:

- the date, exact place, and time of sampling or measurements;
- the person responsible for performing the sampling or measurements;
- the dates analyses were performed;
- the person responsible for performing the analyses;
- the analytical techniques or methods used; and
- the results of such analyses.

14. When requested by the Department, the permittee shall within a reasonable time furnish any information required by law which is needed to determine compliance with the permit. If the permittee becomes aware that relevant facts were not submitted or were incorrect in the permit application or in any report to the Department, such facts or information shall be corrected promptly.

SPECIFIC CONDITIONS:

1. Total volatile organic emissions (VOC) from this source shall not exceed 14.9 lbs/hr for the North Sweetie Barrel and 10.6 for the Northeast Sweetie Barrel facilities. Combined emissions from the two facilities shall not exceed 21.4 tons/year.

2. Compliance with VOC standard will be determined by EPA Method 18, Measurement of Gaseous Organic Compound Emissions by Gas Chromatography. Concentration data and calculated mass emission rate will be reported to the Northwest District. Thereafter, compliance with the VOC emission limitations will be maintained based on the monitoring and recording of the scrubber water flow rate previously established during initial compliance tests. The district office shall be notified 15 days prior to test.

3. No objectionable odors are allowed from this facility.

4. This permit replaces current construction permit No. AC 65-140731.

PERMITTEE:
Olin Corporation

Permit Number: AC 65-176101
Expiration Date: April 30, 1991

SPECIFIC CONDITIONS:

5. Upon obtaining an operating permit, the permittee will be required to submit annual reports on the actual operation and emissions of the facility. The scrubber water flow rate data shall be monitored and recorded. This data must be based on written operation and maintenance instructions and logs.

6. These facilities (North and Northeast Sweetie Barrels) shall comply with all applicable provisions of Chapter 17-2 and Chapter 17-4, Florida Administrative Code, and Chapter 403, Florida Statutes.

7. The permittee, for good cause, may request that this construction permit be extended. Such a request shall be submitted to the Bureau of Air Regulation prior to 60 days before the expiration of the permit (F.A.C. Rule 17-4.090).

8. An application for an operation permit must be submitted to the Northwest District office at least 90 days prior to the expiration date of this construction permit or within 45 days after completion of compliance testing, whichever occurs first. To properly apply for an operation permit, the applicant shall submit the appropriate application form, fee, certification that construction was completed noting any deviations from the conditions in the construction permit, and compliance test reports as required by this permit (F.A.C. Rule 17-4.220).

Issued this _____ day
of _____, 1990

**STATE OF FLORIDA DEPARTMENT
OF ENVIRONMENTAL REGULATION**

STEVE SMALLWOOD, P.E.
Director
Division of Air Resources
Management



February 8, 1990

ST. MARKS OPERATIONS
RECEIVED

FEB 8 1990

DER-BAQM

Mr. Bill Thomas
State of Florida
Department of Environmental Regulation
2600 Blairstone Road
Twin Towers Building
Tallahassee, FL 32399-2400

Re: Enclosed Construction Permit Application for Glazing Drum/Air Scrubber

Dear Mr. Thomas:

Permit No. A065-163478, ID No. 10 TLH 650003 01, allows Olin Corporation to operate the North Sweetie Barrel where surface coatings are applied using Isopropyl Alcohol (IPA) as a carrier. The IPA emissions are controlled by a venturi scrubber followed by a packed column topped by a mist eliminator. The present scrubber system has demonstrated in excess of 80% efficiency using U.S. EPA Method 18 criteria.

Due to growth of our business in the surface coated powder types, Olin must expand its capacity for surface coating in the very near future. To respond to that need, Olin is submitting the enclosed Construction Permit Application to install another Sweetie Barrel and Scrubbing System as a modification to the current Operating Permit. Enclosures include:

- 4 copies of the Construction Permit Application
- 1 check for \$200.00 to cover the application fee

As a result of the pre-submission meeting with you, Ms. Heron, Dick Myers and Bill Carroll, we are sure you will be able to judge the application complete. As was discussed in the pre-meeting, time is critical to assure corporate funding.

If you have any questions concerning this application please contact Dick Myers at (904) 925-2721 or Bill Carroll at (904) 925-2714.

Sincerely,

D. E. Findley
Director, St. Marks Operations

DEF/BLM/dfm
REM

cc: J. Pruell
J. Heron

Enclosures (5)

STATE OF FLORIDA
DEPARTMENT OF ENVIRONMENTAL REGULATION

#200 pd
1-8-90
Receipt # 117698
BOB GRAHAM
GOVERNOR

TWIN TOWERS OFFICE BUILDING
2800 BLAIR STONE ROAD
TALLAHASSEE, FLORIDA 32301

RECEIVED



VICTORIA J. TSCHINKEL
SECRETARY

AC 65-176101

FEB 8 1990

APPLICATION TO OPERATE/CONSTRUCT AIR POLLUTION SOURCES

SOURCE DER-BAQM zing Drum/Air Scrubber () New¹ (X) Existing¹

APPLICATION TYPE: (X) Construction () Operation () Modification

COMPANY NAME: Olin Corporation COUNTY: Wakulla

Identify the specific emission point source(s) addressed in this application. Line
North Sweetie Barrel/Scrubber
Kiln No. 4 with Venturi Scrubber; Peeking Unit: No. 2, Gas Fired) & Northeast Sweetie Barrel/Scrubber

SOURCE LOCATION: Street Interstate U.S. 98 & S.R. 363 City St. Marks
UTM: East 767389 (N. Sweetie Barrel) North 3341808 (N. Sweetie Barrel)
767460 (N.E. Sweetie Barrel) North 3341800 (N.E. Sweetie Barrel)
Latitude 30° 10' 48" N (N.S.B.) 30° 10' 47" N (N.E.S.B.) Longitude 84° 13' 24" W (N.S.B.) 84° 13' 21" W (N.E.S.B.)

APPLICANT NAME AND TITLE: D. E. Findley, Director, St. Marks Operations

APPLICANT ADDRESS: Post Office Box 222, St. Marks, Florida 32355

SECTION 1: STATEMENTS BY APPLICANT AND ENGINEER

A. APPLICANT

I am the undersigned owner or authorized representative* of Olin Corporation

I certify that the statements made in this application for a Construction permit are true, correct and complete to the best of my knowledge and belief. Further, I agree to maintain and operate the pollution control source and pollution control facilities in such a manner as to comply with the provision of Chapter 403, Florida Statutes, and all the rules and regulations of the department and revisions thereof. I also understand that a permit, if granted by the department, will be non-transferable and I will promptly notify the department upon sale or legal transfer of the permitted establishment.

*Attach letter of authorization

Signed: D. E. Findley

D. E. Findley, Director, St. Marks Operations
Name and Title (Please Type)

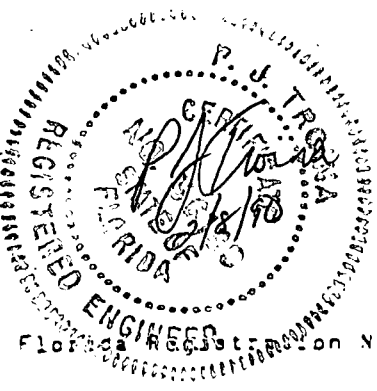
Date: 2/8/90 Telephone No. (904)925-2020

B. PROFESSIONAL ENGINEER REGISTERED IN FLORIDA (where required by Chapter 471, F.S.)

This is to certify that the engineering features of this pollution control project have been designed/examined by me and found to be in conformity with modern engineering principles applicable to the treatment and disposal of pollutants characterized in the permit application. There is reasonable assurance, in my professional judgment, that

¹ See Florida Administrative Code Rule 17-2.100(57) and (104)

the pollution control facilities, when properly maintained and operated, will discharge an effluent that complies with all applicable statutes of the State of Florida and the rules and regulations of the department. It is also agreed that the undersigned will furnish, if authorized by the owner, the applicant a set of instructions for the proper maintenance and operation of the pollution control facilities and, if applicable, pollution sources.



