P 408 533 195

RECEIPT FOR CERTIFIED MAIL

NO INSURANCE COVERAGE PROVIDED—
NOT FOR INTERNATIONAL MAIL

(See Reverse)

Sent to Mr. Donald W. Groff	
Street and No.	
P.O., State and ZIP Code	
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 5/8/86	

PS Form 3800, Feb. 1982

PS Form 3811, July 1983

SENDER: Complete items 1, 2, 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 service(s) requested.

1. ☐ Show to whom, date and address of delivery.
2. ☐ Restricted Delivery.

3. Article Addressed to:
Mr. Donald W. Groff
GNB Incorporated
P. O. Box 64100
St. Paul, MN 55164-0100

4. Type of Service:
☐ Registered ☐ Insured
☒ Certified ☐ COD
☐ Express Mail

Article Number
P 408 533 195

Always obtain signature of addressee or agent and DATE DELIVERED.

5. Signature – Addressee
X

6. Signature – Agent
X

7. Date of Delivery

8. Addressee's Address *(ONLY if requested and fee paid)*

ST PAUL MN MAY 16 1986 55101 BOX SECTION

DOMESTIC RETURN RECEIPT

STATE OF FLORIDA

DEPARTMENT OF ENVIRONMENTAL REGULATION

TWIN TOWERS OFFICE BUILDING
2600 BLAIR STONE ROAD
TALLAHASSEE, FLORIDA 32301-8241

BOB GRAHAM
GOVERNOR

VICTORIA J. TSCHINKEL
SECRETARY

STATE OF FLORIDA
DEPARTMENT OF ENVIRONMENTAL REGULATION
NOTICE OF PERMIT

Mr. Donald W. Groff
Manager of Facilities Engineering
GNB Incorporated
Post Office Box 64100
St. Paul, Minnesota 55164-0100

May 7, 1986

Enclosed is Permit Number AC 48-112906 to GNB Incorporated which authorizes the construction of a sulfuric acid mixing and storage system at the company's existing facility in Orlando, Orange 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 32301; 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

C. H. Fancy, P.E.
Deputy Chief
Bureau of Air Quality
Management

Copies furnished to:

John Bottorf
Tom Sawicki

CERTIFICATE OF SERVICE

This is to certify that this NOTICE OF PERMIT and all copies were mailed before the close of business on May 4, 1984 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.

Patricia G. Adams — Clerk

May 4, 1984 — Date

Final Determination

GNB Incorporated
Orlando, Florida
Orange County

Sulfuric Acid Mixing and Storage System
Permit No. AC 48-112906

Florida Department of Environmental Regulation
Bureau of Air Quality Management
Central Air Permitting

May 5, 1986

Final Determination
GNB Incorporated
AC 48-112906

The Technical Evaluation and Preliminary Determination for the proposed sulfuric acid mixing and storage system was distributed on March 10, 1986. Copies of the evaluation were available for public inspection at the department offices in Orlando and Tallahassee. The Notice of Proposed Agency Action on the permit application was published in the Orlando Sentinel on March 23, 1986.

No comments on the department's intent to issue the permit were received. The final action of the department will be to issue the permit to construct as proposed in the Technical Evaluation and Preliminary Determination.

STATE OF FLORIDA

DEPARTMENT OF ENVIRONMENTAL REGULATION

TWIN TOWERS OFFICE BUILDING
2600 BLAIR STONE ROAD
TALLAHASSEE, FLORIDA 32301-8241

BOB GRAHAM
GOVERNOR

VICTORIA J. TSCHINKEL
SECRETARY

PERMITTEE:
GNB Incorporated
P. O. Box 64100
St. Paul, Minnesota 55164-0100

Permit Number: AC 48-112906
Expiration Date: December 1, 1986
County: Orange
Latitude/Longitude: 28° 23' 58" N
81° 24' 02" W
Project: Sulfuric Acid Mixing and Storage System

This permit is issued under the provisions of Chapter 403, Florida Statutes, and Florida Administrative Code Rule(s) 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 drawings, plans, and other documents attached hereto or on file with the department and made a part hereof and specifically described as follows:

Authorization to replace the existing sulfuric acid mixing and storage system with one consisting of 32 air agitated fiberglass tanks that vent to a Tri-Mer Corporation Model F/S-1 Fan/Separator scrubber system, water cooled carbon heat exchanger, and an evaporative cooling tower. This source will be at an existing lead-acid battery manufacturing plant. The plant is located at 11331 Satellite Blvd., Orlando, Orange County, Florida. The UTM coordinates of the plant are zone 17, 460.3 km E and 2142.3 km N.

The project shall be in accordance with the attached permit application, plans, documents, and drawings except as noted in the specific conditions of this permit.

Attachments are as follows:

1. Application received November 25, 1985.

2. DER letter dated December 17, 1985.

3. GNB Incorporated letter dated January 7, 1986

PERMITTEE:
GNB Incorporated

Permit Number: AC 48-112906
Expiration Date: December 1, 1986

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 Statues. The permittee is hereby placed on notice that the department will review this permit periodically and may initiate enforceable 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 Statues, 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 therefore 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.

GENERAL CONDITIONS

6. The permittee shall at all times properly operate and maintain the facility and system 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 the department rules. This provision includes the operation of backup or auxiliary facilites 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, access to the premises, at reasonable times, where the permitted acitvity is located or conducted for the purpose of:

a. Having access to and copying any records that must be kept under the conditions of the permit;

b. Inspecting the facility, equipment, pracitices, 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 non-compliance; 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.

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 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 construciton 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 Statues.

10. The permittee agrees to comply with changes in department rules and Florida Statues after reasonable time for compliance, provided however, the permittee does not waive any other rights granted by Florida Statues 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 non-compliance 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. This permit also constitutes:

( ) Determination of Best Available Control Technology (BACT)
( ) Determination of Prevention of Significant Deterioration (PSD)
( ) Compliance with New Source Performance Standards.

14. The Permittee shall comply with the following monitoring and record keeping requirements:

a. Upon request, the permittee shall furnish all records and plans required 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.

GENERAL CONDITIONS

b. The permittee shall retain at the facility or other location designated by this permit records of all monitoring information (including all calibrat on 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 cmplete 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 measurements;
- the person responsible for performing the sampling or measurements;
- 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.

15. When requested by the department, the permittee shall within a reasonable time furnish any information required by law which is needed to detemine 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:

1. The system shall not handle more than 4,800 TPY sulfuric acid (100 percent) without prior approval of the department. It may be operated continuously, 8,760 hours per year.

2. The air sparging system shall not be operated unless the fume scrubber is in operation.

3. All leaks in the scrubber system (tank covers, ducts, scrubber, etc.) shall be repaired promptly.

PERMITTEE:
GNB Incorporated

Permit Number: AC 48-112906
Expiration Date: December 1, 1986

SPECIFIC CONDITIONS:

4. Emissions from the scrubber shall not exceed 20 percent opacity, 17.6 lb/hr sulfuric acid (100 percent) and 3.02 lb/hr H_2S as determined by Reference Methods 8, 9, and 11 as described in 40 CFR 60, Appendix A, or alternate test methods as approved by the department.

5. Prior to the expiration of this construction permit and on renewal of any permit to operate issued for this source (every 5 years), the permittee shall determine the visible emissions from the scrubber and establish an emission factor for sulfuric acid mist and H_2S by the procedures given in Specific Condition No. 4.

6. The scrubber shall be equipped with a pressure gauge at the discharge of the sump pump.

7. The permittee shall not allow or permit the discharge of air pollutants which cause or contribute to an objectionable odor from this plant.

8. The permittee shall demonstrate compliance with the conditions of this construction permit and submit a complete application for permit to operate to the department's St. Johns River District office at least 90 days prior to the December 1, 1986, expiration date of this construction permit or 60 days after the system is placed in operation, whichever date occurs first. The permittee may continue to operate in compliance with all terms of this construction permit until its expiration date.

9. Any permit to operate issued for the system shall require, as a minimum, annual operation reports that include the quantity of acid handled by the system and an estimate of the sulfuric acid and H_2S emissions (TPY).

PERMITTEE:
GNB Incorporated

Permit Number: AC 48-112906
Expiration Date: December 1, 1986

SPECIFIC CONDITIONS:

Issued this 5 day of May
1986.

STATE OF FLORIDA DEPARTMENT
OF ENVIRONMENTAL REGULATION

Victoria J. Tschinkel, Secretary

_____pages attached.

State of Florida
DEPARTMENT OF ENVIRONMENTAL REGULATION

Interoffice Memorandum

RECEIVED
FOR ROUTING TO OTHER THAN THE ADDRESSEE
MAY 5 1986
Office of the Secretary

To: _____ Loctn: _____
To: _____ Loctn: _____
To: _____ Loctn: _____
From: _____ Date: _____

TO: Victoria J. Tschinkel

FROM: Clair Fancy

DATE: May 5, 1986

SUBJ: Approval of Attached Air Construction Permit

Attached for your approval and signature is one Air Construction Permit to GNB Incorporated for a sulfuric acid mixing and storage system at the company's existing facility in Orlando, Orange County, Florida.

Day 90, after which the permit would be issued by default, is May 17, 1986.

The Bureau recommends your approval and signature.

CF/pa

Attachment

DER
MAY 6 1986
BAQM

Check Sheet

Company Name: GNB INCORPORATED
Permit Number: AC 48 - 112906
PSD Number:
Permit Engineer:

Application:

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

Cross References:

- [ ]
- [ ]
- [ ]

Intent;

- [x] Intent to Issue
- [x] Notice of Intent to Issue
- [x] Technical Evaluation
- [ ] BACT Determination
- [x] Unsigned Permit

Correspondence with:

- [ ] EPA
- [ ] Park Services
- [ ] Other

- [x] Proof of Publication
  - [ ] Petitions - (Related to extensions, hearings, etc.)
  - [ ] Waiver of Department Action
  - [ ] Other

Final Determination:

- [x] Final Determination
- [x] Signed Permit
- [ ] BACT Determination
  - [ ] Other

Post Permit Correspondence:

- [x] 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 the supplementary documents file drawer. Folders in that drawer are arranged alphabetically, then by permit number.

Folder Name: GNB Incorporated

Permit(s) Numbered:

AC	48	112906

Documents: Period during which document was received	Detailed Description
APPLICATION 25 NOV 1985	1. 24"×36" BLUEPRINT: SCRUBBER EXHAUST DUCT PLAN MAIN FLOOR LEVEL (DRAWING NUMBER: D-22014, SHEET 1/3) 2. 24"×36" BLUEPRINT: SCRUBBER EXHAUST DUCT PLAN MEZZANINIE LEVEL (DRAWING NUMBER: D-22014, SHEET2/3) 3. 24"×36" BLUEPRINT: SCRUBBER EXHAUST SECTIONS (DRAWING NUMBER: D-22014, SHEET 3/3) 4. 24"×36" BLUEPRINT: ACID MIXING PIPING SCHEMATIC (DRAWING NUMBER: D-22006, SHEET 3/20)

P 408 532 099

RECEIPT FOR CERTIFIED MAIL

NO INSURANCE COVERAGE PROVIDED—
NOT FOR INTERNATIONAL MAIL

(See Reverse)

Sent to Mr. Donald W. Groff	
Street and No.	
P.O., State and ZIP Code	
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 12/5/86	

PS Form 3800, Feb. 1982

PS Form 3811, July 1983 447-845

SENDER: Complete items 1, 2, 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 service(s) requested.

1. ☐ Show to whom, date and address of delivery.
2. ☐ Restricted Delivery.

3. Article Addressed to:
Mr. Donald W. Groff
GNB Incorporated
Post Office Box 64100
St. Paul MN 55164-0100

4. Type of Service:
☐ Registered ☐ Insured
☒ Certified ☐ COD
☐ Express Mail

Article Number
P 408 532 099

Always obtain signature of addressee or agent and DATE DELIVERED.

5. Signature – Addressee
X

6. Signature – Agent
X Dave Bleil

7. Date of Delivery
DEC 9 1986

8. Addressee's Address *(ONLY if requested and fee paid)*

ST PAUL MN 55101 DEC 9 1986 BOX SECTION

DOMESTIC RETURN RECEIPT

STATE OF FLORIDA

DEPARTMENT OF ENVIRONMENTAL REGULATION

TWIN TOWERS OFFICE BUILDING
2600 BLAIR STONE ROAD
TALLAHASSEE, FLORIDA 32301-8241

BOB GRAHAM
GOVERNOR

VICTORIA J. TSCHINKEL
SECRETARY

December 2, 1986

CERTIFIED MAIL RETURN RECEIPT REQUESTED

Mr. Donald W. Groff
Manager, Facility Engineering
GNB Incorporated
Post Office Box 64100
St. Paul, Minnesota 55164-0100

Dear Mr. Groff:

Re: Modification of Conditions - Permit No. AC 48-112906

The department is in receipt of your October 30, 1986, letter requesting the permit to construct a sulfuric acid mixing and storage system at GNB, Inc. Orlando, Florida plant be extended to allow additional time for the process equipment to be placed in operation, for the scrubber emissions to be tested, and an application for permit to operate to be prepared and submitted. This request is acceptable and expiration date of permit No. AC 48-112906 is changed from December 1, 1986 to June 1, 1987. To be consistent with this modification, Specific Condition No. 8 of this permit is changed:

From:

8. The permittee shall demonstrate compliance with the conditions of this construction permit and submit a complete application for permit to operate to the department's Central Florida District office at least 90 days prior to the December 1, 1986, expiration date of this construction permit or 60 days after the system is placed in operation, whichever date occurs first. The permittee may continue to operate in compliance with all terms of this construction permit until its expiration date.

To:

8. The permittee shall demonstrate compliance with the conditions of this construction permit and submit a complete application for permit to operate to the department's Central Florida District office at least 90 days prior to the June 1, 1987, expiration date of this construction permit or 60 days

after the system is placed in operation, whichever date occurs first. The permittee may continue to operate in compliance with all terms of this construction permit until its expiration date.

A copy of this letter must be attached to the referenced construction permit and shall become a part of that permit.

Sincerely,

Victoria J. Tschinkel
Secretary

VJT/ks

cc: T. Sawicki
J. Bottorf

attachment

State of Florida
DEPARTMENT OF ENVIRONMENTAL REGULATION

Interoffice Memorandum

FOR ROUTING TO OTHER THAN THE ADDRESSEE

To: _____ Loctn: _____
To: _____ Loctn: _____
To: _____ Loctn: _____
From: _____ Date: _____

TO: Victoria J. Tschinkel

FROM: Clair Fancy

DATE: December 2, 1986

SUBJ: Modification of Conditions

Attached for your approval and signature is a letter that will extend the expiration date of a construction permit issued to GNB Incorporated. The extension will allow additional time for the permittee to place the new sulfuric acid mixing system in operation, tests the emissions, and submit an application for permit to operate.

The bureau recommends this extension be approved.

CHF/WH/s

attach: Permit modification letter

PM
11/7/86
FAX, FL

ENVIRONMENTAL SCIENCE AND ENGINEERING, INC.

MEMORANDUM

November 7, 1986

TO: Willard Hanks, CAPS

FROM: George Whitmer, ESE

SUBJECT: Request for Permit Modification
Construction Permit AC16-90996
Coffee Processing
Maxwell House Division of General Foods Corporation

Attached is the 6/26/86 letter to Clair Fancy from Jim Hellier, Maxwell House, that we discussed. Letters of 6/27/86 and 8/13/86 are provided as backup. Your quick response to this matter would be appreciated as we are currently setting up annual source testing for the plant.

Attachments

GNB Incorporated Automotive Battery Division

Mailing Address:
P.O. Box 64100
St. Paul, MN 55164-0100 U.S.A.

1110 Highway 110
Mendota Heights, MN 55118
Telephone (612)681-5000

October 30, 1986

Mr. C. H. Fancy
Florida Dept. of Environmental Regulation
Twin Towers Office Building
2600 Blair Stone Road
Tallahassee, FL 32301

RE: Permit to Construct #AC-48-112906

Dear Mr. Fancy:

This is a request for a time extension of the subject permit to construct.

Due to multiple problems and delays, the startup of the acid mixing system has been postponed. We are in the final debugging stages and need a 90-day extension to complete the startup and perform testing as specified in Specific Condition #4 and #5.

