Check Sheet

Company Name: United States Gypsum Company
Permit Number: AC16-100644
PSD Number: _____
Permit Engineer: _____

Application:

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

Cross References:
- ☒ AD16-051598
- ☐
- ☐

Intent:

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

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

Final Determination:

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

Post Permit Correspondence:

- ☒ Extensions/Amendments/Modifications
- ☐ Other

P 085 152 657

RECEIPT FOR CERTIFIED MAIL

NO INSURANCE COVERAGE PROVIDED
NOT FOR INTERNATIONAL MAIL

(See Reverse)

Sent to Mr. Dan J. Nootens	
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 9/20/85	

PS Form 3800, Feb. 1982 ★ U.S.G.P.O. 1984-446-014

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. Dan J. Nootens
U.S. Gypsum Company
6825 Evergreen Ave.
Jacksonville, FL 32208

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

Article Number: P 085 152 657

Always obtain signature of addressee or agent and DATE DELIVERED.

5. Signature – Addressee
X M. Conner

6. Signature – Agent
X

7. Date of Delivery
9/23/85

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

STATE OF FLORIDA
DEPARTMENT OF ENVIRONMENTAL REGULATION
NOTICE OF PERMIT

Mr. Dan J. Nootens
Works Manager
United States Gypsum Company
6825 Evergreen Avenue
Jacksonville, Florida 32208

September 17, 1985

Enclosed is Permit Number AC 16-100644 to United States Gypsum Company, which authorizes the construction of the No. 1 boardline at their existing facility in Jacksonville, Duval 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.

Sincerely,

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

Enclosure

cc: J. Woosley
J. Cole
D. Koscielniak
J. Rabe

CERTIFICATION

This is to certify that the foregoing Notice of Permit and all copies requested were mailed before the close of business on Sept. 20, 1985.

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.

Patricia G. Adams 9-20-85
Clerk Date

Final Determination

United States Gypsum Company
Jacksonville, Duval County, Florida

No. 1 Boardline Plant
Permit Number:
AC16-100644

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

September 10, 1985

Final Determination

United States Gypsum Company's application for a permit to construct the No. 1 Boardline at their existing facility in Jacksonville, Duval County, Florida, has been reviewed by the Bureau of Air Quality Management. Public Notice of the department's Intent to Issue the permit was published in the Florida Times Union on August 8, 1985

No comments were received in response to the Public Notice. The final action of the department will be to issue the permit as proposed in the 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:
United States Gypsum Company
6825 Evergreen Avenue
Jacksonville, FL 32208

Permit Number: AC 16-100644
Expiration Date: August 1, 1986
County: Duval
Latitude/Longitude: 30° 22' 52" N/
81° 38' 01" W
Project: #1 Board Line

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 drawing(s), plans, and other documents attached hereto or on file with the department and made a part hereof and specifically described as follows:

For the construction of a wall board line consisting of raw material bins, material conveyors, a material mixing system, a board drying kiln, end saws and a cut back saw, and dust collecting baghouses for the end saw and stucco/additive systems.

Construction shall be in accordance with the attached permit application unless otherwise stated in the general and specific conditions herein.

Attachments are as follows:

1. Application to construct an air pollution source, DER Form 17-1.202(1), dated March 5, 1985.
2. DER's Incompleteness letter, dated April 3, 1985.
3. U.S. Gypsum Co.'s information package, dated April 8, 1985.
4. DER's letter to USGC, dated April 30, 1985.
5. USGC's response letter, dated May 7, 1985.
6. USGC's letter with additional information, dated May 24, 1985.
7. USGC's letter deleting one source from the current application, dated May 31, 1985.

PERMITTEE:
United States Gypsum Company

Permit Number: AC 16-100644
Expiration Date: August 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 Statutes. The permittee is hereby placed on notice that the department will review this permit periodically and may initiate enforcement action for any violation of the "Permit Conditions" by the permittee, its agents, employees, servants or representatives.

2. This permit is valid only for the specific processes and operations applied for and indicated in the approved drawings or exhibits. Any unauthorized deviation from the approved drawings, exhibits, specifications, or conditions of this permit may constitute grounds for revocation and enforcement action by the department.

3. As provided in Subsections 403.087(6) and 403.722(5), Florida Statutes, the issuance of this permit does not convey any vested rights or any exclusive privileges. Nor does it authorize any injury to public or private property or any invasion of personal rights, nor any infringement of federal, state or local laws or regulations. This permit does not constitute a waiver of or approval of any other department permit that may be required for other aspects of the total project which are not addressed in the permit.

4. This permit conveys no title to land or water, does not constitute state recognition or acknowledgement of title, and does not constitute authority for the use of submerged lands unless herein provided and the necessary title or leasehold interests have been obtained from the state. Only the Trustees of the Internal Improvement Trust Fund may express state opinion as to title.

5. This permit does not relieve the permittee from liability for harm or injury to human health or welfare, animal, plant or aquatic life or property and penalties 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 systems of treatment and control (and related appurtenances) that are installed or used by the permittee to achieve compliance with the conditions of this permit, as required by department rules. This provision includes the operation of backup or auxiliary facilities or similar systems when necessary to achieve compliance with the conditions of the permit and when required by department rules.

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

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

b. Inspecting the facility, equipment, practices, or operations regulated or required under this permit; and

c. Sampling or monitoring any substances or parameters at any location reasonably necessary to assure compliance with this permit or department rules.