Signed P. J. Troina 2/8/90
P. J. Troina
 Name (Please Type)
Olin Corporation
 Company Name (Please Type)
Post Office Box 222, St. Marks, Florida 32355
 Mailing Address (Please Type)
 Registration No. 36189 Date: August 2, 1985 Telephone No. (904) 925-2718

SECTION II: GENERAL PROJECT INFORMATION

A. Describe the nature and extent of the project. Refer to pollution control equipment, and expected improvements in source performance as a result of installation. State whether the project will result in full compliance. Attach additional sheet if necessary.

See attachment II - Process Description (Sweetie Barrel Vinsol Applications)

B. Schedule of project covered in this application (Construction Permit Application Only)
 Start of Construction March 15, 1990 Completion of Construction December 31, 1990

C. Costs of pollution control system(s): (Note: Show breakdown of estimated costs only for individual components/units of the project serving pollution control purposes. Information on actual costs shall be furnished with the application for operation permit.)
 NEW EQUIPMENT - NORTHEAST SWEETIE BARREL

Scrubber	\$30,000	Installation - Mechanical	\$25,000
Blower	\$5,000	Installation - Electrical	\$10,000
Instruments/Electrical	\$10,000	Engineering	\$20,000
		TOTAL	\$100,000

D. Indicate any previous DER permits, orders and notices associated with the emission point, including permit issuance and expiration dates.

Construction Permit AC65-140731 (North Sweetie Barrel/Scrubber);
Issued 1/25/88; Expired 6/2/89
Operating Permit A065-163478 (North Sweetie Barrel/Scrubber);

E. Requested permitted equipment operating time: hrs/day 24 ; days/wk 7 ; wks/yr 50 ;
if power plant, hrs/yr N/A ; if seasonal, describe: N/A

F. If this is a new source or major modification, answer the following questions.
(Yes or No)

1. Is this source in a non-attainment area for a particular pollutant? NO
 - a. If yes, has "offset" been applied? --
 - b. If yes, has "Lowest Achievable Emission Rate" been applied? --
 - c. If yes, list non-attainment pollutants. --
 2. Does best available control technology (BACT) apply to this source?
If yes, see Section VI. NO
 3. Does the State "Prevention of Significant Deterioration" (PSD)
requirement apply to this source? If yes, see Sections VI and VII. NO
 4. Do "Standards of Performance for New Stationary Sources" (NSPS)
apply to this source? NO
 5. Do "National Emission Standards for Hazardous Air Pollutants"
(NESHAP) apply to this source? NO
- H. Do "Reasonably Available Control Technology" (RACT) requirements apply
to this source? NO
- a. If yes, for what pollutants? _____
 - b. If yes, in addition to the information required in this form,
any information requested in Rule 17-2.650 must be submitted.

Attach all supportive information related to any answer of "Yes". Attach any justifi-
cation for any answer of "No" that might be considered questionable.

SECTION III: AIR POLLUTION SOURCES & CONTROL DEVICES (Other than Incinerators)

A. Raw Materials and Chemicals Used in your Process, if applicable:

Description	Contaminants		Utilization Rate - lbs/hr	Relate to Flow Diagram
	Type	% Wt		
N/A				

B. Process Rate, if applicable: (See Section V, Item 1)

1. Total Process Input Rate (lbs/hr): _____

2. Product Weight (lbs/hr): _____

C. Airborne Contaminants Emitted: (Information in this table must be submitted for each emission point, use additional sheets as necessary)

Name of Contaminant	Emission ¹		Allowed Emission Rate per Rule 17-2	Allowable ³ Emission lbs/hr	Potential ⁴ Emission		Relate to Flow Diagram
	Maximum lbs/hr	Actual T/yr			lbs/yr	T/yr	
N. Sweetie Barrel - IPA	14.9	10.7			74.4	53.5	D-16-8-004 Sht. 2
N.E. Sweetie Barrel - IPA	14.9	10.7			74.4	53.5	D-16-8-005 Sht. 2
Max. Combined - IPA	29.8	21.4*			148.8	107.0*	see above

¹See Section V, Item 2.

²Reference applicable emission standards and units (e.g. Rule 17-2.600(5)(b)2. Table II, E. (1) - 0.1 pounds per million BTU heat input)

³Calculated from operating rate and applicable standard.

⁴Emission, if source operated without control (See Section V, Item 3).

* This represents no increase in emissions or potential emissions above the existing permitted conditions at the North Sweetie Barrel.

J. Control Devices: (See Section V, Item 4)

Name and Type (Model & Serial No.)	Contaminant	Efficiency	Range of Particles Size Collected (in microns) (If applicable)	Basis for Efficiency (Section V Item 5)
BECO Multi -	Isopropyl Alcohol	80%	--	Proven by existing scrubber @ N. Sweet Barr
Microventuri (MMV)	Particulates	92%	≥ 4 microns	*
Venturi Scrubber	Particulates	66%	≥ 2 microns	*
with flooded elbow, in series with a second-stage packed column.	Particulates	41%	> 1 micron	*

*VENDOR GUARANTEE

E. Fuels

Type (Be Specific)	Consumption*		Maximum Heat Input (MMBTU/hr)
	avg/hr	max./hr	
N/A			

*Units: Natural Gas--MMCF/hr; Fuel Oils--gallons/hr; Coal, wood, refuse, other--lbs/hr.

Fuel Analysis:

Percent Sulfur: N/A Percent Ash: N/A
 Density: _____ lbs/gal Typical Percent Nitrogen: _____
 Heat Capacity: _____ BTU/lb _____ BTU/gal
 Other Fuel Contaminants (which may cause air pollution): _____

F. If applicable, indicate the percent of fuel used for space heating.

Annual Average N/A Maximum N/A

G. Indicate liquid or solid wastes generated and method of disposal.

80% of the isopropyl alcohol will be absorbed by the scrubber water and routed to the waste water treatment plant where the BOD load will be reduced to an acceptable level. There will also be insignificant quantities of particulates in the scrubber water.
The scrubber water flow is anticipated to be 30 gpm for each facility during Vinsol coating operations.

H. Emission Stack Geometry and Flow Characteristics (Provide data for each stack):

Stack Height: Discharge to area sump ft. Stack Diameter: 1' 7/16" X 0' 11-1/8" XXX
 Gas Flow Rate: 2640 ACFM 2520 DSCFM Gas Exit Temperature: 72 °F.
 Water Vapor Content: 2.0 % Velocity: 47.7 FPS
 (13" ø duct) Scrubber Outlet

SECTION IV: INCINERATOR INFORMATION

Not Applicable

Type of Waste	Type 0 (Plastics)	Type I (Rubbish)	Type II (Refuse)	Type III (Garbage)	Type IV (Pathological)	Type V (Liq. & Gas By-prod.)	Type VI (Solid By-prod.)
Actual lb/hr Incinerated							
Uncontrolled (lbs/hr)							

Description of Waste _____

Total Weight Incinerated (lbs/hr) _____ Design Capacity (lbs/hr) _____

Approximate Number of Hours of Operation per day _____ day/wk _____ wks/yr. _____

Manufacturer _____

Date Constructed _____ Model No. _____

	Volume (ft) ³	Heat Release (BTU/hr)	Fuel		Temperature (°F)
			Type	BTU/hr	
Primary Chamber					
Secondary Chamber					

Stack Height: _____ ft. Stack Diameter: _____ Stack Temp. _____

Gas Flow Rate: _____ ACFM _____ DSCFM* Velocity: _____ FPS

*If 50 or more tons per day design capacity, submit the emissions rate in grains per standard cubic foot dry gas corrected to 50% excess air.

Type of pollution control device: Cyclone Wet Scrubber Afterburner
 Other (specify) _____

Brief description of operating characteristics of control devices: _____

Ultimate disposal of any effluent other than that emitted from the stack (scrubber water, ash, etc.):

NOTE: Items 2, 3, 4, 6, 7, 8, and 10 in Section V must be included where applicable.