Should there be any problem or additional information needed to grant this request, please contact me immediately.

Very truly yours,

GNB Incorporated

Donald W. Groff
Manager, Facilities Engineering

cc: D. Oliver
C. Shimeall
R. Caldwell/Seabury-Bottorf

/fhs
fc1g29

DER
NOV 3 1986
BAQM

GNB Incorporated Automotive Battery Division

Mailing Address:
P.O. Box 64100
St. Paul, MN 55164-0100 U.S.A.

1110 Highway 110
Mendota Heights, MN 55118
Telephone (612)681-5000

March 31, 1986

DER

APR 4 1986

BAQM

Florida Department of Environmental Regulation
Bureau of Air Quality Management
Twin Towers
2600 Blair Stone Road
Tallahassee, FL 32301-8241

Attention: Mr. Bill Thomas

Dear Mr. Thomas:

Attached please find a copy of the certification of publication of the required notice for GNB's proposed acid mixing system in Orlando, Florida.

The Orlando Sentinal was to send an original of the certification directly to your agency, so that this copy may not be needed.

If there are any problems, please feel free to contact me.

Very truly yours,

GNB Incorporated

Donald W. Groff
Manager, Facilities Engineering

cc: Roger Caldwell, Seabury-Bottorf

/fhs
fc1g39

The Orlando Sentinel

Published Daily
Orlando, Orange County, Florida

ADVERTISING CHARGE $51.80 Paid

State of Florida } ss.
COUNTY OF ORANGE }

Before the undersigned authority personally appeared Nancy A. Puglia, who on oath says that she is the Legal Advertising Representative of the Orlando Sentinel, a Daily newspaper published at Orlando, in Orange County, Florida; that the attached copy of advertisement, being a Proposed Agency Action in the matter of Permit to GNB Incorporated in the _____ Court, was published in said newspaper in the issues of March 2, 9, 16, 23, 1986

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

Nancy A Puglia

Sworn to and subscribed before me this 26th day of March A.D., 19 86

Virginia M Hollingsworth
Notary Public

Seal

Notary Public, State of Florida at Large
My Commission Expires July 13, 1989
Bonded Thru Brown & Brown, Inc.

FORM NO. AD-262

State of Florida
Department of Environmental Regulation
Notice of Proposed Agency Action on Permit Application

The Department of Environmental Regulation gives notice of its intent to issue a permit to GNB Incorporated to construct a sulfuric acid mixing and storage system, equipped with a scrubber, at their existing lead-acid battery manufacturing plant in Orlando, Orange County, Florida. A determination of best available control technology (BACT) was not required.

Persons 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 conform to the requirements of Chapters 17-103 and 28-5, Florida Administrative Code, and must be filed (received) in the Office of General Counsel of the Department at 2600 Blair Stone Road, Twin Towers Office Building, Tallahassee, Florida 32301, within fourteen (14) days of publication of this notice. Failure to file a request for hearing within this time period constitutes a waiver of any right such person may have to request an administrative determination (hearing) under Section 120.57, Florida Statutes.

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 proposed agency action. Therefore, persons who may not wish to file a petition may wish to intervene in the proceeding. A petition for intervention must be filed pursuant to Model Rule 28-5.207, Florida Administrative Code, at least five (5) days before the final hearing and be filed with the hearing officer if one has been assigned at the Division of Administrative Hearings, Department of Administration, 2009 Apalachee Parkway, Tallahassee, Florida 32301. If no hearing officer has been assigned, the petition is to be filed with the department's Office of General Counsel, 2600 Blair Stone Road, Tallahassee, Florida 32301. Failure to petition to intervene within the allowed time frame constitutes a waiver of any right such person has to request a hearing under Section 120.57, Florida Statutes.

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:

Dept. of Environmental Regulation
Bureau of Air Quality Management
2600 Blair Stone Road
Tallahassee, Florida 32301

Dept. of Environmental Regulation
St. Johns River District
3319 Maguire Blvd., Suite 232
Orlando, Florida 32803

Any person may send written comments on the proposed action to Mr. Bill Thomas at the department's Tallahassee address. All comments mailed within 30 days of the publication of this notice will be considered in the department's final determination.

LS-314(10) Mar.23,1986

P 408 533 215

RECEIPT FOR CERTIFIED MAIL

NO INSURANCE COVERAGE PROVIDED—
NOT FOR INTERNATIONAL MAIL

(See Reverse)

Sent to Donald W. Groff, GMB Inc	
Street and No. P.O.Box 64100	
P.O., State and ZIP Code St. Paul MN 55164	
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	

PS Form 3800, Feb. 1982

PS Form 3811, July 1983

SENDER: Complete items 1, 2, 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 service(s) requested.

1. ☒ Show to whom, date and address of delivery.
2. ☐ Restricted Delivery.

3. Article Addressed to:
Donald W. Groff
GNB Incorporated
P.O.Box 64100
St. Paul, MN 55164 0100

4. Type of Service:
☐ Registered ☐ Insured
☒ Certified ☐ COD
☐ Express Mail

Article Number
P408533 215

Always obtain signature of addressee or agent and DATE DELIVERED.

5. Signature – Addressee
X

6. Signature – Agent
X

7. Date of Delivery

8. Addressee's Address *(ONLY if requested and fee paid)*

DOMESTIC RETURN RECEIPT

ST PAUL MN MAR 12 1986 9720 POST OFFICE SECTION

MAIN OFFICE BOX SECTION
SAINT PAUL, MINN 55165

FILE

STATE OF FLORIDA

DEPARTMENT OF ENVIRONMENTAL REGULATION

TWIN TOWERS OFFICE BUILDING
2600 BLAIR STONE ROAD
TALLAHASSEE, FLORIDA 32301-8241

BOB GRAHAM
GOVERNOR

VICTORIA J. TSCHINKEL
SECRETARY

March 10, 1986

CERTIFIED MAIL-RETURN RECEIPT REQUESTED

Mr. Donald W. Groff
Manager of Facilities Engineering
GNB Incorporated
Post Office Box 64100
St. Paul, Minnesota 55164-0100

Dear Mr. Groff:

Attached is one copy of the Technical Evaluation and Preliminary Determination, and proposed permit to construct an acid mixing system with scrubber at your existing facility in Orlando, Orange County, Florida.

Before final action can be taken on your permit, you are required by Florida Administrative Code Rule 17-103.150 to publish the attached Notice of Proposed Agency Action in the legal advertising section of a newspaper of general circulation in Orange County no later than fourteen days after receipt of this letter. The DER Bureau of Air Quality Management must be provided with proof of publication within seven days of the date the notice is published. Failure to publish the notice may be grounds for denial of the permit.

Please submit, in writing, any comments which you wish to have considered concerning the department's proposed action to Mr. Bill Thomas of the Bureau of Air Quality Management.

Sincerely,

C. H. Fancy, P.E.
Deputy Chief
Bureau of Air Quality
Management

CHF/pa
Attachments
cc: John Bottorf
Tom Sawicki

State of Florida
Department of Environmental Regulation
Notice of Proposed Agency Action
on Permit Application

The Department of Environmental Regulation gives notice of its intent to issue a permit to GNB Incorporated to construct a sulfuric acid mixing and storage system, equipped with a scrubber, at their existing lead-acid battery manufacturing plant in Orlando, Orange County, Florida. A determination of best available control technology (BACT) was not required.

Persons 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 conform to the requirements of Chapters 17-103 and 28-5, Florida Administrative Code, and must be filed (received) in the Office of General Counsel of the Department at 2600 Blair Stone Road, Twin Towers Office Building, Tallahassee, Florida 32301, within fourteen (14) days of publication of this notice. Failure to file a request for hearing within this time period constitutes a waiver of any right such person may have to request an administrative determination (hearing) under Section 120.57, Florida Statutes.

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 proposed agency action. Therefore, persons who may not wish to file a petition may wish to intervene in the proceeding. A petition for intervention must be filed pursuant to Model Rule 28-5.207, Florida Administrative Code, at least five (5) days before the final hearing and be filed with the hearing officer if one has been assigned at the Division of Administrative Hearings, Department of Administration, 2009, Apalachee Parkway, Tallahassee, Florida 32301. If no hearing officer has been assigned, the petition is to be filed with the department's Office of General Counsel, 2600 Blair Stone Road, Tallahassee, Florida 32301. Failure to petition to intervene within the allowed time frame constitutes a waiver of any right such person has to request a hearing under Section 120.57, Florida Statutes.

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:

Dept. of Environmental Regulation
Bureau of Air Quality Management
2600 Blair Stone Road
Tallahassee, Florida 32301

Dept. of Environmental Regulation
St. Johns River District
3319 Maguire Blvd., Suite 232
Orlando, Florida 32803

Any person may send written comments on the proposed action to Mr. Bill Thomas at the department's Tallahassee address. All comments mailed within 30 days of the publication of this notice will be considered in the department's final determination.

RULES OF THE ADMINISTRATIVE COMMISSION
MODEL RULES OF PROCEDURE
CHAPTER 28-5
DECISIONS DETERMINING SUBSTANTIAL INTERESTS

28-5.15 Requests for Formal and Informal Proceedings

(1) Requests for proceedings shall be made by petition to the agency involved. Each petition shall be printed typewritten or otherwise duplicated in legible form on white paper of standard legal size. Unless printed, the impression shall be on one side of the paper only and lines shall be double spaced and indented.

(2) All petitions filed under these rules should contain:

(a) The name and address of each agency affected and each agency's file or identification number, if known;

(b) The name and address of the petitioner or petitioners;

(c) All disputed issues of material fact. If there are none, the petition must so indicate;

(d) A concise statement of the ultimate facts alleged, and the rules, regulations and constitutional provisions which entitle the petitioner to relief;

(e) A statement summarizing any informal action taken to resolve the issues, and the results of that action;

(f) A demand for the relief to which the petitioner deems himself entitled; and

(g) Such other information which the petitioner contends is material.

BEFORE THE STATE OF FLORIDA
DEPARTMENT OF ENVIRONMENTAL REGULATION

In the Matter of Application for Permit by:	)	
GNB, Incorporated P. O. Box 64100 St. Paul, Minnesota 55164-0100	)	DER File No. AC 48-112906

INTENT TO ISSUE

The Department of Environmental Regulation hereby gives notice of its Intent to Issue, and proposed order of issuance for, a permit pursuant to Chapter 403, Florida Statutes, 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, GNB Incorporated, applied on November 25, 1985, to the Department of Environmental Regulation for a permit to construct a sulfuric acid mixing and storage system, equipped with a scrubber, at their existing facility in Orlando, Orange 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 applicant was officially notified by the Department that an air construction permit was required for the proposed work.

This intent to issue shall be placed before the Secretary for final action unless an appropriate petition for a hearing pursuant to the provisions of Section 120.57, Florida Statutes, is filed within fourteen (14) days from receipt of this letter or

publication of the public notice (copy attached) required pursuant to Rule 17-103.150, Florida Administrative Code, whichever occurs first. The petition must comply with the requirements of Section 17-103.155 and Rule 28-5.201, Florida Administrative Code (copy attached) and be filed pursuant to Rule 17-103.155(1) in the Office of General Counsel of the Department of Environmental Regulation at 2600 Blair Stone Road, Tallahassee, Florida 32301.

Petitions which are not filed in accordance with the above provisions are subject to dismissal by the Department. In the event a formal hearing is conducted pursuant to Section 120.57(1), all parties shall have an opportunity to respond, to present evidence and argument on all issues involved, to conduct cross-examination of witnesses and submit rebuttal evidence, to submit proposed findings of facts and orders, to file exceptions to any order or hearing officer's recommended order, and to be represented by counsel. If an informal hearing is requested, the agency, in accordance with its rules of procedure, will provide affected persons or parties or their counsel an opportunity, at a convenient time and place, to present to the agency or hearing officer, written or oral evidence in opposition to the agency's action or refusal to act, or a written statement challenging the grounds upon which the agency has chosen to justify its action or inaction, pursuant to Section 120.57(2), Florida Statutes.

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 proposed agency action. Therefore, persons who may not wish to file a petition, may wish to intervene in the proceeding. A petition for intervention must be filed pursuant to Model Rule 28-5.207 at least five (5) days before the final hearing and be filed with the hearing officer if one has been assigned at the Division of

Administrative Hearings, 2009 Apalachee Parkway, Tallahassee, Florida 32301. If no hearing officer has been assigned, the petition is to be filed with the Department's Office of General Counsel, 2600 Blair Stone Road, Tallahassee, Florida 32301. Failure to petition to intervene within the allowed time frame constitutes a waiver of any right such person has to request a hearing under Section 120.57, Florida Statutes.

Executed the 10 day of March, 1986, in Tallahassee, Florida.

STATE OF FLORIDA DEPARTMENT
OF ENVIRONMENTAL REGULATION

C. H. Fancy, P.E.
Deputy Chief
Bureau of Air Quality
Management

Copies furnished to:

Mr. Donald W. Groff
Mr. John Bottorf, Jr.
Mr. Tom Sawicki

CERTIFICATION

This is to certify that the foregoing Intent to Issue and all copies were mailed before the close of business on 3/10, 1986.

C. H. Fancy, P.E.
Deputy Chief
Bureau of Air Quality Management
2600 Blair Stone Road
Tallahassee, Florida 32301

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.

W. M. Hanks
Clerk

3/10/86
Date

Technical Evaluation
and
Preliminary Determination

GNB Incorporated
Orlando, Florida
Orange County

Sulfuric Acid Mixing and Storage System
File No. AC 48-112906

Florida Department of Enivironmental Regulation
Bureau of Air Quality Management
Central Air Permitting

March 7, 1986

I. Application

A. Applicant

GNB Incorporated
P. O. Box 64100
St. Paul, Minnesota 55164-0100

B. Request

On November 25, 1985, the department received an application for a permit to construct a sulfuric acid mixing and storage system, equipped with a scrubber, at GNB Incorporated's existing lead-acid battery manufacturing plant (SIC 3691) from Mr. Donald W. Groff, Manager of Facilities Engineering for the company. The application was considered complete on January 9, 1986, when additional information on the proposed project was received.

C. Project and Location

Ninety-three percent sulfuric acid is received and stored at this plant. It is then diluted to the desired strength, cooled and stored in tanks that are air sparged to prevent stratification before being added to the battery.

GNB Incorporated has requested permission to replace an existing sulfuric acid mixing and storage system, that is approximately 20 years old, with a new system that will include a scrubber to control air pollutant emissions. It will contain 32 fiberglass tanks that vary from 2.5 to 6 feet in diameter. The system also contains a heat exchanger and water cooling system. This equipment is not a source of air pollution. The process flow will be unchanged, about 3,200 lb/hr of acid solution. The new system will be installed at the lead-acid battery manufacturing plant at 1131 Satellite Blvd., Orlando, Orange County, Florida. The UTM coordinates of this site are zone 17, 460.3 km E 3142.3 km N.

D. Air Pollution Emissions

The existing 20 year old acid system consists of open tanks on elevated platforms. There is no fume or mist control equipment for the tanks. Emissions from the existing system are estimated to be 771 TPY sulfuric acid mist and 132.4 TPY hydrogen sulfide (H_2S). The air used to sparge the tank in the new systems will pass through a Tri-mer Corporation Model F/S-1 Fan/Separator scrubber system that is over 90 percent efficient in the removal of acid mist and H_2S. Emissions from the acid system will be reduced to 17.6 lb/hr acid mist (77.1 TPY) and 3.02 lb/hr H_2S (13.24 TPY). No other air pollutants are emitted to the atmosphere from this system.

II. Rule Applicability

The proposed project, installation of an acid mixing and storage system at a lead-acid battery manufacturing plant, is subject to preconstruction review under the provision of Chapter 403, Florida Statutes, and Chapter 17-2, Florida Administrative Code.

The plant is located in an area designated nonattainment for ozone (17-2.410(1)), and attainment for the other criteria pollutants (17-2.420(1)).

Lead-acid battery manufacturing plants are not listed in Table 500-2, Major Facility Categories (list of 28). The plant is presently a major facility (17-2.100(110)) because the emissions of sulfuric acid exceeds 100 TPY. After the proposed modification, the plant will be a minor facility (17-2.100(115)) because the emissions of all criteria pollutants will be less than 100 TPY. The modification does not affect lead emissions which are less than 5 TPY.