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

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

a. a description of and cause of 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 construction or operation of this permitted source, which are submitted to the department, may be used by the department as evidence in any enforcement case arising under the Florida Statutes or department rules, except where such use is proscribed by Sections 403.73 and 403.111, Florida Statutes.

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

11. This permit is transferable only upon department approval in accordance with Florida Administrative Code Rules 17-4.12 and 17-30.30, as applicable. The permittee shall be liable for any 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 calibration and maintenance records and all original strip chart recordings for continuous monitoring instrumentation), copies of all reports required by this permit, and records of all data used to complete the application for this permit. The time period of retention shall be at least three years from the date of the sample, measurement, report or application unless otherwise specified by department rule.

c. Records of monitoring information shall include:

- the date, exact place, and time of sampling or 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 determine compliance with the permit. If the permittee becomes aware that relevant facts were not submitted or were incorrect in the permit application or in any report to the department, such facts or information shall be submitted or corrected promptly.

SPECIFIC CONDITIONS:

1. The #1 Boardline operating hours shall not exceed 24 hrs/day, 347 days/year.

2. The maximum material utilization rates and emission rates are tabulated below. Emissions are based on 0.03 gr/dscf for TSP.

Equipment	Utilization rate/capacity	Pollutant	Emissions lb/hr	TPY	VE % opacity
Kiln (Nat. gas fired)	0.048 MMCF/hr	TSP	0.24	1.0	5
		NOx	0.39	1.6	
		SO_2	0.03	0.1	
End Saw Dust Collector	7,000 ACFM	TSP	1.80	7.5	5
Stucco/Additive Dust Collector	2,700 ACFM	TSP	0.57	2.4	5

SPECIFIC CONDITIONS:

3. Only natural gas shall be used as the fuel in the board drying kiln.

4. A LOW-NOX Maxon burner shall be utilized in the kiln to minimize NO_x emissions.

5. There shall not be any visible emissions (5% opacity) from the End Saw Dust Collector, and the Stucco/Additive System Dust Collector.

6. There shall not be any visible emissions from the board kiln (5% opacity).

7. An initial compliance test shall be conducted for NO_x emissions from the kiln as per EPA Method 7, Determination of Nitrous Oxide Emissions from Stationary Sources.

8. Compliance test shall be conducted for particulate emissions from the kiln as per EPA Method 5, Determination of Particulate Matter Emissions from Stationary Sources if visible emissions exceed 5% opacity.

9. Compliance with the emission standards for particulate matter shall be determined by DER Method 9, Visual Determination of the Opacity for Emissions from Stationary Sources. This test shall be conducted for End Saw Dust Collector (B-5), Stucco/Additive System Dust Collector (B1-K), and the exhaust from the Board Kiln (BD-1,2,3).

10. Construction shall reasonably conform to the information submitted in this application.

11. Compliance tests shall be performed at 90-100% of the permitted equipment capacity.

12. A fifteen day prior notification of the compliance testing date shall be given to the DER's Northeast District Air Quality office and Duval County's Bio-Environmental Services (BESD) office.

PERMITTEE:
United States Gypsum Company

Permit Number: AC 16-100644
Expiration Date: August 1, 1986

SPECIFIC CONDITIONS:

13. The applicant will demonstrate compliance with conditions of the construction permit and submit a complete application for an operating permit to the BESD office 90 days prior to the expiration date of this construction permit.

14. Upon obtaining an operating permit, the applicant will be required to submit annual reports on the actual operation and emissions of the source to the DER's Northeast District office and Duval County's Bio-Environmental Services office.

15. Any delay in the construction or completion of this project shall be reported to the DER's Northeast District office and Duval County's Bio-Environmental Services office.

16. Compliance tests, in accordance with FAC Rule 17-2.700, shall be submitted to DER's Northeast District office and BESD office within 45 days after completion of the tests.

Issued this 12 day of September, 1985.

STATE OF FLORIDA DEPARTMENT
OF ENVIRONMENTAL REGULATION

Victoria J. Tschinkel
VICTORIA J. TSCHINKEL, Secretary

____ pages attached.

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

Folder Name: United States Gypsum Company

Permit(s) Numbered:

AC 16 - 100644

Period during which document was received:		Detailed Description
APPLICATION 7 MARCH 1985	1.	24"×36" BLUEPRINT: EMISSION CONTROL FLOW DIAGRAM (PROJ 1428)

P 408 531 149

RECEIPT FOR CERTIFIED MAIL

NO INSURANCE COVERAGE PROVIDED—
NOT FOR INTERNATIONAL MAIL

(See Reverse)

Sent to Mr. James R. Rabe	
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 1/28/87	

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. James R. Rabe
USG Corporation
101 South Wacker Drive
Chicago, Illinois 60606-4385

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

Article Number: P 408 531 149

Always obtain signature of addressee or agent and DATE DELIVERED.

5. Signature – Addressee
X D. Knapp

6. Signature – Agent
X

7. Date of Delivery
JAN 30 1987

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 32399-2400

BOB MARTINEZ
GOVERNOR

DALE TWACHTMANN
SECRETARY

January 21, 1987

CERTIFIED MAIL - RETURN RECEIPT REQUESTED

Mr. James R. Rabe
Technical Manager
USG Corporation
101 S. Wacker Drive
Chicago, Illinois 60606-4385

Dear Mr. Rabe:

Re: NOx Emission Limits, No. 1 Boardline
Permit No. AC 16-100644

The department has received and reviewed your Maxon LO-NOx burner test data using EPA Method 7E, and is in agreement with your request to amend the NOx emission limit currently in the permit, from the lab-tested 0.0078 $lb/10^6$ Btu, to the actual installed performance of 0.0167 $lb/10^6$ Btu.