SECTION V: SUPPLEMENTAL REQUIREMENTS

Please provide the following supplements where required for this application.

1. Total process input rate and product weight -- show derivation [Rule 17-2.100(127)]
2. To a construction application, attach basis of emission estimate (e.g., design calculations, design drawings, pertinent manufacturer's test data, etc.) and attach proposed methods (e.g., FR Part 60 Methods 1, 2, 3, 4, 5) to show proof of compliance with applicable standards. To an operation application, attach test results or methods used to show proof of compliance. Information provided when applying for an operation permit from a construction permit shall be indicative of the time at which the test was made.
3. Attach basis of potential discharge (e.g., emission factor, that is, AP42 test).
4. With construction permit application, include design details for all air pollution control systems (e.g., for baghouse include cloth to air ratio; for scrubber include cross-section sketch, design pressure drop, etc.)
5. With construction permit application, attach derivation of control device(s) efficiency. Include test or design data. Items 2, 3 and 5 should be consistent: actual emissions = potential (1-efficiency).
6. An 8 1/2" x 11" flow diagram which will, without revealing trade secrets, identify the individual operations and/or processes. Indicate where raw materials enter, where solid and liquid waste exit, where gaseous emissions and/or airborne particles are evolved and where finished products are obtained.
7. An 8 1/2" x 11" plot plan showing the location of the establishment, and points of airborne emissions, in relation to the surrounding area, residences and other permanent structures and roadways (Example: Copy of relevant portion of USGS topographic map).
8. An 8 1/2" x 11" plot plan of facility showing the location of manufacturing processes and outlets for airborne emissions. Relate all flows to the flow diagram.

9. The appropriate application fee in accordance with Rule 17-4.05. The check should be made payable to the Department of Environmental Regulation.
10. With an application for operation permit, attach a Certificate of Completion of Construction indicating that the source was constructed as shown in the construction permit.

SECTION VI: BEST AVAILABLE CONTROL TECHNOLOGY

A. Are standards of performance for new stationary sources pursuant to 40 C.F.R. Part 60 applicable to the source?

Yes No

Contaminant	Rate or Concentration
N/A	

B. Has EPA declared the best available control technology for this class of sources (If yes, attach copy)

Yes No

Contaminant	Rate or Concentration

C. What emission levels do you propose as best available control technology?

Contaminant	Rate or Concentration
N/A	

D. Describe the existing control and treatment technology (if any).

1. Control Device/System: ^{North Sweetie Barrel} BECO Scrubber
2. Operating Principles: Venturi/Packed Column
3. Efficiency: + 80% (EPA Reference Method 18)
4. Capital Costs: \$45,893

*Explain method of determining

- 5. Useful Life: 11 years
- 7. Energy: 10 HP Blower
- 9. Emissions: 21.4 Tons/Yr.

- 6. Operating Costs: Minimum
- 8. Maintenance Cost: Minimum

Contaminant	Rate or Concentration
Isopropyl Alcohol	67.4 lbs/hr scrubbed to 13.5 lbs/hr (21.4 T/Y)

10. Stack Parameters

- a. Height: N/A (discharges to sump) ft.
- b. Diameter: 1' 7/16" X 0' 11-1/8" ft.
- c. Flow Rate: 2640 ACFM
- d. Temperature: 72 °F.
- e. Velocity: 47.7 FPS (Measured in 13" ø scrubber outlet duct)

E. Describe the control and treatment technology available (As many types as applicable, use additional pages if necessary).

1.

- a. Control Device:
- b. Operating Principles:
- c. Efficiency:¹
- d. Capital Cost:
- e. Useful Life:
- f. Operating Cost:
- g. Energy:²
- h. Maintenance Cost:
- i. Availability of construction materials and process chemicals:
- j. Applicability to manufacturing processes:
- k. Ability to construct with control device, install in available space, and operate within proposed levels:

2.

- a. Control Device:
- b. Operating Principles:
- c. Efficiency:¹
- d. Capital Cost:
- e. Useful Life:
- f. Operating Cost:
- g. Energy:²
- h. Maintenance Cost:
- i. Availability of construction materials and process chemicals:

¹ Explain method of determining efficiency.

² Energy to be reported in units of electrical power - KWH design rate.

- j. Applicability to manufacturing processes:
- k. Ability to construct with control device, install in available space, and operate within proposed levels:

3.

- a. Control Device:
- b. Operating Principles:
- c. Efficiency:¹
- d. Capital Cost:
- e. Useful Life:
- f. Operating Cost:
- g. Energy:²
- h. Maintenance Cost:
- i. Availability of construction materials and process chemicals:
- j. Applicability to manufacturing processes:
- k. Ability to construct with control device, install in available space, and operate within proposed levels:

4.

- a. Control Device:
- b. Operating Principles:
- c. Efficiency:¹
- d. Capital Costs:
- e. Useful Life:
- f. Operating Cost:
- g. Energy:²
- h. Maintenance Cost:
- i. Availability of construction materials and process chemicals:
- j. Applicability to manufacturing processes:
- k. Ability to construct with control device, install in available space, and operate within proposed levels:

F. Describe the control technology selected:

- 1. Control Device: Venturi scrubber with packed column
- 2. Efficiency:¹ 80%
- 3. Capital Cost: \$100,000 (installed system cost)
- 4. Useful Life: 12 years
- 5. Operating Cost: Minimum
- 6. Energy:² 10 HP Blower
- 7. Maintenance Cost: Minimum
- 8. Manufacturer: BECO Engineering Company
- 9. Other locations where employed on similar processes:
- a. (1) Company:
- (2) Mailing Address:
- (3) City:
- (4) State:

¹Explain method of determining efficiency.
²Energy to be reported in units of electrical power - KWH design rate.

(5) Environmental Manager:

(6) Telephone No.:

(7) Emissions:¹

Contaminant

Rate or Concentration

(8) Process Rate:¹

b. (1) Company:

(2) Mailing Address:

(3) City:

(4) State:

(5) Environmental Manager:

(6) Telephone No.:

(7) Emissions:¹

Contaminant

Rate or Concentration

(8) Process Rate:¹

10. Reason for selection and description of systems: Efficiency proven at St. Marks North Sweetie Barrel Scrubber.

¹Applicant must provide this information when available. Should this information not be available, applicant must state the reason(s) why.

SECTION VII - PREVENTION OF SIGNIFICANT DETERIORATION

A. Company Monitored Data N/A

1. _____ no. sites _____ TSP _____ () SO₂ _____ Wind spd/dir

Period of Monitoring _____ / _____ / _____ to _____ / _____ / _____
month day year month day year

Other data recorded _____

Attach all data or statistical summaries to this application.

Specify bubbler (B) or continuous (C).

APPENDICES

	<u>Pages</u>
I. St. Marks Operations (Plant Operational Description)	2
II. Process Description	3 - 4
III. Capacity Versus Environmental Requirements	5
IV. IPA Material Balance (Schematic Diagram)	6
V. Emission Calculations	7
VI. Scrubber Quotation	8 - 13
VII. Fan Specification	14 - 16
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IX. Fan Performance Curve	19
X. North Sweetie Barrel Scrubber 1989 Compliance Test Performance	20
XI. Plant Plot Plan (D-12-0-086, Rev. A)	
XII. North Sweetie Barrel Equipment Layout (Existing, D-16-4-8, Rev. 3)	
XIII. Northeast Sweetie Barrel Equipment Layouts (Proposed, D-16-4-036, Rev. A & D-16-4-039, Rev. A)	
XIV. North Sweetie Barrel Scrubber Flow Diagram (Existing, D-16-8-004, Sht. 2, Rev. 0)	
XV. Northeast Sweetie Barrel Scrubber Flow Diagram (Proposed, D-16-8-005, Sht. 2, Rev. B)	
XVI. North Sweetie Barrel Scrubber P & I Diagram (Existing, D-16-9-005, Sht. 2, Rev. 17)	
XVII. Northeast Sweetie Barrel Scrubber P & I Diagram (Proposed, D-16-9-012, Sht. 2, Rev. B)	

APPENDIX I

OLIN ORDNANCE ST. MARKS OPERATIONS A DIVISION OF OLIN DEFENSE SYSTEMS GROUP

The Olin Corporation facility at St. Marks produces BALL POWDER® propellant for small and intermediate caliber ammunition. The basic raw material for the manufacture of this propellant is nitrocellulose. Part of the nitrocellulose is purchased from an outside vendor and the rest is obtained by recovering it from recycled propellants.