The project will result in a decrease in the emissions of sulfuric acid mist and H_2S. Therefore, the project is not subject to the prevention of significant deterioration regulations (17-2.500). The acid system is not a source of volatile organic compounds. Therefore, the project is not subject to new source review for nonattainment areas (17-2.510).

The project will be reviewed under Rule 17-2.520, FAC, Sources Not Subject to Prevention of Significant Deterioration or Nonattainment Requirements. Allowable emissions shall be based on 17-2.620, General Pollutant Emission Limiting Standards, and the emission limits being proposed by the applicant. Higher emissions could subject the proposed source to review under other regulations.

B. Federal Regulations

The proposed project, a minor modification to a minor source, is not subject to review under federal regulations. The modification is not subject to 40 CFR 60, Subpart KK, Standards of Performance for Lead-Acid Battery Manufacturing Plants, because the acid system is not a source of lead emissions.

III. Technical Evaluation

The present sulfuric acid mixing and storage system consist of open topped tanks with no fume or mist control equipment. The system suffers from corrosion, age, and other problems. Emissions from the existing system have been estimated at 771 TPY acid mist and 132.4 TPY H_2S.

The proposed acid system consists of 32 air agitated fiberglass tanks which are connected to a fume scrubber. The compressed air used to agitate the tank becomes contaminated with acid mist and H_2S. The contaminated air is cleaned in a Tri-Mer Corporation Model F/S-1 Fan/Separator Scrubber System that is over 90 percent efficient in the removal of acid mist and H_2S. The estimated emissions from the scrubber are 17.6 lb/hr acid mist (77.1 TPY) and 3.0 lb/hr H_2S (13.2 TPY). The system also contains a water cooled carbon heat exchanger and an evaporative cooling tower. Neither the heat exchanger or cooling tower emit air pollutants. Table 1 presents data on the tanks and sparging air flow of the proposed acid mixing and storage system.

Table 1

Number of Tanks	Tank Dimensions (ft)	Tank Capacity	CFM per/tank	Total CFM
8	6 dia x 11.5 ht	2431.8 gal	28.3	226.2
7	4 dia x 11.5 ht	1081.3 gal	12.6	88.0
1	5 dia x 11.5 ht	1688.5 gal	19.6	19.6
16	2.5 dia x 7.5 ht	275.5 gal	78.6	275.5
Total 32		5477.1		609.3

IV. Air Quality Analysis

It is estimated that the emissions will decrease by over 90 percent after the new system is in operation. Therefore, the proposed project will not result in a significant net emissions increase as set forth in Rule 17-2.500(2)(e)2., FAC. The department does not have an ambient air standard for acid mist or H_2S. Therefore, no air quality analysis is required or will any air quality standard or PSD increment be violated.

V. Conclusion

Based on the data submitted by the applicant, the department has concluded that the emissions from the proposed project will comply with the state regulations. The department proposes to issue a construction permit that will authorize the replacement of the existing acid mixing and storage system with the proposed system. The General and Specific Conditions in the proposed permit (draft attached) will assure compliance of the proposed system with the air pollution control regulations.

STATE OF FLORIDA

DEPARTMENT OF ENVIRONMENTAL REGULATION

TWIN TOWERS OFFICE BUILDING
2600 BLAIR STONE ROAD
TALLAHASSEE, FLORIDA 32301-8241

BOB GRAHAM
GOVERNOR

VICTORIA J. TSCHINKEL
SECRETARY

PERMITTEE:
GNB Incorporated
P. O. Box 64100
St. Paul, Minnesota 55164-0100

Permit Number: AC 48-112906
Expiration Date: December 1, 1986
County: Orange
Latitude/Longitude: 28° 23' 58" N
81° 24' 02" W
Project: Sulfuric Acid Mixing and Storage System

This permit is issued under the provisions of Chapter 403, Florida Statutes, and Florida Administrative Code Rule(s) 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 drawings, plans, and other documents attached hereto or on file with the department and made a part hereof and specifically described as follows:

Authorization to replace the existing sulfuric acid mixing and storage system with one consisting of 32 air agitated fiberglass tanks that vent to a Tri-Mer Corporation Model F/S-1 Fan/Separator scrubber system, water cooled carbon heat exchanger, and an evaporative cooling tower. This source will be at an existing lead-acid battery manufacturing plant. The plant is located at 11331 Satellite Blvd., Orlando, Orange County, Florida. The UTM coordinates of the plant are zone 17, 460.3 km E and 2142.3 km N.

The project shall be in accordance with the attached permit application, plans, documents, and drawings except as noted in the specific conditions of this permit.

Attachments are as follows:

1. Application received November 25, 1985.

2. DER letter dated December 17, 1985.

3. GNB Incorporated letter dated January 7, 1986

PERMITTEE:
GNB Incorporated

Permit Number: AC 48-112906
Expiration Date: December 1, 1986

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 Statues. The permittee is hereby placed on notice that the department will review this permit periodically and may initiate enforceable 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 Statues, 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 therefore 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.

GENERAL CONDITIONS

6. The permittee shall at all times properly operate and maintain the facility and system 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 the department rules. This provision includes the operation of backup or auxiliary facilites 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, access to the premises, at reasonable times, where the permitted acitvity is located or conducted for the purpose of:

a. Having access to and copying any records that must be kept under the conditions of the permit;

b. Inspecting the facility, equipment, pracitices, 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 non-compliance; 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.

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 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 construciton 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 Statues.

10. The permittee agrees to comply with changes in department rules and Florida Statues after reasonable time for compliance, provided however, the permittee does not waive any other rights granted by Florida Statues 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 non-compliance 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. This permit also constitutes:

( ) Determination of Best Available Control Technology (BACT)
( ) Determination of Prevention of Significant Deterioration (PSD)
( ) Compliance with New Source Performance Standards.

14. The Permittee shall comply with the following monitoring and record keeping requirements:

a. Upon request, the permittee shall furnish all records and plans required 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.

GENERAL CONDITIONS

b. The permittee shall retain at the facility or other location designated by this permit records of all monitoring information (including all calibrat on 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 cmplete 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 measurements;
- the person responsible for performing the sampling or measurements;
- 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.

15. When requested by the department, the permittee shall within a reasonable time furnish any information required by law which is needed to detemine 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:

1. The system shall not handle more than 4,800 TPY sulfuric acid (100 percent) without prior approval of the department. It may be operated continuously, 8,760 hours per year.

2. The air sparging system shall not be operated unless the fume scrubber is in operation.

3. All leaks in the scrubber system (tank covers, ducts, scrubber, etc.) shall be repaired promptly.

SPECIFIC CONDITIONS:

4. Emissions from the scrubber shall not exceed 20 percent opacity, 17.6 lb/hr sulfuric acid (100 percent) and 3.02 lb/hr H_2S as determined by Reference Methods 8, 9, and 11 as described in 40 CFR 60, Appendix A, or alternate test methods as approved by the department.

5. Prior to the expiration of this construction permit and on renewal of any permit to operate issued for this source (every 5 years), the permittee shall determine the visible emissions from the scrubber and establish an emission factor for sulfuric acid mist and H_2S by the procedures given in Specific Condition No. 4.

6. The scrubber shall be equipped with a pressure gauge at the discharge of the sump pump.

7. The permittee shall not allow or permit the discharge of air pollutants which cause or contribute to an objectionable odor from this plant.

8. The permittee shall demonstrate compliance with the conditions of this construction permit and submit a complete application for permit to operate to the department's St. Johns River District office at least 90 days prior to the December 1, 1986, expiration date of this construction permit or 60 days after the system is placed in operation, whichever date occurs first. The permittee may continue to operate in compliance with all terms of this construction permit until its expiration date.

9. Any permit to operate issued for the system shall require, as a minimum, annual operation reports that include the quantity of acid handled by the system and an estimate of the sulfuric acid and H_2S emissions (TPY).

PERMITTEE:
GNB Incorporated

Permit Number: AC 48-112906
Expiration Date: December 1, 1986

SPECIFIC CONDITIONS:

Issued this_____day of _____
19___:

STATE OF FLORIDA DEPARTMENT
OF ENVIRONMENTAL REGULATION

_____
Victoria J. Tschinkel, Secretary

_____pages attached.

GNB Incorporated Automotive Battery Division

Mailing Address:
P.O. Box 64100
St. Paul, MN 55164-0100 U.S.A.

1110 Highway 110
Mendota Heights, MN 55118
Telephone (612)681-5000

January 7, 1986

DER
JAN 13 1986
BAQM

Florida Dept. of Environmental Regulation
Air Quality
3319 Maguire Boulevard
Suite 232
Orlando, FL 32803

Attention: Mr. Willard Hanks

Dear Mr. Hanks:

This is in reply to your letter of December 17, regarding additional information on the acid mixing system at GNB, Orlando, Florida.

1. The new acid system replaces an existing system which was originally built approximately 20 years ago.

   The system being replaced consists of open topped tanks on an elevated platform. There is no fume or mist control equipment. Spill retention is provided by an asphalt coated concrete berm wall and floor, but it is in poor condition. The entire existing system has suffered from corrosion, age, under capacity, and other problems so that complete replacement is the best solution.

   I am estimating that the emissions from the existing system are 771 T/y (176#/Hr) H_2SO_4 mist and 132.4 T/y (30.2#/Hr) H_2S. These numbers are the same as the Potential Emissions from Section III.C of the new permit application and are used because the existing system has no emissions controls and the new and old systems process thru-put is the same.

2. No public or employee complaints have been received about odors from this existing process. It should be noted that numerous side wall openings allow free ventilation. The new system is essentially enclosed and totally ventilated to the scrubber. Similar systems in other GNB plants result in a very acceptable work environment and no public complaints.

3. The 80% listed is an error in that it is not in percent but relative humidity. A better estimate based on stack tests by other firms is 40% water vapor.

4. The new system has the ability to easily retain a 100% spill of the largest six tanks. The retention areas consist of the volume around and under the 93% H_2SO_4 storage vessels and the curbed floors in the remainder of the building. All possible wetted surfaces are protected with acid-proof brick and membranes and all equipment is kept above the possible liquid level with piers and supports made of acid-proof materials.

Cleanup of spilled material would most likely be handled by pumping it back into the repaired (or other) tank and using it for the manufacturing operation. Should the material be contaminated or too diluted, a decision to haul as hazardous waste (RCRA) or locally neutralize with the plant process waste stream would have to be made.

Should there be any other questions, please feel free to contact R. Caldwell at Seabury-Bottorf or me.

Very truly yours,

GNB Incorporated

Donald W. Groff
Manager, Facilities Engineering

/fhs

cc: R. Caldwell
D. Oliver

fc1g92

DEPARTMENT OF ENVIRONMENTAL REGULATION

ROUTING AND TRANSMITTAL SLIP

ACTION NO

ACTION DUE DATE

	Initial	Date
1. TO: (NAME, OFFICE, LOCATION) Willard Hanks, BAQM-Tally		
2.		
3.		
4.		

REMARKS:

Just received this letter addressed to you. We have a copy.

Willard -
I put the original in the file -
Patty
1/13/86

INFORMATION	
	Review & Return
	Review & File
	Initial & Forward

DISPOSITION	
	Review & Respond
	Prepare Response
	For My Signature
	For Your Signature
	Let's Discuss
	Set Up Meeting
	Investigate & Report
	Initial & Forward
	Distribute
	Concurrence
	For Processing
	Initial & Return

FROM: Tom Sawicki

DATE 1/10/86

PHONE SC 393-1408

P 408 533 341

RECEIPT FOR CERTIFIED MAIL

NO INSURANCE COVERAGE PROVIDED—
NOT FOR INTERNATIONAL MAIL

(See Reverse)

Sent to Mr. Donald W. Groff	
Street and No.	
P.O., State and ZIP Code	
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 12/18/85	

PS Form 3800, Feb. 1982

PS Form 3811, July 1983

SENDER: Complete items 1, 2, 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 service(s) requested.

1. ☐ Show to whom, date and address of delivery.
2. ☐ Restricted Delivery.

3. Article Addressed to:
Mr. Donald W. Groff
GNB Incorporated
Post Office Box 64100
St. Paul, Minn. 55164-0100

4. Type of Service:
☐ Registered ☐ Insured
☑ Certified ☐ COD
☐ Express Mail

Article Number
P 408 533 341

Always obtain signature of addressee or agent and DATE DELIVERED.

5. Signature – Addressee
X

6. Signature – Agent
X

7. Date of Delivery
DEC 21 1985

8. Addressee's Address *(ONLY if requested and fee paid)*

DOMESTIC RETURN RECEIPT

STATE OF FLORIDA

DEPARTMENT OF ENVIRONMENTAL REGULATION

TWIN TOWERS OFFICE BUILDING
2600 BLAIR STONE ROAD
TALLAHASSEE, FLORIDA 32301-8241

BOB GRAHAM
GOVERNOR

VICTORIA J. TSCHINKEL
SECRETARY

December 17, 1985

CERTIFIED MAIL - RETURN RECEIPT REQUESTED

Mr. Donald W. Groff
Manager of Facilities Engineering
GNB Incorporated
Post Office Box 64100
St. Paul, Minn. 55164-0100

Dear Mr. Groff:

RE: File No. AC 48-112906, GNB Acid Mixing System

The department had made a preliminary review of the application for permit to construct an acid mixing system with a scrubber at your Orlando, Florida plant. We would like to have more information on this project. Please supply the information requested below.

1. Does the new acid system replace an existing acid system at this plant? If so, please describe the system being replaced and estimate the acid mist and hydrogen sulfide emissions in lb/hr and TPY from the existing system.

2. Has the public or employees of this plant complained about objectionable odors from the process?

3. What is the basis of the water vapor content of the scrubber gas flow being 80 percent?

4. What plans exist to handle an acid spill such as a ruptured tank at this plant?

The information being requested will aid the department in processing your application. If you have any questions regarding the information being requested, please call Willard Hanks at (904) 488-1344 or write to me at the department's Tallahassee address.

Sincerely,

for C. H. Fancy
Deputy Chief
Bureau of Air Quality
Management

CF/WH/p

cc: John Bottorf, Jr.
Tom Sawicki

>>>CALCULATED PARAMETERS<<<

VOLUMETRIC FLOW = 1.18E+00 (M**3/SEC)
BUOYANCY FLUX PARAMETER = .01 (M**4/SEC**3)

*** MAXIMUM CONCENTRATION FOR SOURCE # 1 ***

**** STACK TOP WINDS EXTRAPOLATED FROM 10.0 METERS ****

*** WIND SPEED AT 10.0 METER HEIGHT IS GIVEN HERE ***

STABILITY	WIND SPEED (M/SEC)	MAX CONC (UG/CU M)	DIST OF MAX (KM)	PLUME HT (M)
5	1.00	1.0364E+02	.528	19.8

**** CORRESPONDING SPATIAL DISTRIBUTION ****

DISTANCE (KM)	CONCENTRATION (UG/M**3)
.1	7.8016E-04
.2	1.0375E+01
.3	5.9798E+01
.5	1.0324E+02
.7	9.4995E+01
1.0	7.0767E+01
1.5	4.4833E+01
2.0	3.1097E+01
3.0	1.8238E+01
5.0	9.1442E+00
7.0	5.8107E+00
10.0	3.5776E+00
15.0	2.0855E+00
20.0	1.4210E+00
30.0	8.5789E-01
50.0	4.6326E-01

*** SPATIAL DISTRIBUTION OF WORST CONDITIONS ***
(ACCUMULATED FOR THE LAST 1 SOURCE(S))

DISTANCE (KM)	MAX CONC (UG/M**3)	STABILITY	WIND (M/S)
.1	7.3059E+01	1	1.50
.2	8.3580E+01	3	1.50
.3	7.9235E+01	3	1.00
.5	1.0324E+02 ←	5	1.00
.7	9.7585E+01	6	1.00
1.0	9.9113E+01	6	1.00
1.5	7.6982E+01	6	1.00
2.0	5.8569E+01	6	1.00
3.0	3.7252E+01	6	1.00
5.0	2.0422E+01	6	1.00
7.0	1.3462E+01	6	1.00
10.0	8.6909E+00	6	1.00
15.0	5.2473E+00	6	1.00
20.0	3.7419E+00	6	1.00
30.0	2.3213E+00	6	1.00
50.0	1.3043E+00	6	1.00

Stop - Program terminated.