Since the change in emission limits will require changes in your operating permit application, the department shall grant an extension to the expiration date of the above referenced construction permit until June 30, 1987.

The following changes and addition shall be incorporated into the permit.

Expiration Date Change:

From: December 31, 1986
To: June 30, 1987

Specific Condition No. 2 Change

From:

The maximum material utilization rates and emission rates are tabulated on the following page. Emissions are based on 0.03 gr/dscf for TSP.

Equipment	Utilization rate/capacity	Pollutant	Emissions lb/hr	TPY	VE% opacity
Kiln (Nat. gas fired)	0.048 MMCF/hr	TSP	0.24	1.0	5
		NOx	0.39	1.6	
		SO_2	0.03	0.1	
End Saw Dust Collect.	7,000 ACFM	TSP	1.80	7.5	5
Stucco/Additive Dust Collector	2,700 ACFM	TSP	0.57	2.4	5

To:

Equipment	Utilization rate/capacity	Pollutant	Emissions lb/hr	TPY	VE% opacity
Kiln (Nat. gas fired)	0.048 MMCF/hr	TSP	0.24	1.0	5
		NOx	1.0	4.0	
		SO_2	0.03	0.1	
End Saw Dust Collect.	7,000 ACFM	TSP	1.80	7.5	5
Stucco/Additive Dust Collector	2,700 ACFM	TSP	0.57	2.4	5

Attachment to be Added:

No. 8 Letter from USG to DER dated December 15, 1986.

This letter must be attached to your construction permit and shall be made part of the permit.

Sincerely,

Howard L. Rhodes, P.E.
Director, Division of
Environmental Programs

HLR/ks

cc: J. Woosley
B. Stewart
J. Bridenstine

USG Corporation

101 South Wacker Drive
Chicago, Illinois 60606-4385

Telephone 312/321-4000

December 15, 1986

Mr. William A. Thomas, P.E.
Chief Engineer
Bureau of Air Quality Management
State of Florida
Department of Environmental Regulation
Twin Towers Office Building
2600 Blair Stone Road
Tallahassee, Florida 32301

Dear Mr. Thomas:

This is to confirm the phone conversation this date regarding Construction Permit No. AC 16-100644 dated September 17, 1985 for the No. 1 Boardline at the Jacksonville Plant. The permit will expire on December 31, 1986.

The source tests using EPA Method 7E were conducted on October 3 & 4 and the summary report of the results was dated November 24, 1986 (copies attached). These test results did not show the burners to perform with the same results as the vendors lab tests, however, they did result in NO_x emissions markedly lower than those of a normal gas-fired burner.

The highest actual emission rate shown by the source test was 0.0167 lb/10^6BTU as compared to the original vendor statement of performance at 0.0078 lb/10^6BTU. The net annual effect of this actual emission rate over the permitted rate is an increase of 1.86 TPY (from 1.62 TPY to 3.38 TPY).

The attached letter by Maxon verifies that the burner operations were reviewed prior to the source tests to assure optimal performance. This was the first time this burner design has been tested in this type of field application.

In light of these test results, it is requested that:

1) The Construction permit expiration date be extended to June 30, 1987.

2) The Construction Permit be ammended to reflect the NO_x emission rate of 0.0167 lb/10^6BTU in accordance with the actual source test results.

3) The pending operation permit application also be amended to reflect the same emision rate.

Thank you for your assistance in this matter.

Sincerely,

USG CORPORATION

J. R. Rabe
Technical Manager
Environmental Services

JRR

cc: J. E. Woosley
#225 Jacksonville, E. A. Cerney

1115H

MAXON® CORPORATION

Combustion Equipment and Valves for Industry

Telephone (317) 284-3304 · Telex 27-392 · 201 East 18th Street, P.O. Box 2068, MUNCIE, INDIANA 47302

Address reply to:
80 RIVER OAKS, SUITE 204
CALUMET CITY, ILLINOIS 60409
Chicago Phone (312) 264-8511
Telex 253-165

December 12, 1986

U. S. Gypsum Company
101 So. Wacker Drive
Chicago, Illinois 60606-4385

Attention: Mr. Jim Rabe

SUBJECT: #1 BOARD LINE - JACKSONVILLE, FLA.

Dear Jim:

I recently talked with Dave Lindblom concerning his last visit to your plant in Jacksonville, Florida. With the assistance of Mr. Dave Titus, he made adjustments on the combustion equipment on your Board Line #1, in an effort to fulfill our promise to help attain the lowest possible NOX output from the burners.

Dave advised, with the operating parameters as they now exist, and with the burners adjusted as he left them on October 1, the burners are firing at the lowest possible NOX output attainable, without potentially adversely affecting your production capability.

Jim, as we discussed over the years, there are many factors which can affect system NOX discharge levels. As far as the NOX output from the combustion equipment if concerned, the NOX added by the burner is as low as it can be with present operating conditions.

Should you have any questions, or if we can be of further assistance in any way, please let us know.

Sincerely,

MAXON CORPORATION

Rich Ruble

RICH RUBLE

cc: Dave Lindblom, Muncie, IN.