The purchased and recovered nitrocellulose are both processed to form a lacquer by dissolving them in ethyl acetate in a batch-operated lacquer make-up step. This lacquer is continuously processed into single-base, hardened spherical grains in the graining step. The aqueous solution used for suspension in the graining step contains bone glue and sodium sulfate which serve specific functions in grain control. The ethyl acetate used to form the lacquer is removed by distillation and recovered by condensation for re-use in the lacquer make-up step. The hardened grains are screened in Size Separation to segregate the grains into specific granulation ranges for further processing.

The next step is the coating operation in which single-base grains are processed, batch-wise, to incorporate nitroglycerine, followed in some cases by the addition of a deterrent for the purpose of energy potential modification and burning rate control. The carrying solvent, ethyl acetate for nitroglycerine, is removed by distillation, and recovered for re-use. Some of these coated powders require rolling to change the surface area and to further modify the burning rate. This is done in the rolling step by flowing the double-base grains in a water slurry between two opposing steel rolls.

The propellant is then dried in continuous flow dryers in which the propellant is contacted with hot air. Graphite is added during the drying operation for static control and improved flow characteristics.

Some powders receive surface coatings for control of ignition and as a flash suppressant. This coating is applied continuously in a rotating drum by the addition of a slurry using isopropyl alcohol as the carrier. In the Sweetie Barrel, a hot water jacket is used to evaporate the alcohol.

The propellant is then blended to meet final ballistic specifications and packed out ready for shipment.

All heat applied throughout the process is provided by steam from two Cleaver Brooks boilers. The boilers are fired with #6 Fuel Oil.

All waste waters from the plant are treated through a 750,000 gpd activated sludge waste treatment facility.

APPENDIX II

PROCESS DESCRIPTION

North and Northeast Sweetie Barrels

Vinsol coating operations will be performed in both the existing North Sweetie Barrel facility and the new Northeast Sweetie Barrel facility. Packout for both facilities will be accomplished in the existing North Sweetie Barrel Packout facility. Due to the hazardous nature of the process, all three facilities are separated by standard Department of Defense quantity/distance standards although the dump, coating/blend, and packout operations are considered to be one process. A diverter valve will be installed in the airveying line at the discharge of the dump hopper at the packout. By using this diverter valve uncoated powder can be airveyed to either Sweetie Barrel. Another diverter valve will be installed in the line feeding the cyclone that drops powder to the Bemis Scale at the packout. This will enable coated or blended powder from either Sweetie Barrel to be packed out at the existing packout.

Vinsol Coating

Olin purchases a pre-mixed 50% Vinsol/50% Isopropyl Alcohol (IPA) solution (by weight) in a 55-gallon drum, and uses a Vinsol unloading pump to transfer the solution from the drum to a 200-gallon, agitated, Vinsol tank located inside the Sweetie Barrel building.

Pure IPA is used to flush the equipment feeding Vinsol to the drum so that the Vinsol/IPA ratio ends up being 45/55. The source of the pure IPA is a 140-gallon IPA tank.

The interior surface of the Sweetie Barrel will first be pre-coated with graphite. An increment of powder which is to be Vinsol coated will be loaded into the barrel from the existing remote packout building using the existing pneumatic conveying system. Hot water will then be circulated through the jacket of the Sweetie Barrel as it rotates per the process order.

A metering pump and a spray nozzle, controlled by a timer, will be used to either continuously or intermittently feed a known volume of Vinsol/IPA mixture from the Vinsol tank to the rotating Sweetie Barrel over a period dictated by the process order, coating the powder as the mixture is sprayed into the barrel. The Vinsol component of the mixture adheres to the surface of the powder grains while the IPA evaporates. When the coating is complete, a small volume of pure IPA is used to flush the metering pump and the spray nozzle. The flush IPA is pumped onto the coated powder in the barrel where it also evaporates.

Vinsol coated powder continues to tumble in the heated barrel for a period dictated by the process order to ensure complete evaporation of IPA. Additional graphite will be added to the batch, and it will then be tumbled under cooling conditions (process water circulated through the jacket) until its temperature decreases to 32°C and the powder is free-flowing.

PROCESS DESCRIPTION (continued)

The finished batch of coated powder is finally dumped from the Sweetie Barrel to a hopper, where it is returned to the remote packout building via the airveying system. The coated powder is then trucked to a temporary storage magazine. At a later date the coated powder is returned to the packout building and pneumatically transferred to a sweetie barrel where it is blended with uncoated powder to obtain a mixture that yields the desired ballistic characteristics.

APPENDIX III

CAPACITY VERSUS ENVIRONMENTAL REQUIREMENT

Olin's original intention was to process all Vinsol coating applications at the North Sweetie Barrel. Consistent with this was Olin's air permit which was based on increased Vinsol applications through 1995. By improving efficiencies, thereby reducing cycle times, it was anticipated that future Vinsol volumes could be achieved at the North Sweetie Barrel. Although some improvements have been achieved, the North Sweetie Barrel does not have capability to meet the future Vinsol volume requirements.

In order to meet the Vinsol requirements, Olin plans to install a new Sweetie Barrel facility (the Northeast Sweetie Barrel facility). Both the existing North Sweetie Barrel facility and the new Northeast Sweetie Barrel facility will share the same packout facility and powder transfer systems. This will enable Olin to meet its future Vinsol requirements, but will not double the capacity due to the shared equipment. Also, both facilities will be used to blend powders other than those which are Vinsol coated. No isopropyl alcohol is used in the blending of these powders.

In order to maximize Vinsol application efficiencies, some propellants require faster application rates. These rates are requested in this permit application. It should be noted that although Olin is requesting higher instantaneous alcohol rates at two (2) separate barrels, no increase in maximum annual emissions is requested.