C>B
Bad command or file name

C>CD\EST

~~10.4~~ 104 ug/m³ max 1 hr conc H_2S (H_2S ok)
(deminimus [?] and impact H_2S = 0.04 ug/m³
1-45 ug/m³ is odor threshold

$$\frac{17.6 \text{ lb/hr } H_2SO_4}{3.02 \text{ lb/hr } H_2S} \Big| \text{ 104 ug/m}^3 = 604 \text{ ug/m}^3 \text{ max 1 hr } H_2SO_4$$

604 @ 90% effic

$$\frac{3.5 \text{ lb } H_2SO_4^{*}}{\text{hr}} \cdot \frac{104}{3.02} = 120.5 \text{ ug/m}^3$$

* 98% efficient scrubber [?]

TWA H_2S = 14 mg/m³ ~ 14×10^3 ug/m³

STEL H_2S = 21 mg/m³ ~ 21×10^3 ug/m³

TWA H_2SO_4 = 1 mg/m³ ~ 1×10^3 ug/m³

proposed demin H_2SO_4 1 ug/m³

TWA 8 hr/day // 40 hr/wk STD

TLV-STEL 15 MIN STD

GNB Thorp #88 - H_2S

Best Available Copy

```
PRESENT SOURCE CHARACTERISTICS ARE:
  1  SOURCE STRENGTH (LB/HR):  3.02E+00
  2  PHYSICAL HEIGHT OF STACK (FT):  35.00
  3  STACK GAS TEMPERATURE (F):  70.00
  4  STACK GAS VELOCITY (FT/SEC):  53.30 *
  5  INSIDE STACK DIAMETER (FT):  1.00
  6  VOLUME FLOW (FT**3/MIN):  2.50E+03 *

  * MODEL REQUIRES INPUT OF EITHER VELOCITY OR FLOW

CHANGE WHICH CHARACTERISTIC? (7 TO DISPLAY; 8 TO RETURN)
6

INPUT NEW OF SOURCE #  1 :
 1 CHANGE OPTIONS
 2 CHANGE METEOROLOGY
 3 CHANGE RECEPTOR ELEVATION
 4 CHANGE SOURCE CHARACTERISTICS
 5 CHANGE TITLE
 6 DISPLAY INPUT DATA
 7 RUN
 8 END

ENTER SELECTION (1,2,3,4,5,6,7 OR 8)
7

MPTPLU
  -- MODEL FOR SCREENING MAXIMUM CONCENTRATIONS FOR MULTIPLE SOURCES
     MODIFIED FROM PTPLU

*** TITLE OF SOURCE #  1 ***

*** TEST OF MPTPLU ***

)))INPUT PARAMETERS(((

***OPTIONS***
IF = 1, USE OPTION
IF = 0, IGNORE OPTION
IOPT(1) = 0  (GRAD PLUME RISE)
IOPT(2) = 0  (STACK DOWNWASH)
IOPT(3) = 0  (BUOY. INDUCED DISP.)
IOPT(4) = 1  (EXTRAPOLATED WIND)

***METEOROLOGY***
AMBIENT AIR TEMPERATURE =   293.00 (K)
MIXING HEIGHT           =  2000.00 (M)
ANEMOMETER HEIGHT       =    10.00 (M)
WIND EXTRAPOLATION EXPONENTS = A: .10, B: .15, C: .20
                               D: .25, E: .30, F: .30

***RECEPTOR HEIGHT***   =      .00 (M)

***SOURCE***
EMISSION RATE =  3.81E-01 (G/SEC)
STACK HEIGHT  =    10.67 (M)
EXIT TEMP.    =   284.11 (K)
EXIT VELOCITY =    16.17 (M/SEC)
STACK DIAM.   =      .30 (M)
VOLUME FLOW   =  1.18E+00 (M**3/SEC)
```

5.0381 gram / 16 / 3600 sec / 454 gram / Hr = 3.02 lb/hr

35'

2500 cfm

SEABURY-BOTTORF ASSOCIATES, INC.

CONSULTING ENGINEERS ANALYTICAL LABORATORY

4595 PARKBREEZE CT. ORLANDO, FLORIDA 32808-1067 305-298-0846

TRANSMITTAL

TO: St. Johns River District
Florida Dept. of Environmental Regulation
3319 Maguire Blvd., Suite 232
Orlando, Florida 32803-3767

Date November 22, 1985

Project No. 115-7 - GNB INCORPORATED
Orlando, FL

☐ Tracings ☐ Prints ☐ Shop Drawings ☐ Specs. ☐ Letters ☒ Other

No. Cys.	Numbered	Date	Description
4	DER Form 17-1.202(1)	11/18/85	APPLICATION TO CONSTRUCT AIR POLLUTION SOURCES
			w/Attachments, including Check No. 284169 in the
			amount of $750.00 (For Fume Scrubber - GNB ID #B8)

REMARKS:

SEABURY-BOTTORF ASSOCIATES, INC.

By John W. Bottorf, Jr., P.E.

COPY TO: Mr. Donald W. Groff (w/cy. encl.)
Mr. Clay Shimeall (w/cy. encl.)

APPLICATION TRACKING SYSTEM 12/02/85

APPL NO:112906
APPL RECVD:11/25/85 TYPE CODE:AC SUBCODE:99 LAST UPDATE:12/02/85
DER OFFICE RECVD:ORL DER OFFICE TRANSFER TO:___ APPLICATION COMPLETE:__/__/__
DER PROCESSOR:T SAWICKI
APPL STATUS:AC DATE:11/25/85 (ACTIVE/DENIED/WITHDRAWN/EXEMPT/ISSUED/GENERAL)
RELIEF:__ (SSAC/EXEMPTIONS/VARIANCE)
(Y/N) N MANUAL TRACKING DISTRICT:30 COUNTY:48
(Y/N) N DNR REVIEW REQD? LAT/LONG:28.23.58/81.24.02
(Y/N) N PUBLIC NOTICE REQD? BASIN-SEGMENT:__.___
(Y/N) N GOV BODY LOCAL APPROVAL REQD? COE #:_____
(Y/N) Y LETTER OF INTENT REQD? _ (I/ISSUE D/DENY) ALT#:___-_____

PROJECT SOURCE NAME:GNB/FUME SCRUBBER (#B8)
STREET:11331 SATELLITE BLVD. CITY:ORLANDO
STATE:FL ZIP:_____ PHONE:___-___-____
APPLICATION NAME:GROFF, DONALD W.
STREET:POST OFFICE BOX 64100 CITY:ST PAUL
STATE:MN ZIP:55164 PHONE:612-681-5000
AGENT NAME:SEABURY-BOTTORF ASSOCIATES, INC.
STREET:4595 PARKBREEZE COURT CITY:ORLANDO
STATE:FL ZIP:32808 PHONE:305-298-0846
FEE #1 DATE PAID:11/25/85 AMOUNT PAID:00750 RECEIPT NUMBER:00097347

B DATE APPLICANT INFORMED OF NEED FOR PUBLIC NOTICE - - - __/__/__
C DATE DER SENT DNR APPLICATION/SENT DNR INTENT - - - - - __/__/__--__/__/__
D DATE DER REQ. COMMENTS FROM GOV. BODY FOR LOCAL APP. -. __/__/__
E DATE #1 ADDITIONAL INFO REQ--REC FROM APPLICANT - - - - __/__/__--__/__/__
E DATE #2 ADDITIONAL INFO REQ--REC FROM APPLICANT - - - - __/__/__--__/__/__
E DATE #3 ADDITIONAL INFO REQ--REC FROM APPLICANT - - - - __/__/__--__/__/__
E DATE #4 ADDITIONAL INFO REQ--REC FROM APPLICANT - - - - __/__/__--__/__/__
E DATE #5 ADDITIONAL INFO REQ--REC FROM APPLICANT - - - - __/__/__--__/__/__
E DATE #6 ADDITIONAL INFO REQ--REC FROM APPLICANT - - - - __/__/__--__/__/__
F DATE GOVERNING BODY REQUESTED SURVEY RESULTS/REPORTS - - __/__/__
G DATE FIELD REPORT WAS REQ--REC - - - - - - - - - - - - - __/__/__--__/__/__
H DATE DNR REVIEW WAS COMPLETED - - - - - - - - - - - - - - __/__/__

I DATE APPLICATION WAS COMPLETE - - - - - - - - - - - - - - __/__/__
J DATE GOVERNING BODY PROVIDED COMMENTS OR OBJECTIONS - - __/__/__
K DATE NOTICE OF INTENT WAS SENT--REC TO APPLICANT - - - - __/__/__--__/__/__
L DATE PUBLIC NOTICE WAS SENT TO APPLICANT - - - - - - - - __/__/__
M DATE PROOF OF PUBLICATION OF PUBLIC NOTICE RECEIVED - - __/__/__
N WAIVER DATE BEGIN--END (DAY 90) - - - - - - - - - - - - - __/__/__--__/__/__

COMMENTS:

CASE HISTORY SHEET

File Name GNB/Mixing System w/ scrubber

PATS Number AC48-112906 Permit Number ______

Date	Action Taken	Init.	Time	Miles
~~ENTERED NOV 25 1985~~		IH	25	
		Total:		

STATE OF MINNESOTA)
) SS.
COUNTY OF DAKOTA)

On this 18 day of November, 1985, before me, a Notary Public, personally appeared Donald W. Groff, who, being duly sworn by me, did say that he is Manager of Facilities Engineering of GNB Incorporated and that said instrument was signed in behalf of said corporation and acknowledged to be its free act and deed.

FLORENCE H. STIFTER
NOTARY PUBLIC—MINNESOTA
DAKOTA COUNTY
My Comm. Expires May 6, 1987

fc9A02

STATE OF FLORIDA
DEPARTMENT OF ENVIRONMENTAL REGULATION

№ 97347

RECEIPT FOR APPLICATION FEES AND MISCELLANEOUS REVENUE

Received from GNB Inc. Date Nov 25, 1985

Address P.O. Box 64140, St Paul Mn 55164 Dollars $ 250.00

Applicant Name & Address

Source of Revenue [illegible]

Revenue Code 001031 Ck 284165 Application Number AC48-112906

By K [illegible]

STATE OF FLORIDA

DEPARTMENT OF ENVIRONMENTAL REGULATION

ST. JOHNS RIVER DISTRICT
3319 MAGUIRE BOULEVARD
SUITE 232
ORLANDO, FLORIDA 32803

BOB GRAHAM
GOVERNOR

VICTORIA J. TSCHINKEL
SECRETARY

ALEX SENKEVICH
DISTRICT MANAGER

APPLICATION TO ~~OPERATE~~/CONSTRUCT AIR POLLUTION SOURCES

Fume Scrubber (GNB ID #B8) [X] New[1] [ ] Existing[1]

APPLICATION TYPE: [X] Construction [ ] Operation [ ] Modification

COMPANY NAME: GNB INCORPORATED COUNTY: Orange

Identify the specific emission point source(s) addressed in this application (i.e. Lime Kiln No. 4 with Venturi Scrubber; Peaking Unit No. 2, Gas Fired) Acid Mixing System w/Scrubber (GNB ID #B8)

SOURCE LOCATION: Street 11331 Satellite Blvd. City Orlando

UTM: East 17-460.300 North 3142.300

Latitude 28 ° 23' 58 "N Longitude 81 ° 24 ' 02 "W

APPLICANT NAME AND TITLE: Donald W. Groff, Manager of Facilities Engineering

APPLICANT ADDRESS: P. O. Box 64100, St. Paul, MN 55164-0100

SECTION I: STATEMENTS BY APPLICANT AND ENGINEER

A. APPLICANT

I am the undersigned owner or authorized representative* of GNB Incorporated

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: Donald W. Groff

Donald W. Groff, Manager of Facilities Engineering
Name and Title (Please Type)

Date: 11-18-85 Telephone No. 612/681-5000

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 John W. Bottorf

John W. Bottorf, Jr.
Name (Please Type)

Seabury-Bottorf Associates, Inc
Company Name (Please Type)

4595 Parkbreeze Ct., Orlando, Florida 32808-1057
Mailing Address (Please Type)

Florida Registration No. 13089 Date: 11/22/85 Telephone No. 305/298-0846

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.

Sulfuric Acid (H_2SO_4) is received, stored and mixed for use in manufacturing processes. Acid in fiberglass tanks is air agitated. Tanks are connected to Fume Scrubber which should result in full compliance.

B. Schedule of project covered in this application (Construction Permit Application Only)

Start of Construction 12/1/85 Completion of Construction 4/1/85

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.)

Scrubber	-	$6,800
Ductwork	-	27,000
Piping, Electric, Installation	-	2,350
		$36,150

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

None

E. Requested permitted equipment operating time: hrs/day 24 ; days/wk 7 ; wks/yr 52 ;

if power plant, hrs/yr _____; 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? Yes

   a. If yes, has "offaet" been applied? No

   b. If yes, has "Lowest Achievable Emission Rate" been applied? No

   c. If yes, list non-attainment pollutants. Ozone

2. Does best available control technology (BACT) apply to this source? If yes, see Section VI. No

3. Does the State "Prevention of Significant Deterioriation" (PSD) requirsment 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 justification 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		
H_2SO_4	Acid Fumes		1092.5	(1)
Water			2120.75	(2)

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

1. Total Process Input Rate (lbs/hr): 3213.25

2. Product Weight (lbs/hr): 3213.25 - Acid Solution

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[2] 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	
H_2SO_4	17.6	77.10	.610(2)	20% Opacity	1,542,110	771	(3)
H_2S	3.02	13.24	.610(2)	20% Opacity	264,815	132.4	(3)

[1]See Section V, Item 2.

[2]Reference 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)

[3]Calculated from operating rate and applicable standard.

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

D. 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)
Tri-Mer Corporation	H_2SO_4	90-98%		Manufacturer's
Model F/S-1 Fan/ Separator Scrubber	H_2S	90-98%		Rating
System				

E. Fuels

Type (Be Specific)	Consumption*		Maximum Heat Input (MMBTU/hr)
	avg/hr	max./hr	
None Used for Process			

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

Fuel Analysis:

Percent Sulfur: _____ Percent Ash: _____

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 _____ Maximum _____

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

Lead sulfates filtered from process flow are returned to lead smelters for recycling along with other plant materials.

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

Stack Height: Above grade 35 ft. Stack Diameter: 1.0 ft.

Gas Flow Rate: 2500 ACFM _____ DSCFM Gas Exit Temperature: Ambient °F.

Water Vapor Content: 80% Est. % Velocity: 53.3 FPS

SECTION IV: INCINERATOR INFORMATION N/A

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 Diamter: _____ Stack Temp. _____

Gas Flow Rate: _____ACFM _____ OSCFM* 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)]
   See Attachment 1.
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. See Attachment 2.
3. Attach basis of potential discharge (e.g., emission factor, that is, AP42 test).
   See Attachment 2.
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.) See Attachment 3.
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). See Attachment 4.
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. See Attachment 5.
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).
   See Attachment 6.
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.
   See Attachment 7.

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

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

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

1. Control Device/System:
2. Operating Principles:
3. Efficiency:*
4. Capital Costs:

*Explain method of determining

5. Useful Life:

6. Operating Costs:

7. Energy:

8. Maintenance Cost:

9. Emissions:

Contaminant	Rate or Concentration

10. Stack Parameters

a. Height: ft.

b. Diameter: ft.

c. Flow Rate: ACFM

d. Temperature: °F.

e. Velocity: FPS

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:

2. Efficiency:[1]

3. Capital Cost:

4. Useful Life:

5. Operating Cost:

6. Energy:[2]

7. Maintenance Cost:

8. Manufacturer:

9. Other locations where employed on similar processes:

a. (1) Company:

(2) Mailing Address:

(3) City:

(4) State:

[1]Explain method of determining efficiency.
[2]Energy 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:

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

SECTION VII - PREVENTION OF SIGNIFICANT DETERIORATION

A. Company Monitored Data

1. _____no. sites _____ TSP _____( ) SO^2* _____ 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).