RR:jn

Tel. (904) 353-5761

TSI

TECHNICAL SERVICES, INC.
ENVIRONMENTAL CONSULTANTS

Air and Water Pollution Sampling, Surveys, Testing and Analytical Services

2471 SWAN STREET
P. O. BOX 52329
JACKSONVILLE, FLORIDA 32201

November 24, 1986

Mr. Dave Halm
U.S. Gypsum Corporation
6825 Evergreen Ave.
Jacksonville, FL 32206

Dear Mr. Halm:

At the request of Mr. Jim Rabb and yourself, TSI submits the attached additions to TSI's "Source Test Report, U.S. Gypsum Corporation, Jackonville, Florida, NO_x Compliance Test, No. 1 Machine Gypsum Wallboard Drying Kiln, October 2 & 3, 1986". Please substitute revised pages for the originals in your copies of the full report.

If you have any questions about this project, please contact me.

Sincerely,

Harvey C. Gray, Jr.

Harvey C. Gray, Jr.

HCG/cb

II. SUMMARY AND DISCUSSION OF RESULTS

In this report NO_x is expressed as NO because this is the output from the chemiluminscent analyzer. To convert NO values to NO_2 values, multiply the NO values by 1.53, which is the ratio of the molecular weight of NO_2 to NO.

Concentrations of NO_x as NO measured at each stack and for each time period or "run" are tabulated and recorded in Table I. The total NO_x emission concentration is also included as the sum of all three concentrations. This is for reference only since it is not a real number.

The values reported in Table I in the column headed "Total (3 stacks)" are additive actual measure of concentrations, but are "not real" measures of mass emissions, since each stack has a different volumetric flow rate. Measurement of both concentration and discharge volumes are necessary for calculation of mass emissions. Mass emissions are reported in Table II on page 3. Concentrations are reported in Table I on page 1. Volumetric flow rates are reported in Table II on page 2. Mass emissions are calculated by multiplying the volume of gas containing the specified concentration times the concentration of NO_x in that volume of gas. The "Total (3 stacks)" concentration values were included for reference to mass emissions and to demonstrate the good uniformity of concentration between runs 1,2, and 3, which required over 7 hours of "running time". Concentrations were relatively constant on the first day of tests ranging from a low of 1.33 ppm at the east stack for one time period to a high of 2.37 ppm at the center stack for a single time period. At roof level the concentration of NO in

ambient air during the test on October 2, 1986 at 3:19 PM was 0.14 ppm when referenced to "zero air" from a gas cylinder. The percent nitric oxide (NO) in NO_x (NO + NO_2) was 72%, 38%, and 37% respectively for the east, center, and west stacks. Measured concentrations in the center and west stacks were somewhat higher on the second day of tests while the east stack concentration remained the same.

Mass emission data was calculated using the concentration data from Table I and volumetric flow rates from Table II. This mass emission data is presented in Table III. Emissions per million BTU of heat input was calculated from the gas volume used during the tests and these data are included in Table III also.

Based on the above test data, the source averages less than 0.5 lb/hr NO_x as NO emissions & 0.0109 lb/MMBTU on October 2 and 0.0167 lb/MMBTU on October 3rd.

TABLE II

VOLUMETRIC FLOW RATES SUMMARY

NO. 1 MACHINE GYPSUM WALLBOARD DRYING KILN
U.S.GYPSUM CORPORATION
JACKSONVILLE, FLORIDA

STACK	TEMP °F/°R	ACFM[1]	SCFMD[2]	MOISTURE %	OXYGEN %
EAST	189.1/649.1	29024	21481	9.5	17.0
CENTER	378.3/838.3	26128	11888	28.1	17.0
WEST	330.9/790.9	23517	12008	23.9	16.0

[1]ACFM - Actual cubic feet per minute, stack conditions

[2]SCFMD - Standard cubic feet per minute, dry. Standard conditions are 68°F and 29.92 in. Hg.

TABLE III

NO_x MASS EMISSIONS SUMMARY

NO. 1 MACHINE GYPSUM WALLBOARD DRYING KILN
U.S.GYPSUM CORPORATION
JACKSONVILLE, FLORIDA

NO_x EMISSIONS (as NO)

DATE	RUN NO.	EAST STACK		CENTER STACK		WEST STACK		TOTAL	
		*LBS/HR	LBS/MMBTU**	LBS/HR	LBS/MMBTU	LBS/HR	LBS/MMBTU	LBS/HR	LBS/MMBTU
10/02/86	1	0.157	0.0049	0.103	0.0032	0.083	0.0026	0.343	0.0107
	2	0.179	0.0056	0.132	0.0041	0.088	0.0028	0.399	0.0125
	3	0.134	0.0042	0.089	0.0028	0.082	0.0026	0.305	0.0095
	MEAN	0.157	0.0049	0.108	0.0034	0.084	0.0026	0.349	0.0109
10/03/86	4	0.151	0.0047	0.221	0.0069	0.160	0.0050	0.532	0.0167

* lbs NO/hr = ppm NO/1,000,000 x $\frac{\text{mol. wt. NO (30.08)}}{\text{lb.mol.wt.(385 ft}^3\text{)}}$ x 60 min/hr x SCFMD

** Heat input of 32 MMBTU/Hr used for calculations based on gas consumption during tests.
lbs NO/MMBTU = $\frac{\text{lbs NO/hr}}{\text{32 MMBTU}}$

V. FIELD AND ANALYTICAL PROCEDURES

Sampling and analysis of the gas streams for oxides of nitrogens was conducted using EPA Method 7E. A Thermoelectron Model 12A Chemiluminescent NO_x Analyzer was used to measure the NO_x concentrations.