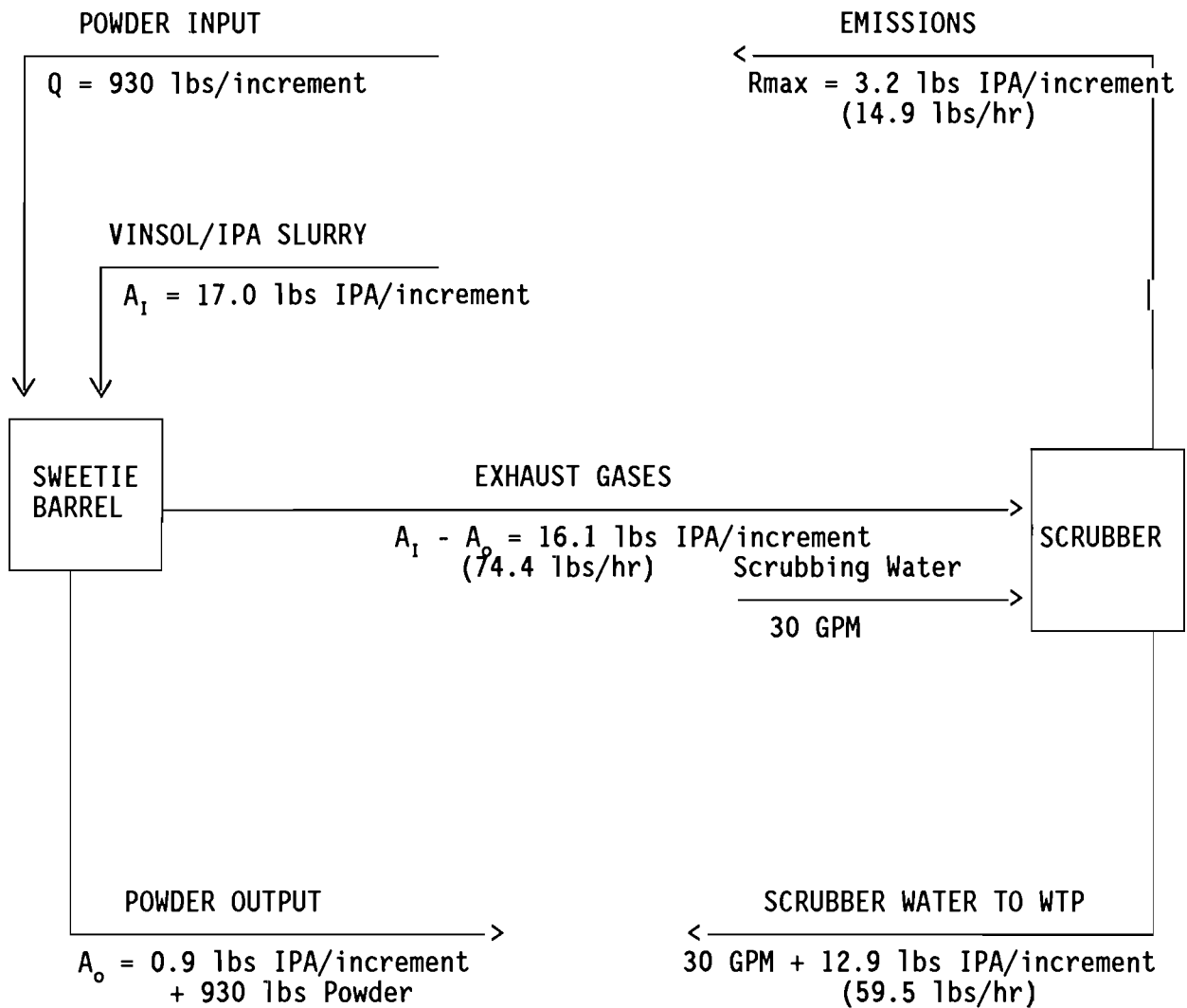
	<u>MAXIMUM LBS/HR</u>	<u>EMISSIONS TONS/YR</u>	<u>POTENTIAL LBS/HR</u>	<u>POTENTIAL EMISSIONS TONS/YR</u>
Existing North Sweetie Barrel Permit Emissions	13.5	<u>21.4*</u>	67.4	<u>107.0*</u>
Requested North Sweetie Barrel Permit Emissions	14.9	10.7	74.4	53.5
Requested New Northeast Sweetie Barrel Permit Emissions	14.9	10.7	74.4	53.5
Requested Combined Emissions	29.8	<u>21.4*</u>	148.8	<u>107.0*</u>

* Existing Permit Condition

APPENDIX IV

IPA MATERIAL BALANCE
(Schematic Diagram)

BASIS: 54 Series Propellant
 930 lbs Powder Per Increment
 1.5% Vinsol Add
 IPA:Vinsol = 55/45
 13 Minute Continuous Add
 0.1% Residual IPA in coated propellant



*Number rounded to nearest 0.1

APPENDIX V

EMISSION CALCULATIONS

Below are the calculations for determination of emissions for isopropyl alcohol (IPA) for the operations of Vinsol coating BALL POWDER® propellant in the St. Marks North Sweetie Barrel and Northeast Sweetie Barrel facilities:

E = IPA emissions, tons per year

A_I = IPA input to Sweetie Barrel, pounds per increment

A_o = IPA retained in powder, pounds per increment

S_E = 80% = Scrubber efficiency for absorption of IPA vapors from Sweetie Barrel exhaust gases

R_{MAX} = Maximum IPA emissions, pounds per hour

Q = 930 lbs = Increment size

C = 0.1% by weight = Concentration of IPA in powder after surface coating

1. MAXIMUM ANNUAL IPA EMISSIONS (Sum of both Sweetie Barrels)

E = 21.4 Tons Per Year (Specified by existing permit)

2. MAXIMUM IPA EMISSION RATE

$$R_{MAX} = (A_I - A_o)((100 - S_E)/100)$$

$$A_I = Q(\% \text{ Vinsol Add})(\text{IPA:Vinsol}) = 930(0.015)(55/45) = 17.0 \text{ lbs IPA}$$

$$A_o = Q(\text{Residual IPA}) = 930(0.001) = 0.9 \text{ lbs IPA}$$

$$S_E = 80\%$$

$$R_{MAX} = (17.0 - 0.9)((100 - 80)/100) = 3.2 \text{ lbs IPA}$$

(Conversion to lbs/hr)

$$(A_I - A_o) \times (60 \text{ min/hr}/13 \text{ min add}) = (17.0 - 0.9)(60/13) = 74.4 \text{ lbs/hr each or } 148.8 \text{ lbs for both facilities}$$

$$(R_{MAX}) \times (60 \text{ min/hr}/13 \text{ min add}) = (3.2)(60/13) = 14.9 \text{ lbs/hr each or } 29.8 \text{ lbs/hr for both facilities}$$

3. POTENTIAL IPA EMISSIONS (Without Controls - Scrubber)

E = 107.0 Tons Per Year (specified by existing permit) - Total, sum of both facilities

$$R_{MAX} = (A_I - A_o)$$

R_{MAX} = 17.0 - 0.9 lbs IPA or 74.4 lbs/hr each or 148.8 lbs/hr total for both facilities



BECO ENGINEERING COMPANY

QUOTATION NO. P0989-1

Att: Iloni Kranz
 Purchasing Department
 Olin Corporation
 P. O. Box 222
 St. Marks, Florida 32355

November 1, 1989

This proposal is in response to a telephone request from Mr. Perry Troina of Olin Corporation for a re-quote of Beco Quotation No. P0337-1, dated April 22, 1987. This quotation was in response to Olin Inquiry No. 1997-1 for the supply of an isopropyl alcohol (IPA) scrubber in accordance with Olin's Specification Number S-199771, Revision A. The venturi design proposed for the IPA scrubber is:

A Multi-MicroVenturi (MMV) venturi scrubber with flooded elbow, in series with a second-stage packed column.

I. Design Considerations

A. Particulate Removal

The major scrubber duty is understood to be the removal of the 1 to 4-micron ball-powder/graphite dust load. The dust load is understood to be 2% by weight (maximum) of the gas rate. Although venturi scrubbing is the optimum means of handling the high dust load, the single-stage contact of a venturi will not satisfy the IPA absorption efficiency requirement. Additional downstream absorption capability must be provided in the form of spray or countercurrent packed contacting.

B. IPA Recovery

The efficiency of removal of isopropyl alcohol (IPA) from air by once-through water scrubbing is determined by the liquid temperature (equilibrium line) the water/gas ratio (operating line) and the contact efficiency and residence time. At a water scrub rate of 10 G/MCF, the theoretical number of transfer units (NTU) required for the specified 80% IPA removal is 4.0, whereas at 15 G/MCF, an NTU of only 2.1 is needed to meet the 80% removal efficiency specification. Design has been based on the use of 11.5 G/MCF.

II. Proposed Equipment: Venturi/Packed Column

The proposed equipment arrangement for the venturi/packed tower scrubber is shown in Drawing No. P0337-6. The venturi section shall be Beco Engineering's "Multi-MicroVenturi" (MMV) unit, and the second-stage packed section shall be a 36" diameter countercurrent Brush-Pack/Mist-Master unit.

A. Multi-MicroVenturi:

The venturi design proposed is a new, field-proven, low-pressure-drop enhanced venturi design, described in the appended brochure. Although the MMV array is not susceptible to plugging because of its open structure, it is supplied as a replaceable module, removable through a side access door on the shell.

Water supply to the MMV shall total 15 GPM, with 10 GPM supplied as a centrifugally-dispersed wetted-wall wash in the protected annular section between the 12" inlet and the 18" tapered outer shell. It should be noted that the wetted-wall water injection is designed to take place out of the main air stream and out of direct contact with the particulate entering the scrubber.