2. Instrumentation, Field and Laboratory

a. Was instrumentation EPA referenced or its equivalent? [ ] Yes [ ] No

b. Was instrumentation calibrated in accordance with Department procedures?

[ ] Yes [ ] No [ ] Unknown

B. Meteorological Data Used for Air Quality Modeling

1. _____ Year(s) of data from ____/____/____ to ____/____/____
month day year month day year

2. Surface data obtained from (location)_____

3. Upper air (mixing height) data obtained from (location)_____

4. Stability wind rose (STAR) data obtained from (location)_____

C. Computer Models Used

1. _____ Modified? If yes, attach description.

2. _____ Modified? If yes, attach description.

3. _____ Modified? If yes, attach description.

4. _____ Modified? If yes, attach description.

Attach copies of all final model runs showing input data, receptor locations, and principle output tables.

D. Applicants Maximum Allowable Emission Data

Pollutant	Emission Rate	
TSP	_____	grams/sec
SO^2	_____	grams/sec

E. Emission Data Used in Modeling

Attach list of emission sources. Emission data required is source name, description of point source (on NEDS point number), UTM coordinates, stack data, allowable emissions, and normal operating time.

F. Attach all other information supportive to the PSD review.

G. Discuss the social and economic impact of the selected technology versus other applicable technologies (i.e., jobs, payroll, production, taxes, energy, etc.). Include assessment of the environmental impact of the sources.

H. Attach scientific, engineering, and technical material, reports, publications, journals, and other competent relevant information describing the theory and application of the requested best available control technology.

GNB INCORPORATED

SUPPLEMENT TO SECTION II, DER FORM 17-1.202(1)

PROCESS DESCRIPTION & AIR EMISSION DISCUSSION

Sulfuric acid (H_2SO_4) is received and stored at 93% concentration and mixed, cooled and finish blended for use in manufacturing lead-acid batteries. Some acids are recycled from manufacturing to the acid mix area for re-blending into other usable specific gravities.

Energy released when mixing acid and water (heat of reaction) is removed from the acid stream in a water cooled carbon heat exchanger. Cooling water is recycled through an evaporative cooling tower. Cooling is entirely non-contact and releases no acids to the environment.

Once mixed, acid is stored in closed top fiberglass tanks having an air sparge ring to prevent stratification. Sparge ring air is provided at 1 CFM per square foot of tank top surface area by a roots blower and spent air is exhausted via PVC ductwork and a Tri Mer Fume Scrubber. This scrubber also provides a capture velocity through the tank inspection doors and removes fumes from the concentrated acid storage tank.

GNB INCORPORATED

SUPPLEMENT TO SECTION II, DER FORM 17-1.202(1)

Net Material shipped in Product

(1) 1.26 Gal. @ 1.255 Sp.Gr./Battery x 3500 Batteries/Day = 4410 Gal./Day

4410 @ 1.255 Sp.Gr. = 46,158 Lbs. Electrolite

(2) Add 5254 Lbs. in Active Material = 51,412 Lbs./Day

or

51,412 x 34% = 17,480 Lbs. Pure Sulfuric Acid/Day

33,932 Lbs. Water/Day

NOTE: Acid handling is performed in 16 Hrs./Day, 50 Wks./Yr., 5 Days/Wk.
: Fume Scrubber operation is 24 Hrs./Day, 52 Wks./Yr., 7 Days/Wk.

Gross Material thru Acid Mix System/Day @ 3500 Batteries

Material Use	Gal.	Sp. Gr.	Lbs. Solution	Lbs. H_2SO_4	Lbs. H_2O	% H_2SO_4 By Weight	Loss
Pasting	450	1.400	5,254	2,627	2,627	50%	3%
Formation	4,410	1.100	40,457	5,866	34,591	14.5%	0.87%
Reclaim	3,950	1.160	38,113	8,480	29,633	22.3%	1.3%
Re-Fill	3,950	1.330	43,814	18,664	25,149	42.6%	2.6%
Total	12,760	Avg.1.20	127,638	35,637	92,001	27.9%	

SUPPLEMENT TO SECTION II, DER FORM 17-1.202(1)

GNB INCORPORATED

ACID MIXING SYSTEM

Number of Tanks	Tank Dimensions	Tank Top Surface Area	CFM Required per Tank	Total CFM Required For Agitation	Tank Capacity Gallons	Total Gallons
8	6' Diameter, 11.5' High	28.27 $Ft.^2$	28.27	226.16	2431.75	19,454
7	4' Diameter, 11.5' High	12.57 $Ft.^2$	12.57	87.99	1081.28	7569
1	5' Diameter, 11.5' High	19.63 $Ft.^2$	19.63	19.63	1688.5	1688.5
16	2.5' Diameter, 7.5' High	4.91 $Ft.^2$	4.91	78.56	275.45	4407.2
			TOTALS =	412.34 CFM		33,118.7 Gallons

Attachment 1

GNB Incorporated

Supplement to section V, DER Form 17-1.202(1)

Process Input/Output Rate

Calculation Basis: Acid mixing occurs 16 hours/day, the scrubber system operates 24 hour/day. Acid mixing tanks are air agitated 24 hours/day. 17,480 pounds/day of new sulfuric acid is used in the process.

$$\text{Input Rate} = 17480 \text{ lb/day acid} \times \frac{1 \text{ day}}{16 \text{ hours}}$$

$$= 1092.5 \text{ lb/hour of sulfuric acid}$$

$$\text{Input Rate} = 33932 \text{ lb/day water} \times \frac{1 \text{ day}}{16 \text{ hours}}$$

$$= 3213.25 \text{ lb/hour of water}$$

Output Rate equals Input Rate for both water and acid.

Attachment 2 (continued)

Supplement to section V, DER Form 17-1.202(1)

Uncontrolled Sulfuric Acid Mist Emissions Calculations

Calculation Basis: It can be assumed that the average concentration of acid in all the mixing tanks is 27.9%. The average solution evaporation rate is 0.292%/hour based on gravimetric analysis with an air agitation rate of 106 cc/minute. Air agitation rate was calculated to be equivalent to 1 cfm/square foot of tank top surface area. The average tank volume is 65% of capacity. There are 32 tanks that use air agitation for mixing and they have a total volume of 33119 gallons.

pounds of solution = 33119 gallons x 10 lb/gallon x .65 capacity

= 215273.5 pounds of solution

$$\text{loss} = 215273.5 \text{ lb} \times \frac{27.9\% \text{ acid}}{100} \times \frac{0.292\% \text{ evaporation/hr}}{100}$$

= 175.4 lb/hour

Uncontrolled Sulfuric Acid Emissions From Storage Tanks

Calculation Basis: New virgin acid is stored in two 8309 gallon storage tanks. The concentration of the virgin acid is 93%. These tanks are not air agitated. Emissions occur when the tanks are filled.

$$\text{Displacement Volume} = \frac{17480 \text{ lb/day acid}}{15.2 \text{ lb/gallon}} \times \frac{1 \text{ cubic foot}}{7.48 \text{ gallons}} \times \frac{1 \text{ day}}{24 \text{ hours}}$$

= 6.4 cubic feet/hour

Emissions = 6.4 cfh x 0.1 lb/cubic foot of head space in tanks

= 0.64 lbs/hour

Total Uncontrolled Sulfuric Acid Emissions = 176.04 lb/hr

Attachment 2 (continued)

Supplement to section V, DER Form 17-1.202(1)

Actual Emissions Calculations

Calculation Basis: Actual emissions are based on the scrubber control efficiency and the potential emissions.

Actual Emissions = Potential Emissions x (1-efficiency)

Sulfuric Acid Emissions = 176.04 lb/hr x (1 - 0.90)

= 17.6 lb/hour

Hydrogen Sulfide Emissions = 30.23 lb/hr x (1 - 0.90)

= 3.02 lb/hour

Attachment 2

Supplement to section V, DER Form 17-1.202(1)

Uncontrolled Hydrogen Sulfide Emissions Calculations

Calculation Basis: Uncontrolled emissions calculations are based on the mixing process and the relative losses for each of the various concentrations of sulfuric acid. Laboratory test have shown that a 3% loss can be expected in 50% sulfuric acid and the loss for lesser concentrations is assumed to be directly proportional to the concentration.

Paste Mixing Tanks (50% sulfuric acid)

$$\text{Loss} = 5254 \text{ lb/day} \times \frac{50\% \text{ acid}}{100} \times \frac{3\% \text{ loss}}{100} \times \frac{1 \text{ day}}{24 \text{ hours}}$$

$$= 3.28 \text{ lb/hour}$$

Formation Mixing Tanks (14.5% sulfuric acid)

$$\text{Loss} = 40457 \text{ lb/day} \times \frac{14.5\% \text{ acid}}{100} \times \frac{0.87\% \text{ loss}}{100} \times \frac{1 \text{ day}}{24 \text{ hours}}$$

$$= 2.13 \text{ lb/hour}$$

Reclaim Mixing Tanks (22.3% sulfuric acid)

$$\text{Loss} = 38113 \text{ lb/day} \times \frac{22.3\% \text{ acid}}{100} \times \frac{1.3\% \text{ loss}}{100} \times \frac{1 \text{ day}}{24 \text{ hours}}$$

$$= 4.60 \text{ lb/hour}$$

Re-fill Mixing Tanks (42.6% sulfuric acid)

$$\text{Loss} = 43814 \text{ lb/day} \times \frac{42.6\% \text{ acid}}{100} \times \frac{2.6\% \text{ loss}}{100} \times \frac{1 \text{ day}}{24 \text{ hours}}$$

$$= 20.22 \text{ lb/hour}$$

Total Uncontrolled Hydrogen Sulfide Emissions = 30.23 lb/hour

ATTACHMENT 3.

TRI-MER

**MODEL F/S-1 FAN/SEPARATOR®
SCRUBBER SYSTEM**

ONE (1) FAN/SEPARATOR SCRUBBER SYSTEM PER FOLLOWING SPECIFICATIONS:

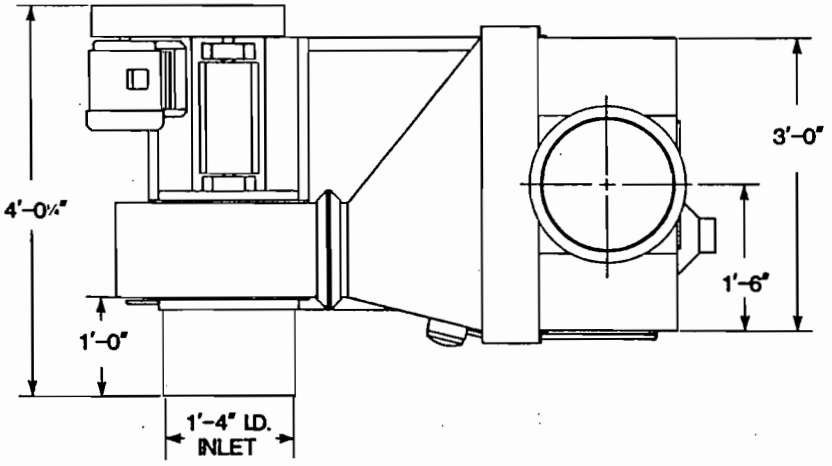
A. FAN UNIT - Model 15

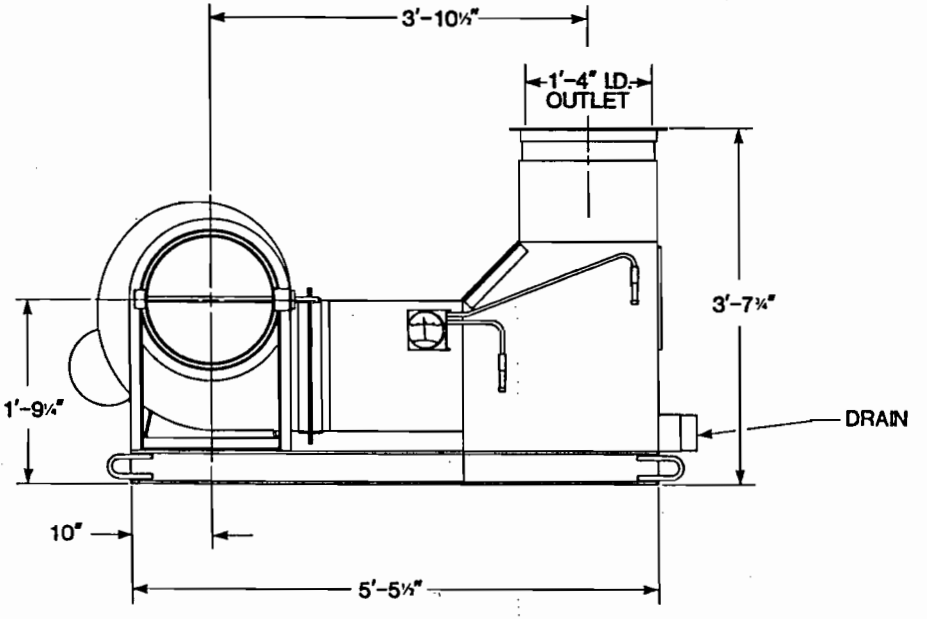
1. Static Design - 2.7" S.P. External.
2. Internal Static - .8" (Scrubber Unit).
3. CFM - 2,500 (Operational).
4. Material of Construction - PVC Housing, Inlet Cone, Spray Header and Internals.
5. Impeller Design - Flat Blade Backwardly Incline Non-Overloading.
6. Impeller Construction - PVC designed for specific chemicals encountered.
7. Impeller Diameter - 15".
8. Fan Speed - 2,710 RPM.
9. Operational H.P. - 4.31 BHP.
10. Fan H.P. - 5 H.P.
11. Motor Style - 60 Cycle, 460 Volt 3 Phase TEFC.
12. Fan Base - Mild Steel Epoxy Painted.

SCRUBBER SECTION
MODEL F/S-1

B. SEPARATOR (SCRUBBER UNIT)

1. Material of Construction - PVC.
2. Material Thickness - 3/16"-1/4" thick PVC structually reinforced.
3. Exterior Flanges - PVC angle welded to structure.
4. Interior Flanges - PVC angle and structural material welded to main unit.
5. Liquid Flanges - Inlet Feed Threaded PVC, drain threaded PVC or 150# PVC.
6. Packing Media - Rigid Polypropylene tubes set at 45° angle allowing continuous liquid flow and moisture extraction.
7. Tube Pack - Pack to be frame mounted designed for slide in and out maintenance procedure.
8. Stages - Two (2) Inlet Centrifugal Spray and Downstream Single Pack.
9. Inspection Ports - Variable Sizes located around unit.
10. Total Scrubber Size (Fan & Separator) - 5'-6" long x 3'-0" wide x 3'-8" high.
11. Stack Outlet - Top Vertical.
12. Support Base - 3" Channel Interfaced with unit.
13. Venturi Drain - Unit to contain internally mounted Venturi drain designed to continuously evacuate liquid from scrubber tube system and floor assembly.
14. Drain Location - Rear Horizontal Discharge to recirculation sump back vented to inlet of unit.





MODEL F/S -1 FAN SEPARATOR

ITEM	QTY	MAT'L	DESCRIPTION	DWG

TRI-MER CORP
AIR POLLUTION CONTROL EQUIPMENT
P.O. Box 125 Owosso Michigan 48867 U.S.A.

CUSTOMER		DWG. TITLE	ASSEMBLY F/S-1 FAN SEPARATOR
DWN BY SCOTT	SCALE	PART NO. F/S-1	SHT NO. 1 OF 1
STYLE BY J. PARDELL	DATE 3-22-84	SPEC LIST	DWG NO. D 1000-1254

® Tri-Mer® Corporation
Air Pollution Control Systems
1400 Monroe Street - Owosso, Michigan 48867 U.S.A.
Area Code 517, Phone 723-7838
Telex 228545
California Sales Offices
P.O. Box 1152, Costa Mesa, California 92626
Phone: (714) 548-5853

INSTALLATION & OPERATING INSTRUCTIONS

FAN/SEPARATOR
INSTALLATION WITH RECIRCULATION

1.
Tri-Mer FAN/SEPARATOR Series Fume Scrubbers can be installed indoors or outdoors. They should be mounted on a flat level area with permanent foundation to prevent settling or incorrect sloping of units.