The sampling system consisted of a stainless steel probe, a three way stainless steel valve, teflon bottles maintained in an ice bath to remove moisture and teflon tubing to transport standards and sample to the instrument. A vacuum pump contained in the Thermoelectron Model 12A acts as a prime mover for the gas streams.

Since concentrations to be measured were quite low, a certified standard of 86 ppm NO in nitrogen was diluted in the field with scrubbed ambient air using a Thermoelectron Series 101 Dynamic $NO-NO_2-O_3$ calibrator flow rates through this instrument are controlled with a series of orifices and precision pressure regulators and the flow rates are calibrated with a soap bubble flow meter for the standard gas flows and a wet test meter for the dilution flow. A copy of the certification for the 86 ppm NO standard in included in Appendix C.

Three or more concentrations of NO_x are generated in the field and directed to the sampling interface using the three way valve mounted on the sampling probe and back to the chemiluminescent analyzer. Calibration data for three diluted standards are included in Appendix C. Because of the extreme heat during the test period, instrument drift was experienced during the tests and the zero and span points were checked frequently. This drift was linear as can be determined by the line drawn on the strip chart used to record the instrument output and thus does not appear to appreciable affect the results. The instrument was shaded during the tests to minimize the drift problem but this did not sufficiently reduce the temperature to prevent the drift. As stated above, frequent checks of zero and span values were made and used to compensate for the drift.

The model 12A chemiluminescent analyzer has been demonstrated to meet the requirements of Method 7E for interference response. The NO_2 to NO converted was tested and found to exceed 96% conversion efficiency.

Calibration Data

For Thermoelectron 101 Dynamic $NO-NO_2-O_3$ Calibrator
Concentration NO standard: 86.0 ppm

Calibration Point 1:

Flow NO standard:	57.0 cc/min
Flow Dilution air:	7993 cc/min
Total Flow:	8050 cc/min

$$\frac{\text{Flow NO std x conc.}}{\text{Total Flow}} = \text{concentration point 1}$$

$$\frac{57.0 \text{ cc/min} \times 86 \text{ ppm}}{8050 \text{ cc/min}} = 0.609 \text{ ppm (Point 1)}$$

Calibration Point 2:

Flow NO standard:	84.4 cc/min
Flow Dilution air:	7965.6 cc/min
Total Flow:	8050 cc/min

$$\frac{84.4 \text{ cc/min} \times 86 \text{ ppm}}{8050 \text{ cc/min}} = 0.902 \text{ ppm (Point 2)}$$

Calibration Point 3:

Flow NO standard:	141.4 cc/min
Flow Dilution air:	7908.6 cc/min
Total Flow:	8050 cc/min

$$\frac{141.4 \text{ cc/min} \times 86 \text{ ppm}}{8050 \text{ cc/min}} = 1.51 \text{ ppm (Point 3)}$$

Point 3 used as span gas

INDUSTRIAL GAS DIVISION
AIR PRODUCTS AND CHEMICALS, INC.
BOX 351, R.D. 1
TAMAQUA, PA. 18252
TELEPHONE (717) 467-2981

ANALYTICAL REPORT

SAMPLE OF: NITRIC OXIDE/NITROGEN DATE: 02/20/85 PAGE: 1

SHIPMENT NO: 26779 CUSTOMER ORDER NO.: 343

REQUESTED BY: JACKSONVILLE - APCI
5837 WEST 5TH ST.
JACKSONVILLE
FL 32205

ANALYTICAL METHOD		ANALYST
ELECTROLYTIC CELL (O2 TRACE)		
INFRARED HORIBA		
ION MOBILITY FOR N2 IN AR		
DEW POINT		
HYDROGEN FLAME ANALYZER (THC)		
WET ANALYSIS		
FLAME PHOTOMETER		

ANALYTICAL METHOD		ANALYST
GAS CHROMATOGRAPHY		
INFRARED SPECTROSCOPY		
CHEMILUMINESCENCE	X	JGS
PARAMAGNETIC		
GRAVIMETRIC		
	X	

ANALYSIS

LAB NO.	CYL. NO.	COMPONENT REQUESTED	CONCENTRATION REQUESTED	ANALYTICAL RESULT	UNIT OF MEASURE
5274-85	SG0426NB	NITRIC OXIDE	87	86	MOLAR PPM
5275-85	SG0755NB	NITRIC OXIDE	87	86	MOLAR PPM

CERTIFICATION

THIS ANALYSIS HAS BEEN PERFORMED UTILIZING THE ANALYTICAL METHOD(S) STATED AND IS CORRECT TO WITHIN THE ANALYTICAL ACCURACIES OF THIS (THESE) METHOD(S)

G L Ford

AUTHORIZED SIGNATURE

APPENDIX D

PROCESS WEIGHT CERTIFICATION

PROCESS WEIGHT CERTIFICATION

DATE:_____ SAMPLING TIME: From _____ to _____

STATEMENT OF PROCESS WEIGHT:

Company Name _____

Mailing Address _____

Source Identification _____

Source Location _____

DATA ON OPERATING CYCLE TIME:

Start of Operation, Time _____

End of Operation, Time _____

Elapsed Time _____

Idle Time During Cycle _____

Design Process Rating:
Process Weight Rate(Input)_____ Product(Output)_____

DATA ON ACTUAL PROCESS RATE DURING OPERATION CYCLE:

(Include Specifications on Fossil Fuels)

Material _____ RATE*_____

Material _____ RATE*_____

Material _____ RATE*_____

Total Process Weight Rate*_____

Product _____ Rate**_____

* For phosphate process expressed as actual tons/hour and as tons P_2O_5/hour.