A secondary spray of 5 GPM shall be injected directly upstream of the MMV module to provide for full wetting of the MMV module. If accumulation of the dry powder on graphite on this spray header is considered to be a potential problem, then the spray can be re-located to the wall as twin side sprays. These nozzles will be in the wetted-wall irrigated zone, so that any particulate will be continuously rinsed off.

The downstream portion of the MMV stage shall be a flooded elbow connecting to the packed column stage. A 2-inch diameter drain nozzle shall be provided for removal of the main gunpowder-graphite particulate.

B. Packed Column:

The packed scrubber stage shall be a 36-inch i.d. vessel containing:

- (a) gas entry
- (b) 12-inch deep 304 SS Brush-Pack section,
- (c) Mist-Master mist eliminator/polishing filter
- (d) flanged gas exhaust section.

The packed column stage shall be comprised of a 12" deep bed of Brush-Pack packing and a final Mist-Master high-efficiency mist eliminator, with bi-directional sprays located between the two sections. The packed column has two functions: removal of the mist (i.e., "mud") carried over from the venturi section, and completion of the IPA removal.

Despite the fact that the Brush-Pack bed is only 12" deep in the proposed design, this depth provides for 95% mist elimination for spray carryover from below the bed, and the provision of 1.5 to 2.0 NTU with the top spray irrigation rate of 7 GPM. The Brush-Pack shall be Type 304 stainless, with 8-mil filament. An 8-inch diameter access port (not shown on drawing) shall be provided for installation and removal of the Brush-Pack. The Brush-Pack shall be supplied in separate boxes for field installation.

The top Mist-Master stage shall be 36" diameter, with a 6" thick pad, Style 5CA, 7.5 PCF density, fabricated in Type 304 SS with 304 SS top and bottom grids, made in 1 piece to fit on 1" wide support ring. Grid diameter shall be 35" and the pad shall be equipped with 3 Mist-Master drainage rolls. The Mist-Master shall provide the final stage of particulate and mist elimination, and shall also provide the extended wetted surface area necessary for a final stage of polishing scrubbing for IPA removal.

The scrubber bottom shall be sloped as shown in the drawing, and a fan spray shall be provided for intermittent flushing of the sloped bottom.

The basic design details and operating parameters of the proposed scrubber are summarized in Table 1. Paragraphs 1.0 through 8.0 of the Olin specifications shall apply to the design and supply of the proposed scrubber system. The fabrication of the scrubber vessel shall be in accordance with Olin Standard S-4-6.

TABLE I
EQUIPMENT SPECIFICATIONS

I. EXIT GAS STREAM (Based on Olin Design Condition II and normal inlet temperature)

GAS FLOW RATE:	2370 ACFM
GAS TEMPERATURE:	84° F.
GAS PRESSURE:	6" W. C. < inlet pressure

II. PRESSURE DROP

Brush-Pack:	1.0" W.C.
Mist-Master;	0.75" W.C.
Venturi:	4.0" W.C.
Entrance and exit losses:	<u>0.25" W.C.</u>
TOTAL	6.0" W.C.

III. WATER FLOW

VENTURI	15 GPM
PACKED COLUMN	<u>14 GPM</u>
TOTAL	29 GPM

III. Warranty

Beco Engineering guarantees that the system, when operated under the above specified design conditions, shall remove not less than 80% of the isopropyl alcohol entering the scrubber when the system is operated at Olin's specified design conditions. In addition, the scrubber shall provide minimum fine solids removal efficiencies as follows:

<u>Particle Diameter</u> <u>microns</u>	<u>% Removal</u> <u>Efficiency</u>
4	92
2	66
1	41

In the event the system fails to meet guaranty, the customer shall notify Beco Engineering and shall provide Beco all reasonable opportunity to make corrections. If, after such corrections, Beco shall be unable to bring the system within guaranteed limits, Beco will refund the cost of the system to the customer and the customer shall return the system to Beco.

IV. Price

Price\$28,200.00

TERMS AND CONDITIONS

Price quoted above is FOB point of manufacture and is exclusive of all federal, state, local, municipal or other sales, use, personal property or similar taxes.

Freight charges are estimated at \$1200. Shipment shall be by common carrier.

Delivery shall be 8-10 weeks after drawing approval.

Approval Drawings will be submitted 2 weeks after receipt of written purchase order.

Terms of Payment: 10% with order, 20% on purchaser's receipt of approval drawings, balance net on shipment of equipment. All invoices are payable net on receipt.

Field Supervision: The per diem rate for construction advisory and startup service, if required, is \$600 plus justifiable travel and living expenses for each day the employee is away from his home office. All living and travel expenses will be billed separately at cost and are payable on receipt.

Mechanical Warranty: Beco Engineering warrants that the products sold will be free of defects in material and workmanship provided that operating and maintenance instructions are fully complied with. Beco shall replace or repair, at its sole option, any part or parts which are defective within twelve months following the date of initial utilization, but no later than 18 months following delivery of the equipment to customer. Parts and equipment furnished by others are guaranteed only to the extent of the original manufacturer's guarantee to Beco.

BECO ENGINEERING COMPANY

By 

B. J. Lerner

enc.
BJL/ws

PLANT: ST. Marks	UNIT/AREA: Blending Barrel, 16-4
GENERAL INFORMATION	
ITEM NUMBER: 488-409	SERVICE: IPA Scrubber Blower
NUMBER REQUIRED: One	

IPA SCRUBBER BLOWER

Equipment Number 488-409

- 1.0 General Requirements
- 2.0 Service Conditions
- 3.0 Blower Design
- 4.0 Warranty Requirements
- 5.0 Documentation

Attachments: Motor Specification S-6-3, Revision 5
 Painting Specification S-2-6, Revision 3

CAR NO.	PO NO.	DATE	PURPOSE	BY	CHK	APP	SPEC. NO.	REV
DSGSM 9.073	BM NO.	1/23/90	For Purchase	JDD			S-2741-004	0
SUPPLIER/CONTRACTOR							SHT 1 OF 3	

1.0 GENERAL REQUIREMENTS

- 1.1 The vendor shall furnish one industrial exhaust blower per this specification and the General Terms and Conditions of the Standard Contract.
- 1.2 The exhaust blower will be used to pull air through a water scrubber.
- 1.3 The exhaust blower will draw the rotating drum dryer air, and isopropyl alcohol (IPA) vapors through a venturi type water scrubber and discharge the air to atmosphere.

2.0 SERVICE CONDITIONS

2.1 Design Service

Gas Handled:	Air**
Flow/Pressure:	2520 scfm at 10.7" W.C. static pressure.
Inlet Temperature (Normal):	71°F
Inlet Temperature: (Maximum)	158°F
Gas MW:	28.560 #/# mole
Gas Density:	0.0697 #/ft. ³
Particulate Loading:	**
Site Elevation:	12 feet

** Normal particulate loading will be minimal amounts of BALL POWDER® Propellant and trace quantities of graphite dust; see spark resistant construction requirements in Section 3.0. In addition, normal conditions will include less than 0.2% volume IPA vapors in the air stream, with potential IPA vapor concentration excursions to above the lower explosion limit of 2.0% volume. This fan shall also have a fine water spray of less than one gpm at the inlet flange. (furnished and installed others).

2.2 Ambient Air Design Basis

	<u>Dry Bulb</u>	<u>Wet Bulb</u>
Summer	95°F	80°F
Winter	33°F	(saturated)

3.0 BLOWER DESIGN

- 3.1 The fan shall be a Twin City size 913 RBA industrial exhauster with the following features:
 - 3.1.1 AMCA Type A spark resistant construction.
 - 3.1.2 V-belt drive arrangement 9R, construction #2, 1.5 service factor.