2.
If scrubber is of plastic construction, use care in attaching all pipe connetctions to avoid excessive piping stresses. In general a flexible type of connection is preferred (such as hose connections). All pipe, valves & external fitting should be supported independent of connections on unit.

OUTDOOR INSTALLATION

3.
When installed outdoors, provision must be made to protect the recirculation reservior section of the scrubber, pump, recirculation, make-up and solution piping from freezing during the cold weather. Normally, if warm room air is being scrubbed, this heat is sufficient to maintain the solution free from freezing inside unit except during shutdown periods. If the scrubber is mounted outdoors on a flat roof, it is desirable to arrange for the flat scrubber bottom to be against the roof so that the heat from inside the building aids in warming of the receiver section of the scrubber. Insulation on the outside of the lower portion of the scrubber further aids this effect.

4.
Normally on outdoor installations, an immersion heater is used in the recirculation receiver section to prevent freezing. Tri-Mer can provide electrical heaters fabricated of Norcordal Impervious Graphite, or other corrosion resistant materials, which are inserted through a flanged connection into the reservoir section.

Provisions should be made to drain the scrubber when not in use. Pipe lines and pump supplying water (or other scrubbing solutions)* should be arranged so as to permit draining of lines and pump during winter shutdowns. Other normal precautions should be taken to prevent pipes and other accessories from freeze up.

5.
After the scrubber is located and all covers have been secured, the recirculation receiver section should be checked and any foreign matter, such as wire, nails or wood used in shipment should be cleaned out so that it will not interfere with the operation of the pump.

---

* Scrubbing solutions such as caustic soda solutions are frequently used for scrubbing acid fumes. Chemical neutralizing solutions of other types are sometimes employed.

WATER RECIRCULATION SYSTEM (If any)

6.
Many variations and combinations of systems may be arranged to accomplish the purposes of the particular system. Generally the receiver section (lower portion) of the scrubber goes direct to drain on a once thru system or to a lower external tank on a recirculation system. Pump suction is taken at the large outlet located close to the bottom of the recirculation tank. From the pump the water (or scrubbing solution) is introduced to the scrubber irrigation system at the spray inlet located on the side of the scrubber. Fan/Separator units which have sonic spray nozzles; care should be exercised to balance air pressure with liquid pressure.

A tee with a plug placed at the pump suction line will provide a means of draining receiver section when the scrubber is not in use. It is also recommended that a pipe line strainer be included in the pump suction piping.

7.
There is a large overflow drain outlet located in the lower portion of the scrubber. This outlet should be piped to the drain or recirculation tank and should always be open. No valves or other restrictions should normally be placed in this overflow drain line to prevent inadvertent closing of the overflow. (Closing of the overflow drain would result in flooding of the receiver section and water would back up into the fan or duct system. This drain should be arranged so as to form a liquid seal to prevent air from entering the scrubber.

8.
Fresh water (and/or a scrubbing solution) can be introduced to the scrubber through the recirculation tank. A chemical makeup can often be conveniently added at any of several places in the external piping, preferably in pump suction, from the pump to the scrubber.

9.
Recommended Liquid Rates for Fan/Separators

ONCE THRU	FS-1/16 1/8 GPM	FS-1/8 1/4 GPM	FS-1/4 1/2 GPM	FS-1/2 1/2 GPM	FS-1 1½ GPM
RECIRCU.	X	X	X	X	GPM 1½
RECIRCU. MAKE UP	X	X	X	X	9 GPH

ONCE THRU	FS-2 2 GPM	FS-3 3 GPM	FS-4 4 GPM	FS-5 5 GPM	FS-6 6 GPM
RECIRCU.	GPM 2	GPM 3	GPM 4	GPM 5	GPM 6
RECIRCU. MAKE UP	12 GPH	18 GPH	24 GPH	1/2 GPM	1/2 GPM

	FS-7	FS-8	FS-9	FS-10	FS-11
ONCE THRU	8 GPM	9 GPM	12 GPM	14 GPM	17 GPM
RECIRCU.	8 GPM	9 GPM	12 GPM	14 GPM	17 GPM
RECIRCU. MAKE UP	3/4 GPM	3/4 GPM	1 GPM	1.25 GPM	1.5 GPM

	FS-12	FS-14	FS-15	FS-16	FS-17
ONCE THRU	20 GPM	24 GPM	30 GPM	40 GPM	50 GPM
RECIRCU.	20 GPM	24 GPM	30 GPM	40 GPM	50 GPM
RECIRCU. MAKE UP	2 GPM	2.25 GPM	3 GPM	4 GPM	5 GPM

* 40 PSIG at Spray Nozzles are incorporated on scrubbers using plant water.

  10 to 20 PSIG Nozzles are incorporated on scrubbers using recirculated liquid.

FAN & DUCT CONNECTIONS

10.
(1) INLET - The fume inlet duct connection to the fan is a round sleeve. The piece of duct attached to this sleeve should be flex connected and removable for access to fan wheel. This piece of duct should also slope down toward the fan for drainage of condensate, etc. from the duct system into the fan. The downward slope of this duct toward the fan also prevents scrubbing solutions from splashing and running back down the duct system in the event that the fan should fail to operate while the water is still being applied to the fan irrigation system.

11.
(2) OUTLET - There is a flange duct connection at the top of the scrubber. This flanged is provided so that any desired stack may be bolted in place. The stack should be of sufficient height to release the air above nearby air intakes, windows and other similar structures. The stacks should be sufficiently guyed to brace against wind loads. It is recommended that stainless steel guy wires and hardware or other weather-resistance materials be employed. Large stacks should be independently supported with a separate super structure so as to keep the weight off the scrubber box.

START UP

12.
System should be completely flushed to remove all debris prior to start up. Drain and clean strainer, clean spray nozzles, check for leaks and tighten any loose bolts and connections.

13.
It is also important to check the following before start up.

1. Manufacturers instructions on blower and pump motors.
2. Rotation of blower and pump.
3. Pump packing, oil and prime. Be sure pump seal is packed and that the oil reservoir is filled.
4. Tighten and/or adjust belts. Be sure blower belts are not slipping and that all belts are pulling uniformly.
5. Spray nozzles. Check that all nozzles are clean and producing a full cone spray.

START UP

14.
Turn on make-up water, start water flow (or recirculation) first. Then start blower. Simultaneous starting of fan and water is entirely satisfactory unless there are electrical load considerations in starting the fan and pump together.

OPERATION

15.
It must be remembered that the water (or scrubbing solution) is the media which removes the fumes from the air. There must be sufficient overflow from the unit to prevent equilibrium being reached. Consequently, the water or solution applied to the irrigation system must be kept fresh or neutral to do an effective job of scrubbing and recommended GPM maintained at all times. If the fumes to be scrubbed are acid, it is frequently the practice to add alkaline solution to the scrubber irrigation system to maintain neutrality. (There are special cases where scrubbing of acids fumes is to be accomplished using strong alkaline solutions in order to obtain rapid chemical reaction to aid in extraction of the acid fumes.)

16.
If a liquid caustic addition system is used (usually recommended for absorption of chlorine, nitric acid, hydrogen sulfide and sulfur dioxide fumes) flow rate of the caustic addition should be adjusted to maintain a pH of 10 or more (but less than 10% by weight) in the recirculation system. Some fiberglass resins are limited to 5% NaOH concentration.

17.
Whether fresh water is recirculated or an alkaline solution added to the recirculation system, the discharge solution from the scrubber overflow drain must be essentially neutral so as to assure a neutral discharge from the scrubber stack. A simple, convenient check for this condition at the drain overflow can be made with standard pH paper.

18.
It is important that a flow be in evidence at the scrubber overflow drain. This is to remove continuously the absorbed fumes (or the reaction products of the fumes with a scrubbing solution) from the system. There will frequently be a white plume of condensing water vapor at the discharge of the scrubber stack. If proper control is maintained of the scrubbing water rate (or recirculation rate) and pH, the plume will be neutral and will be harmless.

19.
As conditions vary from summer to winter, it is a good practice to check the fan motor amperage from season to season. (Negative pressures exist in many plants in winter because of fans exhausting the building with most doors and windows closed.)

SHUT DOWN

20.
Turn off fan first, then the water and recirculation system.

21.
If the shut down is prolonged, steps should be taken to drain the scrubber and water or caustic solution supply lines, if freezing weather is anticipated. A heater can also be provided to protect the reservoir section of the scrubber from freezing during prolonged shut downs in freezing conditions (see paragraph 4)

MAINTENANCE

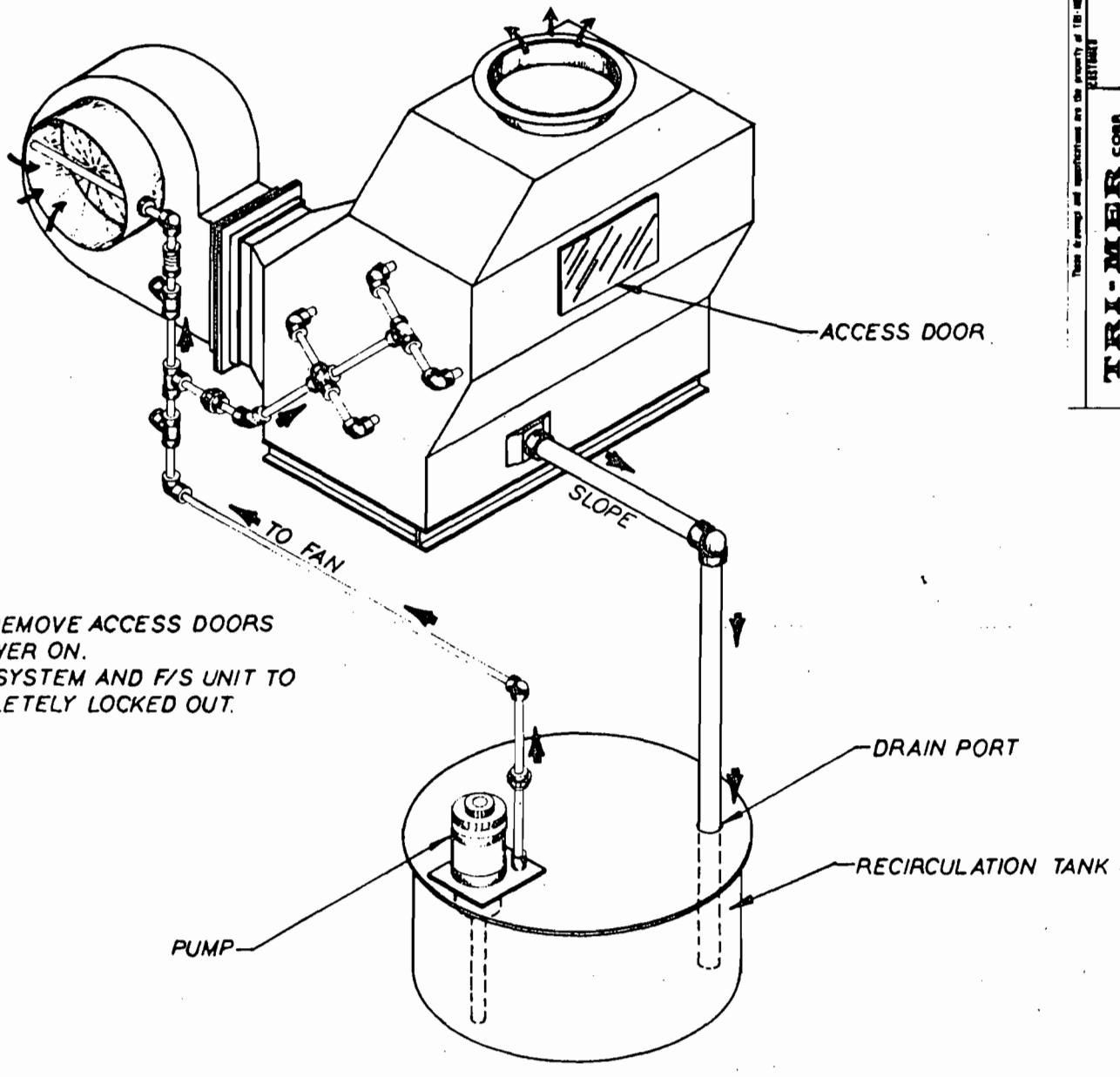
22.
Outside of the normal routine maintenance of the blower bearings, drive and motor, (see manufacturer's printed instructions) there will be practically no maintenance required for your Tri-Mer F/S Series Fume Scrubbers. An occasional check of the irrigation system, piping and filter pack section to make certain that no plugging exists and that a good spray pattern is evident is all that is required.

23.
If the scrubber is in service handling heavy loads that would tend to clog the filter pack, the filter pack may occasionally have to be flushed with cleaning media.

24.
In the most severe cases of clogging, the filter pack may be removed, by removing the cover, cleaned and re-installed. The irrigation piping can be easily removed from the scrubber. All components can be cleaned mechanically or chemically at a bench.

NOTE
DOUBLE PACK SEPARATOR
SHOWN.

NOTE
UNIT TO SLOPE
TOWARD DRAIN.



NOTE
DO NOT REMOVE ACCESS DOORS
WITH POWER ON.
RECIRC. SYSTEM AND F/S UNIT TO
BE COMPLETELY LOCKED OUT.

TYPICAL F/S RECIRCULATION SYSTEM

TRI-MER CORP.
AIR POLLUTION CONTROL EQUIPMENT

DRAWN BY: PAUL DAVENPORT
SCALE: NONE
DATE: 3/31/81
TITLE: TYPICAL F/S RECIRCULATION SYS
SHEET NO. 1 OF 1
SIZE: D

TRI-MER CORPORATION

FAN/SEPARATOR PREVENTATIVE MAINTENANCE CHECKLIST

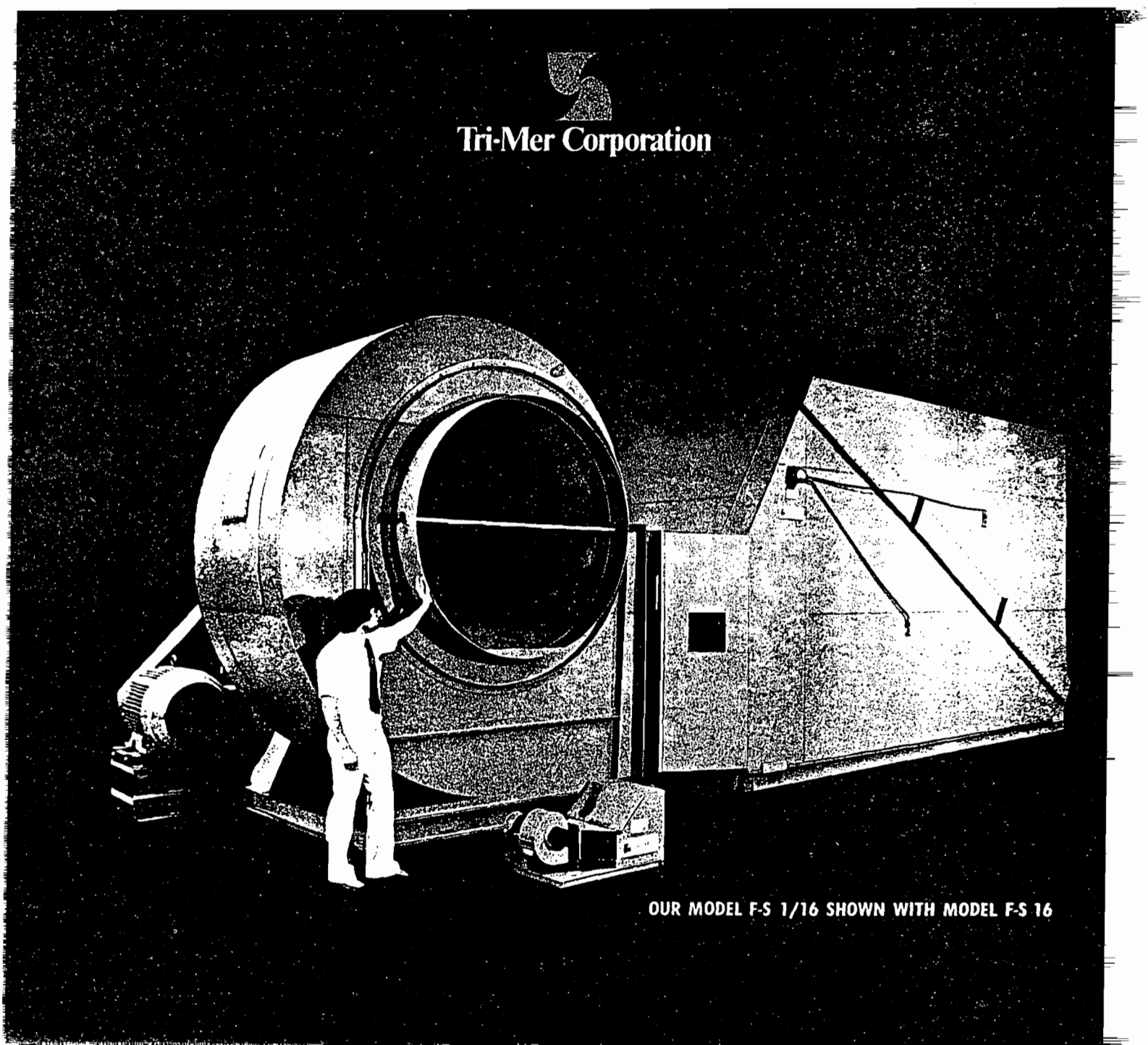
Read Maintenance and Instruction Book before operating unit. Use the following schedule as a checklist to insure trouble-free operation.