For fossil fuel steam generators expressed as BTU/hour heat input.

** For sulfuric acid plants expressed as 100% H_2SO_4/hour.

I certify that the above statement is true to the best of my knowledge and belief.

Signature _____

Title:_____

APPENDIX E

PROJECT PARTICIPANTS

PROJECT PARTICIPANTS

H. C. GRAY	FIELD TESTING
JOHN ELLIS	FIELD TESTING
H.C. GRAY	REPORT PREPARATION
GREGG THOMPSON	ANALYSIS CALIBRATION FIELD TESTING REPORT PREPARATION
RICHARD ROBINSON	FIELD TESTING

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

September 18, 1986

Mr. James R. Rabe
Technical Manager
USG Corporation
101 South Wacker Drive
Chicago, Illinois 60606-4385

Dear Mr. Rabe:

Re: Compliance Test Method for NOx Emission, Board Drying Kiln, No. 1 Board Line, Permit No. AC 16-100644

The department has received and reviewed your letter dated July 2, 1986, and is in agreement with your opinion that EPA Method 7E (Chemiluminescent Analyzer) is more appropriate for the above referenced project than EPA Method 7.

Since Chapter 17-2 of the Florida Administrative Code does not specify any particular NOx test method for the above referenced source, and considering the fact that Method 7E has been recently promulgated by EPA (June 11, 1986), the department will not require the evaluation of an Alternate Sampling Procedure (ASP).

Please conduct the initial compliance tests for the board drying kiln in accordance with the specific conditions of the above referenced permit, substituting EPA Method 7E for EPA Method 7 in Specific Condition No. 7.

If you have any questions, please call Pradeep Raval at (904)488-1344 or write to me at the above address.

Sincerely,

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

CHF/PR/s

cc: J. Bridenstine
J. Woosley
A. Luther
B. Stewart

PM
7-25-86
Jax, FL

DEPARTMENT OF HEALTH, WELFARE
& BIO-ENVIRONMENTAL SERVICES
Bio-Environmental Services Division
Air and Water Pollution Control

DER

JUL 28 1986

BAQM

July 24, 1986

Mr. C. H. Fancy, P. E.
Deputy Chief
Bureau of Air Quality Management
Department of Environmental Regulation
2600 Blair Stone Road
Twin Towers Office Bldg.
Tallahassee, Florida 32301

Re: **Duval County AP**
United States Gypsum Co.
Permit AC16-100644 - No. 1 Board Line

Dear Mr. Fancy:

Attached is a request from U. S. Gypsum for an extension of the completion of construction for the above captioned permit. Bio-Environmental Services Division supports U. S. Gypsum's request for the extension.

If this office can provide any additional information, please advise.

Very truly yours,

Donald Summerfield

Donald Summerfield
Assistant Engineer

DS/ecr

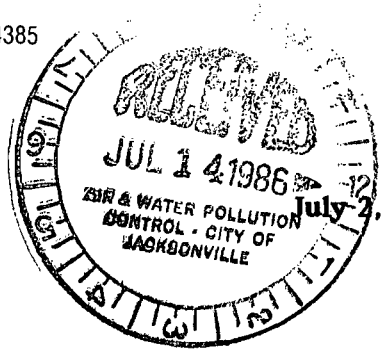
Enc.

cc: BESD File 2370 EE

USG Corporation

101 South Wacker Drive
Chicago, Illinois 60606-4385

Telephone 312/321-4000



July 2, 1986

Mr. Jerry E. Woosley
Assistant Engineer
DEPARTMENT OF HEALTH, WELFARE AND
ENVIRONMENTAL SERVICES
Air Pollution Control Permitting
515 West 6th Street
Jacksonville, FL 32206

Dear Mr. Woosley:

Pursuant to the meeting on June 20, 1986, United States Gypsum Company requests a five month extension of the Construction Permit No. AC16-100644 from August 1, 1986 to December 31, 1986 in order to seek approval and completion of an alternate compliance test method for NO_x emissions (EPA Method 7E).

The United States Gypsum Company submitted on June 26, 1986, the test results using EPA Method 7. These results were viewed as invalid as supported by Harvey Gray, Technical Services, Inc., due to the low actual emission rate and the lack of sensitivity provided in EPA Method 7.

Also, find attached a completed Waiver of the 90 Day Time Limit for the pending Operation Permit for the No. 1 Board Line as requested.

Your assistance in this matter is greatly appreciated.

Sincerely,

USG CORPORATION

J. R. Rabe

James R. Rabe
Technical Manager

cc: DER's Northeast District Air Quality Office

1260E

PM
7-22-86
Jax, FL

DEPARTMENT OF HEALTH, WELFARE
& BIO-ENVIRONMENTAL SERVICES
Bio-Environmental Services Division
Air and Water Pollution Control

July 17, 1986

Mr. Clair Fancy, P.E.
Deputy Chief
Bureau of Air Quality Management
Department of Environmental Regulation
Twin Towers Office Building
2600 Blair Stone Road
Tallahassee, FL 32301-8241

DER
JUL 23 1986
BAQM

Re: U.S Gypsum Corporation, Jacksonville, FL
No. 1 Machine Gypsum Wallboard Drying Kiln
Permit No. AC16-100644
Alternative Sampling Procedure for NO_x

Dear Mr. Fancy:

Enclosed are copies of correspondence explaining the detection limit problem that was encountered during the recent NO_x initial compliance test conducted at the above captioned source on May 16-17, 1986.