3.0 BLOWER DESIGN

3.1 The fan features (Continued)

- 3.1.3 Clockwise rotation.
- 3.1.4 Top angular down discharge.
- 3.1.5 RPM to be 2007 or as required to meet the design conditions specified in Section 2.1.
- 3.1.6 10 HP, 1800 RPM motor rated for Class I, Group D; Class II, Group G service. 460/60/3. Motor manufacturer and specifications shall conform to Olin specification S-6-3, Revision 5.
- 3.1.7 Designed for continuous duty service.
- 3.1.8 OSHA approved and weatherproof belt/shaft guards.
- 3.1.9 Inlet and outlet flanges.
- 3.1.10 All exposed carbon steel components to be shop primed as specified in Olin specification S-2-6, Revision 3.
- 3.1.11 Bolted access door in fan housing.
- 3.1.12 Drain in bottom of fan housing.
- 3.1.13 Furnish an aluminum opposed-blade outlet control damper Ruskin Model OD102.
- 3.1.14 Tag blower baseplate with "488-409".

4.0 WARRANTY REQUIREMENTS

- 4.1 The equipment shall be free from defects in design, material, and workmanship for a period of 18 months from shipment or 12 months from start-up, whichever occurs first.
- 4.2 If any off-standard conditions are observed upon start-up or during testing, or if equipment fails to meet performance requirements, the vendor shall furnish the labor and materials to make changes or replace equipment as required, at his expense.

5.0 DOCUMENTATION

- 5.1 The vendor shall submit 3 copies of the following information within 3 weeks ARO:
 - 5.1.1 Operation and maintenance manual
 - 5.1.2 Certified dimensional drawing
 - 5.1.3 Certified performance data
 - 5.1.4 Spare parts list

J. W. HARNED CO.

MANUFACTURERS' REPRESENTATIVE

FAX PAGE ONE (1) OF THREE (3)

November 6, 1989

Olin Corporation
P.O. Box 222
St. Marks, Florida 32355

CONFIRMING FAX SENT 11-6-89

Attention: Ms. Iloni Franz - PURCHASING DEPT.
CC: Mr. Perry Troina - ENGINEERING DEPT. ←

Reference: TWIN CITY 913 "RBA" Industrial Fan
JWH Co. Quote # 77QT-11-6-89DSE

Dear Ms. Franz:

In reference to an October 31, 1989 request from Mr. Troina, we are pleased to offer the following TWIN CITY FAN & BLOWER COMPANY equipment for your consideration. This equipment offered is a duplicate industrial exhauster as originally supplied to Olin Corp. in September 1987 under TCF SO# 62836 and Olin PO# 006432.

Item 1: Quantity One (1) TWIN CITY Size 913 "RBA" Industrial Exhauster as shown in the attached TCF Dwg. BC-62836A1 and performance curve CN-20730. The exhauster will be as originally supplied less the spare wheel and shaft as stated in notes 02 and 04.

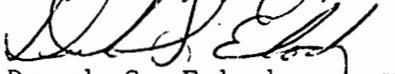
Price per unit no freight allowed \$ 4,645.00
Estimated freight to St. Marks, Florida . \$ 275.00

Shipment of equipment will be within 8 weeks after receipt of your Purchase Order.

Prices quoted are valid through December 31, 1989. Our standard terms of net thirty (30) days, F.O.B. our factory in Brookings, South Dakota with no freight allowed (estimated provided), shall apply.

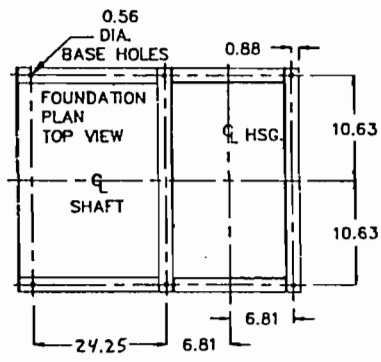
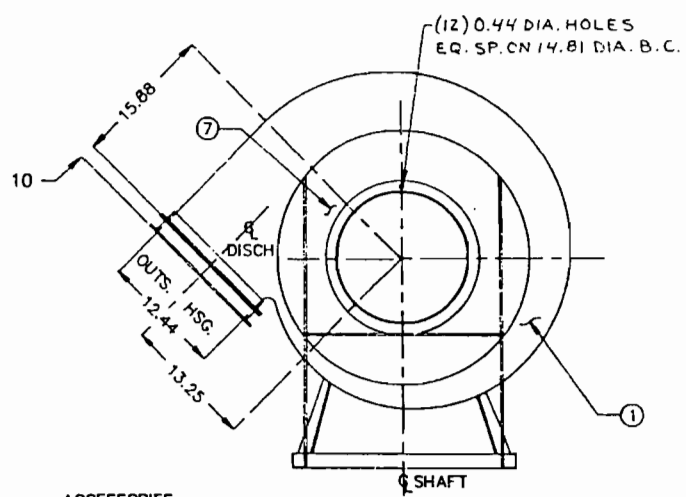
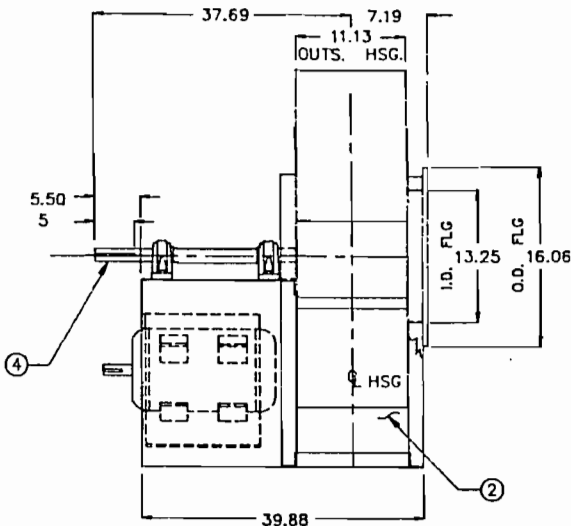
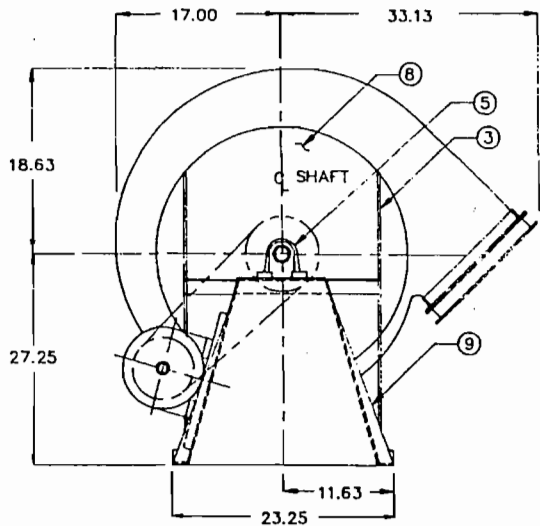
Please contact the writer if you require additional information.

Very truly yours,


Derek S. Embody
Sales Representative - TAMPA
J.W. HARNED COMPANY

DSE/mds
Attachments

8825 N.E. 2nd Avenue, Miami, Florida 33138, (305) 751-6259
Jacksonville (904) 724-0292
5445 Mariner Street, Suite 100, Tampa, Florida 33609, (813) 877-2411 ←



9	PEDESTAL	BS-8862
8	DRIVE PLATE	BS-8947 - C
7	INLET ASSEMBLY ALUM	CS-8940 - C
6	WHEEL (NOT SHOWN) 22.63 DIA. 1.688 BORE (NOTE 4)	CS-8937 - C
5	BEARINGS 1.687 DIA.	
4	SHAFT 1.687 DIA. W/ 0.38x0.19 KWY. SH461	BS-8933 - C
3	FRAME W/ 2x2 BASE ANGLES (NOTE 3)	BS-8868
2	HOUSING SCROLL .190 GA.	CS-7980 - C
1	HOUSING SIDE .190 GA.	CS-7980 - C
ITEM	DESCRIPTION	DWG. NO.