ITEM	BI-WEEKLY	MONTHLY	QUARTERLY	REMARKS
Magnehelic Gauge	X			Should magnehelic gauge be higher reading than found on identification and data sheet. Please change or clean filters.
Water Flowmeter	X			Check to be sure that water is flowing at the correct amount and level.
Drain Overflow		X		Check for neutral discharge. Check with litness paper or other pH control mechanism to make sure neutral discharge is maintained out the drain overflow.
Check Water Pumps	X			Clean and check water pumps, level of water and acid content of water monthly.
Blower		X		Visually and physically check blower for excessive vibration.
Grease			X	
Bearings & Belts			X	Check for wear and proper adjustment.
Inspection Door in Fan Housing			X	Remove and check for buildup on wheel.

THE TRI-MER FAN/SEPARATOR

Tri-Mer® Corporation
Factory and Main Offices
1400 Monroe, Owosso, Michigan 48867
Phone: (517) 723-7838 Telex 228645

DESIGNERS AND MANUFACTURERS OF AIR POLLUTION CONTROL SYSTEMS

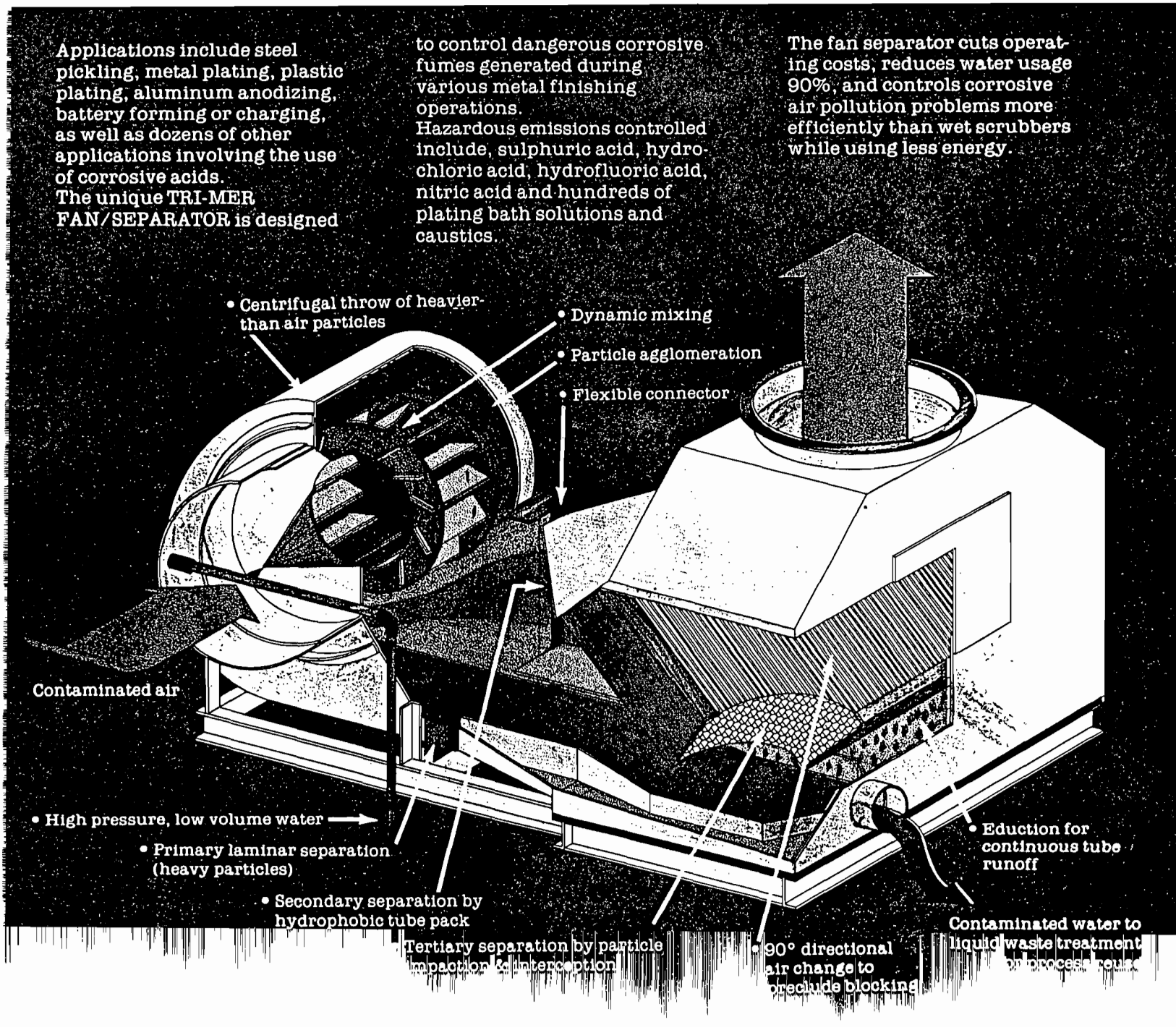


OUR MODEL F-S 1/16 SHOWN WITH MODEL F-S 16

DESIGN FEATURES OF THE TRI-MER FAN/SEPARATOR

Applications include steel pickling, metal plating, plastic plating, aluminum anodizing, battery forming or charging, as well as dozens of other applications involving the use of corrosive acids.
The unique TRI-MER FAN/SEPARATOR is designed to control dangerous corrosive fumes generated during various metal finishing operations.
Hazardous emissions controlled include, sulphuric acid, hydrochloric acid, hydrofluoric acid, nitric acid and hundreds of plating bath solutions and caustics.

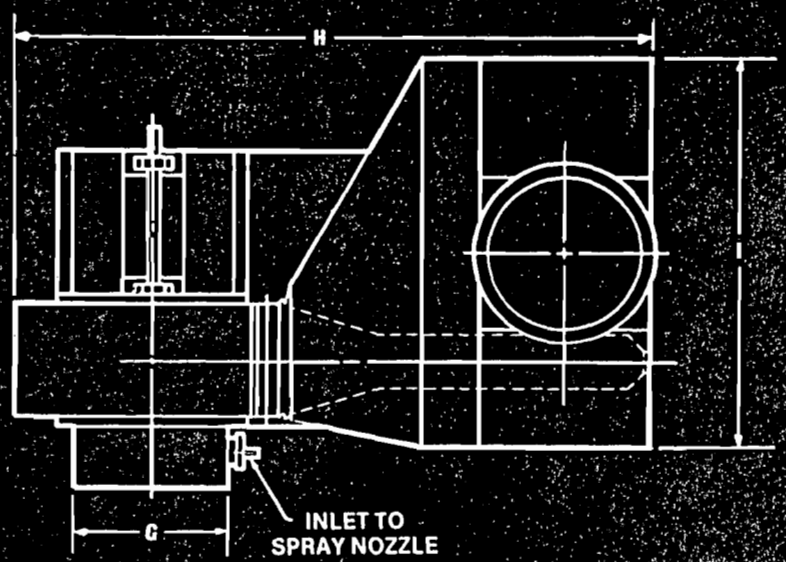
The fan separator cuts operating costs, reduces water usage 90%, and controls corrosive air pollution problems more efficiently than wet scrubbers while using less energy.

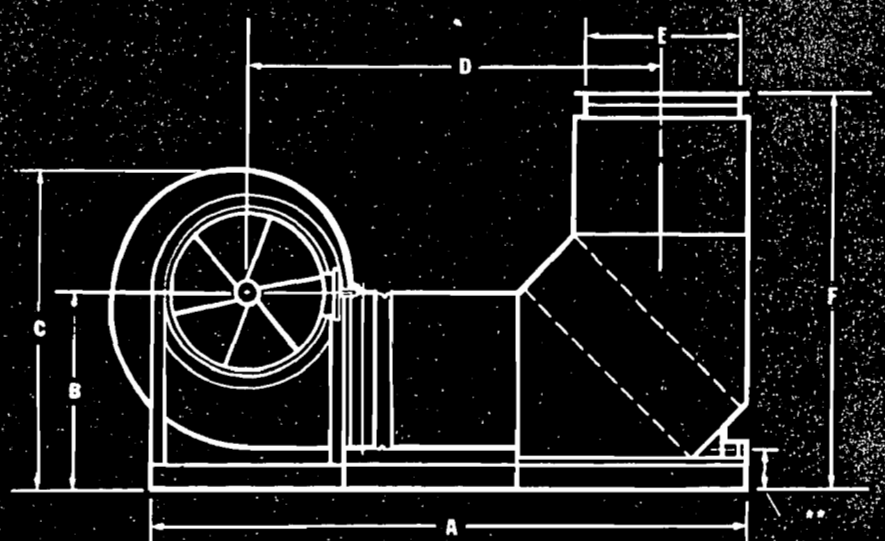


Model No.	Capacity C.F.M.	Motor H.P.	A	B	C	D	E	F	G	H	I	Maximum GPM Required	Drain Size	Total Weight
F-S-½	50- 250	½	2'-8⅛"	1'	1'-4⁷⁄₁₆"	2'-1"	6"	1'-6¼"	6"	2'-10⁷⁄₁₆"	1'-6"	½	¾"	140
F-S-¾	250- 500	1	3'-1⅛"	1'-⅜"	1'-6¾"	2'-3"	8"	2'-1⅛"	9"	3'-4"	1'-9⅛"	¼	2"	180
F-S-¼	500- 1,000	1½	4'-2"	1'-4⅛"	2'-1⅜"	3'-½"	11"	2'-9⅛"	11"	4'-5½"	2'-4⅛"	½	2"	360
F-S-⅝	1,000- 1,700	2	4'-2⅛"	1'-7½"	2'-5½"	2'-11½"	1'-1"	3'-1"	1'-1"	4'-6"	3'-0"	⅝	2½"	425
F-S-1	1,700- 2,500	3	5'-5"	1'-10½"	2'-10¾"	3'-10½"	1'-4"	3'-7½"	1'-4"	5'-8¾"	3'-0"	1½	3"	615
F-S-2	2,300- 3,800	5	6'-2"	2'-2"	3'-5"	4'-3"	1'-7"	4'-3"	1'-7"	6'-6½"	3'-9½"	2	4"	770
F-S-3	3,400- 5,700	5	7'-5¾"	2'-6½"	4'-⅜"	5'-2"	2'-0"	4'-7⅜"	2'-0"	7'-11"	4'-0"	3	4"	1,025
F-S-4	5,200- 6,900	7½	8'-7"	2'-8⅜"	4'-4⅜"	6'-0"	2'-2"	5'-4"	2'-2"	9-1⅜"	5'-5"	4	6"	1,190
F-S-5	6,000- 8,300	7½	8'-10"	2'-10⅜"	4'-8⅜"	6'-2⅜"	2'-4"	4'-11"	2'-4"	9'-6⅜"	5'-10"	5	6"	1,605
F-S-6	8,000- 10,300	15	9'-7"	3'-2⅜"	5'-3"	6'-7"	2'-8"	6'-2"	2'-8"	10'-3"	5'-3"	6	6"	1,875
F-S-7	10,000- 12,500	15	10'-2⅜"	3'-5⅜"	5'-8½"	6'-10⅜"	2'-11"	6'-4"	2'-11"	10'-11¼"	6'-9"	8	6"	2,088
F-S-8	12,000- 15,300	15	11'-9"	3'-9⅜"	6'-3⅜"	8'-0"	3'-3"	7'-0"	3'-3"	12'-6"	6'-9"	9	6"	2,380
F-S-9	15,000- 18,600	20	12'-6"	4'-1⅜"	6'-10⅜"	8'-4"	3'-8"	6'-2"	3'-8"	13'-4⅛"	6'-9"	12	6"	2,930
F-S-10	18,000- 22,700	20	15'-9⅛"	4'-6"	7'-6⅛"	10'-3"	4'-0"	6'-11"	4'-0"	16'-9⅛"	6'-9"	14	6"	3,470
F-S-11	22,000- 27,500	25	16'-11⅛"	4'-10⅜"	8'-3⅛"	11'-2"	4'-5"	8'-0"	4'-5"	17'-10⅜"	6'-9"	17	6"	4,120
F-S-12	27,500- 37,000	40	20'-4"	5'-6¼"	9'-3⅜"	13'-11"	5'-0"	8'-11"	5'-0"	21'-7½"	8'-0"	20	6"	4,630
F-S-14	37,000- 45,000	50	20'-11"	6'-1¼"	10'-⅛"	14'-4"	5'-4"	10'-0"	5'-4"	22'-3"	9'-0"	24	6"	5,100
F-S-15	45,000- 60,000	75	24'-2"	6'-1¼"	10'-1"	16'-6⅛"	5'-4"	11'-2⅛"	5'-4"	25'-7"	9'	30	6"	6,600
F-S-16	60,000- 80,000	100	31'-8¼"	6'-7½"	11'-2⅛"	20'-5¼"	5'-8"	11'-2⅛"	5'-8"	31'-8¼"	9'-4⅛"	40	6"	8,300
F-S-17	80,000-100,000	125	33'-7"	7'-2⅝"	11'-11⅛"	20'-9⅛"	6'-2"	11'-2⅛"	6'-2"	33'-6⅝"	11'-4⅛"	50	6"	9,000

For double pack models check with manufacturer for dimensional data.

Dimensions of the TRI-MER FAN / SEPARATOR





The TRI-MER FAN/SEPARATOR offers a compact rectangular shape designed for simple, quick installation.

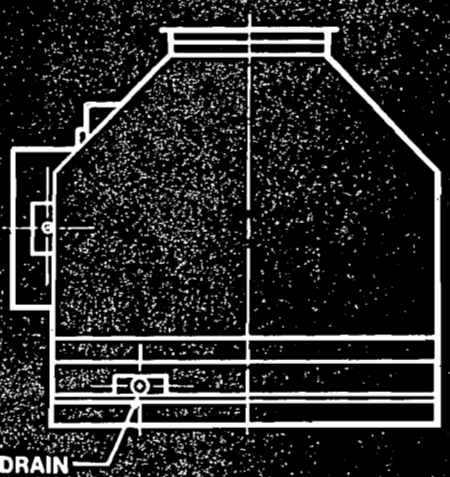
The fan and separator sections are mated specifically to each other. Undersized fans are NOT found on fan/separators.

Fan outlet velocity is controlled so that air crossing the polypropylene filter pack never exceeds 500 FPM for a given size unit.

The resulting low humidity factor in the exhaust stack makes return air possible in many applications.