The referenced construction permit stipulates (Specific Condition 7) that Method 7 shall be employed for purposes of demonstrating compliance. Since the levels of NO_x are approximately 1 ppm, the consultant is suggesting that Method 7E be performed in lieu of Method 7. A chemiluminescent analyzer normally used for ambient air would be utilized. This agency would require that the instrument calibration gases be selected appropriate to the low levels that are anticipated.

The author has reviewed the stack test report and determined that a valid attempt was made to use Method 7. However, in order to measure the sample concentrations with the spectrophotometer, standard color intensities had to be diluted ten-fold and the analysis redone using a longer cell length. This technique resulted in an overall emission level of 1.32 lbs/hr which exceeds the allowable amount. Reference Method 7 does not address diluting standards to accommodate low level samples, but rather diluting high level samples to match one range of standard concentrations. The author feels that the validity of the results is questionable because the audit samples provided by the Department of Environmental Regulation (DER) were not employed for this adaptation of Method 7.

Bio-Environmental Services Division (BESD) concurs with the source owner and the consultant that Method 7 is not appropriate, and suggests that the permit be modified to allow the use of Method 7E. If further justification is necessary to make this decision, please contact the undersigned for additional information at (904) 630-3210.

Very truly yours,

Alan J. Luther

Alan J. Luther
Pollution Control Specialist

cc: Mr. Bill Stewart, P.E.
BESD File 2370 B

AJL/bgm

The Florida Times-Union Jacksonville Journal

FLORIDA PUBLISHING COMPANY

Publishers

JACKSONVILLE, DUVAL COUNTY, FLORIDA

STATE OF FLORIDA }
COUNTY OF DUVAL }

Before the undersigned authority personally appeared George A. Dan, who on oath says that he is Retail Advertising Manager of The Florida Times-Union, and Jacksonville Journal, daily newspapers published at Jacksonville in Duval County, Florida; that the attached copy of advertisement, being a Legal Notice in the matter of Notice of Proposed Agency Action in the _____ Court, was published in The Florida Times Union in the issues of August 8

Affiant further says that the said The Florida Times-Union and Jacksonville Journal are each newspapers published at Jacksonville, in said Duval County, Florida, and that the said newspapers have each heretofore been continuously published in said Duval County, Florida, The Florida Times-Union each day, and Jacksonville Journal each day except Sundays, and each has been entered as second class mail matter at the postoffice in Jacksonville, in said Duval 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 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 said newspaper.

Sworn to and subscribed before me this 8th day of August A.D. 19 85

Notary Public,
State of Florida at Large.

My Commission Expires 1/10

NOTARY PUBLIC, STATE OF FLORIDA
My commission expires Feb. 19, 1989

George A. Dan

DA 444

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

The Department gives notice of its intent to issue a permit to United States Gypsum Company to construct a wallboard line at the applicant's existing facility in Jacksonville, Duval County, Florida.

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 shall constitute 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 position taken by it in this preliminary statement. Therefore, persons who may not object to the proposed agency action 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, 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, technical evaluation, and Department's intent for the proposed project 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 the following locations:

Department of Health, Welfare &
Bio-Env. Services
Bio-Environmental Services Division
Air and Water Pollution Control
515 West 6th Street
Jacksonville, Florida 32206

Northeast District Office
3426 Bills Rd.
Jacksonville, Florida 32207

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

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.

P 408 530 292

RECEIPT FOR CERTIFIED MAIL

NO INSURANCE COVERAGE PROVIDED—
NOT FOR INTERNATIONAL MAIL

(See Reverse)

Sent to Mr. Dan J. Nootens	
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	

8/1/85

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. Dan J. Nootens
U.S. Gypsum Company
6825 Evergreen Ave.
Jacksonville, FL 32208

4. Type of Service:

☐ Registered ☐ Insured
☒ Certified ☐ COD
☐ Express Mail

Article Number: P 408 530 292

Always obtain signature of addressee or agent and DATE DELIVERED.

5. Signature — Addressee
X Caroline Pourciau

6. Signature — Agent
X

7. Date of Delivery
8-2-85

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

July 31, 1985

CERTIFIED MAIL-RETURN RECEIPT REQUESTED

Mr. Dan J. Nootens
Works Manager
United States Gypsum Company
6825 Evergreen Avenue
Jacksonville, Florida 32208

Dear Mr. Nootens:

Attached is one copy of the Technical Evaluation and Preliminary Determination, and proposed permit to construct the No. 1 Board Line at your existing facility in Jacksonville, Duval County, Florida.

Before final action can be taken on your draft 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 Duval County no later than fourteen days after receipt of this letter. The department 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: J. Woosley
J. Cole
D. Koscielniak
J. Rabe

BEFORE THE STATE OF FLORIDA
DEPARTMENT OF ENVIRONMENTAL REGULATION

In the Matter of an Application for Permit by:	)	
United States Gypsum Company 6825 Evergreen Avenue Jacksonville, Florida 32208	)	DER File No. AC 16-100644

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, United States Gypsum Company, applied on March 7, 1985, to DER for a permit to construct a wallboard line at the applicant's existing facility in Jacksonville, Duval 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 31 day of July, 1985, in Tallahassee, Florida.