- ACCESSORIES
- ACCESS DOOR-BOLTED
 - BELT GUARD-TOTALLY ENCLOSED
 - FLANGED INLET PER BS-8790-B
 - OUTLET FLANGE PER BS-8790-B
 - SHAFT GUARD-PER AS-5135-2
 - HOUSING DRAIN
 - OUTLET DAMPER-OPPOSED BLADE-
-RUSKIN OD102 MTD BY TCF
 - SPARK RESISTANT TYPE A CONSTRUCTION
 - SPECIAL COATING PER CUSTOMER SPEC S-2-6 EPOXY THREE COAT SYSTEM -GUARDS & PEDESTAL ONLY
 - MOTOR DESC.: 10HP 1800RPM 3/60/460 TEFC HI-EFF EXPL-PROOF RELIANCE MIL & CHEM 215T FRAME FURN & MTD BY TCF
 - V-BELT DRIVE-CONST.SPEED 1.5 SF FURN BY TCF
- NOTES
- OUTLET DAMPER TO BE ALUMINUM AEROFOIL BLADES, ALUMINUM FRAME WITH STAINLESS STEEL AXLES
 - SPARE ALUMINUM WHEEL TO BE MOUNTED ON A SPARE MILD STEEL SHAFT WITH ALUMINUM SLEEVE
 - SAME AS BS-8868 EXCEPT INLET SIDE TO BE ALUM CONST.
 - SHAFT SLEEVE & HUB GAP PER BS-8194 EXCEPT "A" - 1.75 LG.

BILL OF MATERIALS

JOB	OLIN CORPORATION
LOCATION	ST. MARKS, FLA
CONTRACTOR	
LOCATION	
ENG./ARCH.	
S.O NUMBER	62836
TAC UNIT	EXHAUST BLOWER

PERFORMANCE "A"	PERFORMANCE "B"
DENS. = .069 LB/FT ³	DENS. = - LB/FT ³
C.F.M. 3300	C.F.M. -
S.P. 10	S.P. -
R.P.M. 2004	R.P.M. -
B.H.P. 7.74	B.H.P. -
T.S. 11864	T.S. -
O.V. 3548	O.V. -

REVISIONS	DATE
A REVISED PERFORMANCES	7/25/87

TWIN CITY FAN & BLOWER CO.
 550 KASOTA AVENUE
 MINNEAPOLIS, MN 55414
 MEMBER OF AIR MOVEMENT AND CONTROL ASSOC.

DRAWN BY	MP	DATE	08/26/87	CHECKED BY	DP	DATE	9.11.87
APPROVED BY		DATE		CERTIFIED BY		DATE	

TITLE SIZE 913 TYPE RBA CLASS SD ROT CW DISCH TAD
 ARRANGEMENT 9 ROTABLE CONSTRUCTION 2

DRAWING NO. **BC-62836A1**

C=1

PERFORMANCE CURVE TWIN CITY FAN & BLOWER

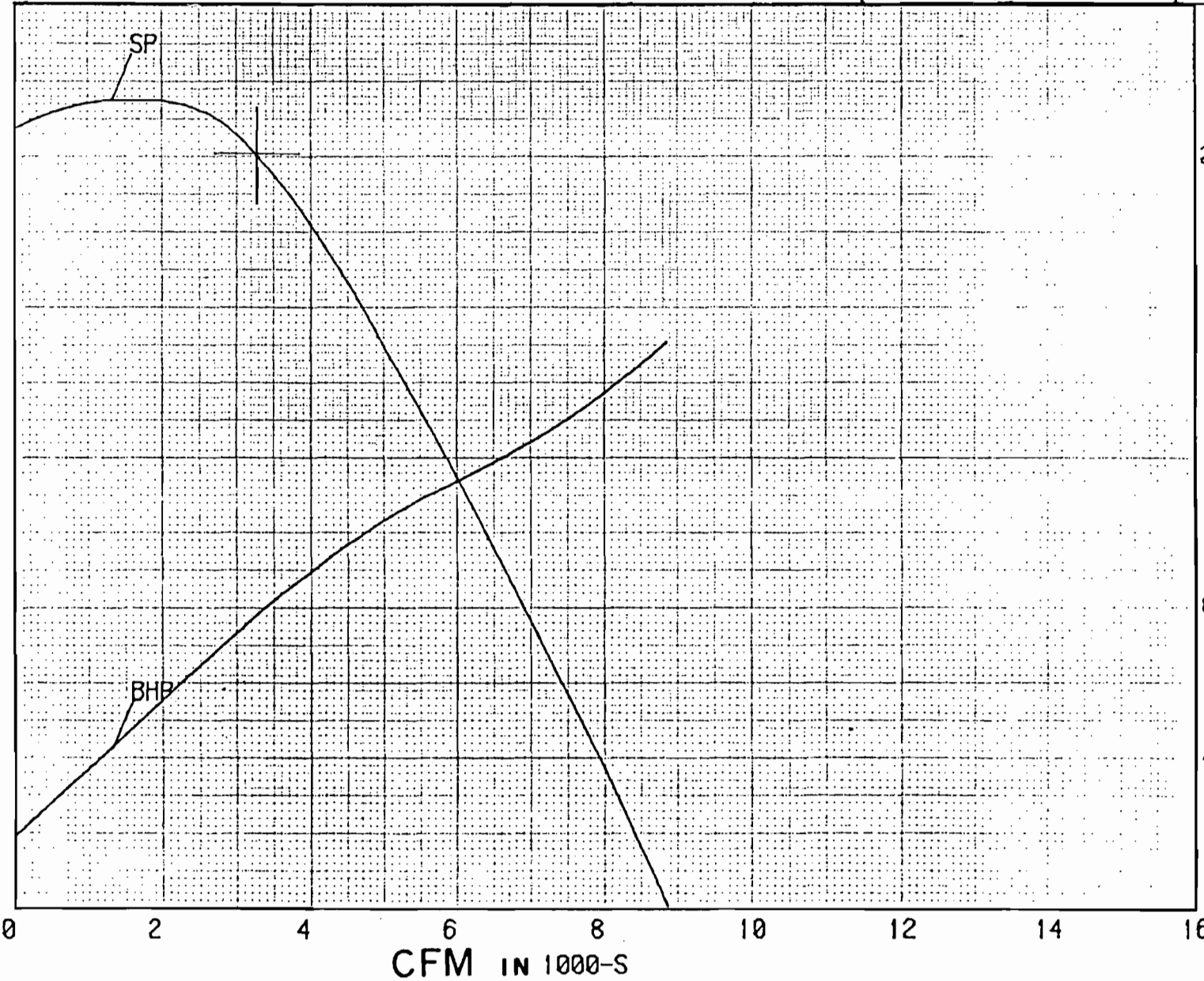


PROJECT: OLIN CORP	
FAN I.D.: 913 RBA	
TAG #: EXHAUST BLOWER	
PERFORMANCE	
CFM: 3300	SP: 10
BHP: 7.74	RPM: 2004

AIR DENSITY =
.0690 LB/FT³

APPENDIX IX
STATIC PRESSURE (INCHES OF WATER)

BRAKE HORSEPOWER



DATE
9-25-87
CN- 20730

APPENDIX X

NORTH SWEETIE BARREL SCRUBBER 1989 COMPLIANCE TEST PERFORMANCE

The results of the IPA emission testing performed on the North Sweetie Barrel Scrubber on 21 March 1989 at the Olin facility in St. Marks, Florida show a mean measured IPA emission rate of 11.7 pounds per hour (lb/hr), "87 percent of the allowable limit of 13.5 lb/hr". The IPA input was 66.9 lb/hr, therefore the scrubber achieved 82.5 percent efficiency. The following table summarizes these results.

AVERAGE (3 runs)

Stack Gas

Temperature °F	72
Velocity, ft/sec	47.7
Moisture, %	2.0
O ₂ Conc., %	20.8
CO ₂ Conc., %	0.0

Volumetric Flow Rate

At Stack Conditions, x10 ³ ft ³ /min	2.64
At Standard Conditions, x10 ³ ft ³ /min	2.52

Isopropanol (EPA Reference Method 18)

Emission Rate, lb/hr	11.7
Permit Limit, lb/hr	13.5