Standard materials of construction:
PVC, Polypropylene

Available optional materials of construction:
Fiberglass overlayed PVC, 316 stainless steel, 304 stainless steel and mild steel

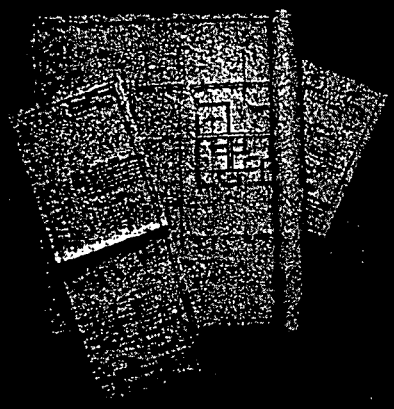


** Dimension varies with size of unit.

TRI-MER FAN/SEPARATORS ELIMINATE CORROSION PROBLEMS

ELIMINATE CORROSION PROBLEMS.

Tri-Mer can help. We offer complete engineering and consultant services from blueprints through permit stages to fabrication and installation.



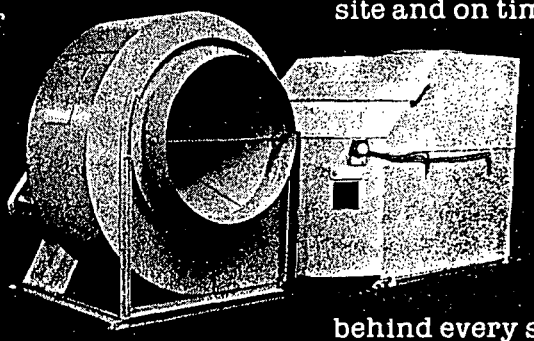
Because proper planning at print stage is always less expensive than alterations near completion.

WHY TRI-MER SEPARATORS?

Because Tri-Mer separators are constructed of corrosion-proof PVC with self-cleaning polypropylene filters for long life and minimal maintenance.

They use about one tenth the amount of water required by conventional wet scrubbers or towers.

Low static pressure and minimal horsepower requirements mean lower energy usage.



Its compactness and light weight mean low cost, easy installation.

TRI-MER HAS ANOTHER IMPORTANT ENERGY SAVING FEATURE.

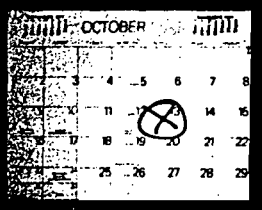
Because the moisture eliminator is on the downstream side of the fan, in many instances scrubbed air can actually be returned into the plant.

TRI-MER MANUFACTURES FOR A WIDE RANGE OF CAPACITY REQUIREMENTS.

From 50 cfm to 100,000 cfm in single or multiple units, depending on your specific application. We can even help you plan for economical future expansion.

FAST DELIVERY AND RELIABILITY.

Tri-Mer delivers. On site and on time. Most systems are completed within a 6 to 8 week period. And Tri-Mer stands behind every system we build.



FAN SEPARATORS. SOMETIMES YOU DON'T NEED THEM.

Tri-Mer offers the same print-to-installation service for cross flow and tower scrubbers as well as PVC exhaust systems.

®TRI-MER®
Tri-Mer Corporation
Air Pollution Control Systems
1400 Monroe Street • Owosso, Mich. 48867 USA
Area Code 517/723-7838 Telex 228545

ATTACHMENT 4

Tri-Mer® Corporation

Air Pollution Control Systems

1400 Monroe Street - Owosso, Michigan 48867 U.S.A.
Area Code 517, Phone 723-7838
Telex 856615

November 11, 1985

GNB Incorporated
P. O. Box 64100
St. Paul, MN 55164-0100

Attention: Mr. Groff

Subject: FAN/SEPARATORS®

Dear Mr. Groff:

In response to our recent telephone conversation, we would like to discuss the efficiencies of FAN/SEPARATOR Units. The particular FAN/SEPARATOR Unit we were discussing will be put on sulfuric acid tanks which are midly agitated with air.

This is very similar to battery forming rooms and would probably produce less sulfuric acid mist. With the sulfuric acid mist that is being generated, we will have 98%-99% removal.

These units have consistently met air quality standards for sulfuric acid emissions.

You will find enclosed our literature which fully describes the operation of this unit.

If you have any further questions, please contact this office.

Sincerely,

TRI-MER CORPORATION

Kevin Banghart

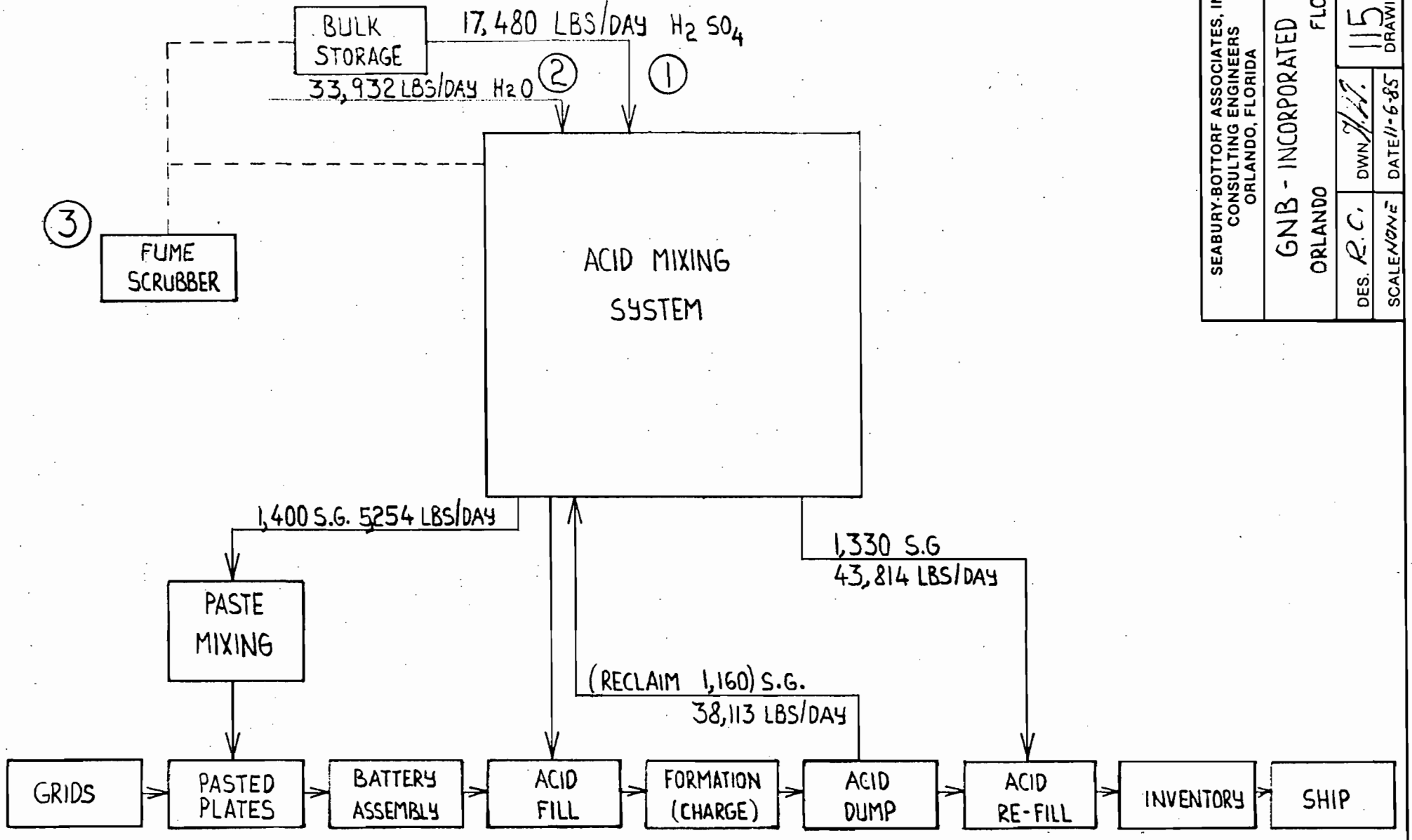
Kevin A. Banghart
Director of Engineering

KAB:et

Enclosures

ATTACHMENT 5.

ATTACHMENT 5



FLOW DIAGRAM

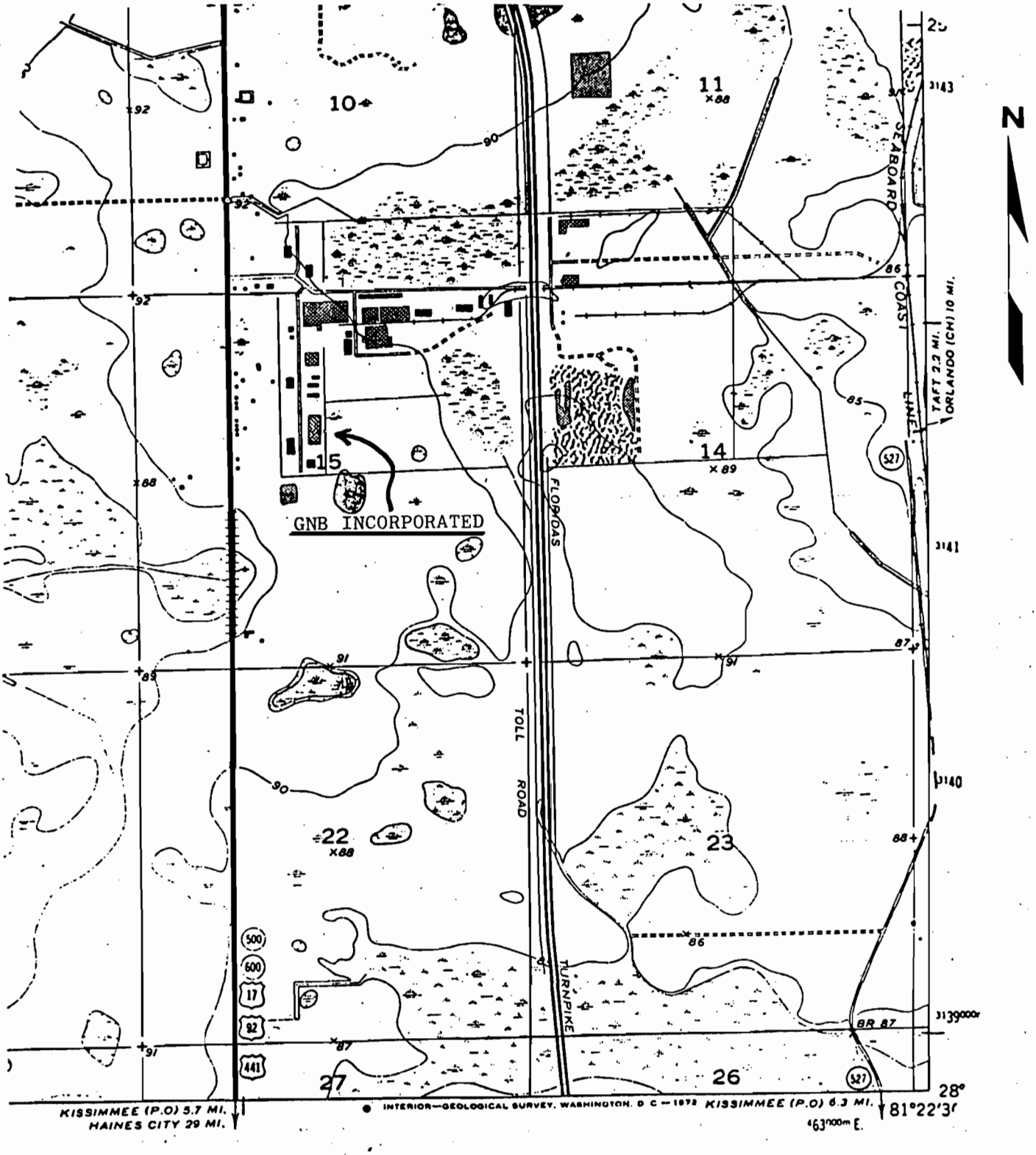
SEABURY-BOTTORF ASSOCIATES, INC.
CONSULTING ENGINEERS
ORLANDO, FLORIDA

GNB - INCORPORATED
ORLANDO FLORIDA

DES. R.C. DWN. [illegible]

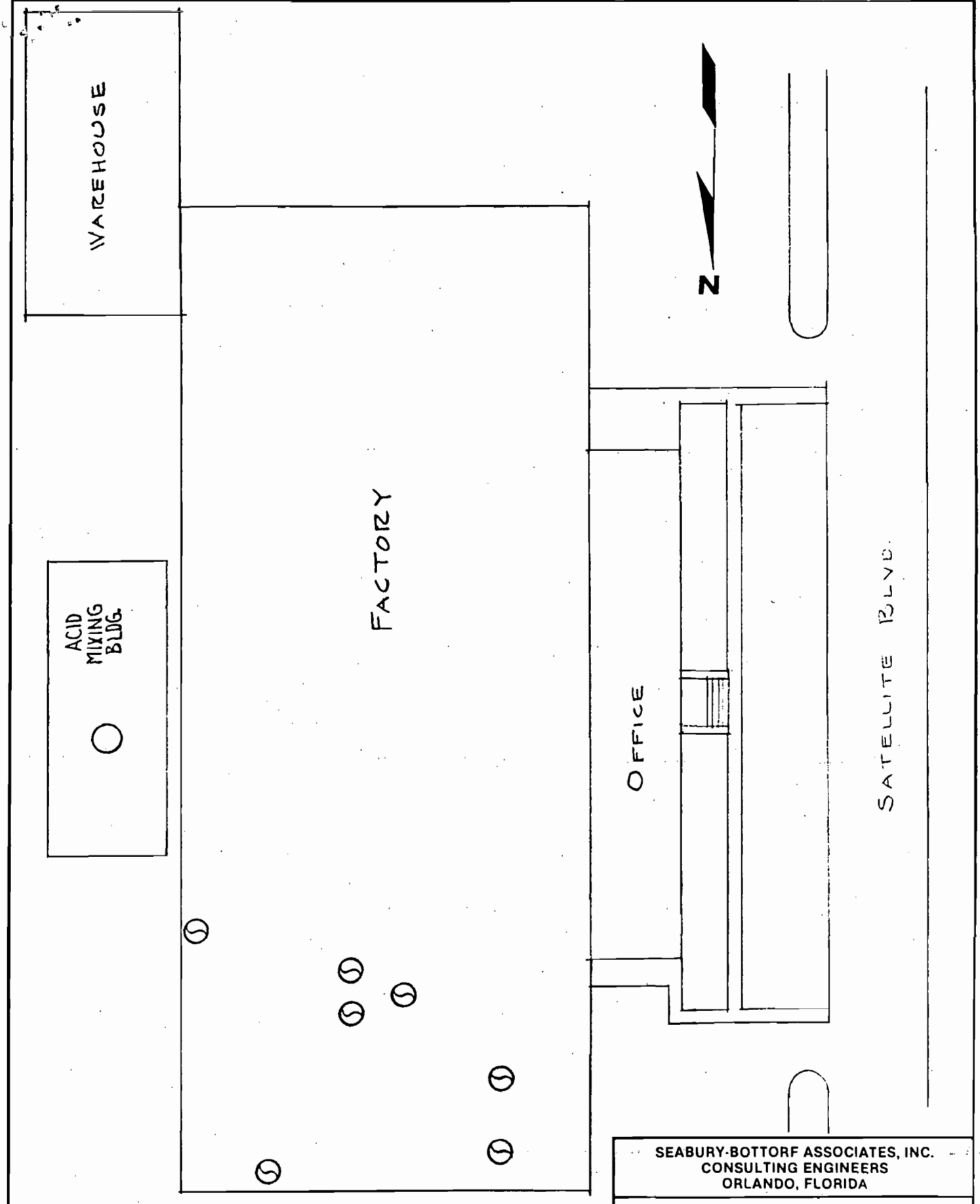
SCALE NONE DATE 11-6-85

115-7 DRAWING NO.



PLOT PLAN

SEABURY-BOTTORF ASSOCIATES, INC. CONSULTING ENGINEERS ORLANDO, FLORIDA		
GNB INCORPORATED ORLANDO FLORIDA		
DES. ~~	DWN. ~	115-7-2
SCALE NONE	DATE 7/85	DRAWING NO.



SITE PLAN
N.T.S.

SEABURY-BOTTORF ASSOCIATES, INC.
CONSULTING ENGINEERS
ORLANDO, FLORIDA

GNB INCORPORATED
ORLANDO FLORIDA

DES. ~	DWN. J.B.	115-7-1
SCALE ~	DATE 7/85	DRAWING NO.