STATE OF FLORIDA DEPARTMENT
OF ENVIRONMENTAL REGULATION

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

Copies furnished to:

Jerry E. Woosley
Duval County Dept. of Health
Welfare & Bio-Environmental Service
515 W. 6th Street
Jacksonville, Florida 32206

Johnny Cole
DER, Northeast District
3426 Bills Road
Jacksonville, Florida 32207

David Koscielniak
U.S. Gypsum Company
6825 Evergreen Avenue
Jacksonville, Florida 32208

James R. Rabe
Technical Manager
Corporate Environmental Services
U.S.G. Corporation
101 South Wacker Drive
Chicago, Illinois 60606-4385

CERTIFICATION

This is to certify that the foregoing Intent to Issue and all copies were mailed before the close of business on August 1, 1985.

for W. H. Thomas

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.

Patricia G. Adams August 1, 1985
Clerk Date

Technical Evaluation
and
Preliminary Determination

United State Gypsum Company
Jacksonville, Duval County Florida

Permit Number:
AC 16-100644

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

July 31, 1985

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

The Department gives notice of it's intent to issue a permit to United States Gypsum Company to construct a wallboard line at the applicant's existing facility in Jacksonville, Duval County, Florida.

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 shall constitute a waiver of any right such person may have to request an administrative determination (hearing) under Section 120.57, Florida Statutes.

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Department of Health, Welfare & Bio-Env. Services
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Jacksonville, Florida 32207

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

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.

I. APPLICATION SYNOPSIS

A. Applicant

United States Gypsum Company
6825 Evergreen Avenue
Jacksonville, Florida 32208

B. Project and Location

The applicant proposes to start up a wall board line which had been put out of service in 1981. The project will involve processing raw materials, mainly stucco, mixing them with water and forming an even layer of this slurry between two layers of paper. These wet boards will be dried in a kiln and sized by end saws. The project will be located at the applicant's existing facility in Duval County. The universal transverse mercator (UTM) coordinates of the source are Zone 17, 438.9 Km East, and 3361.2 Km North.

C. Sources Reviewed

This evaluation shall review the following sources:

(i) Kiln Wet End Exhaust (BD-1)
(ii) Kiln Wet Center Exhaust (BD-2)
(iii) Kiln Dry End Exhaust (BD-3)
(iv) End Saw Dust Collector (B-5)
(v) Stucco/Additive System Dust Collector (B1-K)

D. Standard Industrial Classification Code (SIC)

This facility is classified as:

Group No. 327, Concrete, Gypsum & Plaster Products
Industry No. 3275, Gypsum Products

E. Facility Category

U.S. Gypsum is classified as a major emitting facility for the air pollutant, particulate matter.

F. Application Completeness Date

Initial Application: March 7, 1985
Application Deemed Complete: June 4, 1985

II. PROJECT DESCRIPTION

A. Project and Controls

The applicant proposes to start up a wall board line which had been put out of service in 1981.

Stucco will be pneumatically conveyed to storage bins and then screw conveyed to supply bins which will be within the #1 Board plant. Additives and stucco will be screw conveyed to a mixing system. Water, in excess of the water of hydration for gypsum, will be added into the mixing system to form a slurry. This slurry will then be introduced between two continuous layers of paper and pressed to a fixed thickness. The wet board thus formed will be dried in the board kiln which will remove the excess water. The board exiting the kiln will be sized by the end saws and a cut-back saw.

There will be no add-on controls on the kiln except for a special LOW-NOx burner utilizing natural gas, which will minimize NOx emissions. Particulate emissions from the End Saws, Cut-Back Saw, and Stucco/Additive System will be controlled by dust collectors which will have a collection efficiency of over 99%.

B. Operating Times and Rates

Operating times and rates for various equipment are summarized below. Operating hours for all equipment are 8,328 hrs/yr.

Equipment	Operating rates
End Saw Dust Collector (B-5)	7,000 ACFM
Stucco/Additive Dust Collector (B1-K)	2,700 ACFM
Kiln (BD-1,2,3)	* 0.048 MMCF/hr

* Maximum natural gas utilization

C. Background Information

USGC would like to start up the #1 Boardline due to consistently high demand in the wallboard market. This boardline plant was shut down in 1981 when the #3 Boardline was started up.

Most of the old #1 Boardline plant equipment will be serviced/modified, while some new equipment will be installed to make the boardline operational.

An existing operating permit, AO16-51598, will be modified as a result of additional material conveying requirements generated by the #1 Boardline. The Bio-Environmental Services Division in Jacksonville will review that particular operating permit.

III. RULE APPLICABILITY

The proposed project will emit the pollutants particulate matter, SO_2, NO_x, CO, and VOC, and is subject to preconstruction review under FAC Rules in Chapter 17-2.

The proposed project will be located in a nonattainment area for ozone (Duval County), and in an area of influence of a nonattainment area (downtown Jacksonville, Duval County) for particulate matter, under FAC Rule 17-2.410.

The proposed project will not be subject to the New Source Review for Nonattainment Area Standards FAC Rule 17-2.510, because:

(a) For ozone, the emission source will not constitute a major facility under FAC Rule 17-2.510(2)(d)4.

(b) For particulate matter, SO_2, NO_x, and CO, the emissions will be below significant levels, table 17-2.500-2 FAC Rule 17-2.510(2).

The proposed project shall be permitted under FAC Rule 17-2.520, Sources Not Subject to PSD or Nonattainment Requirements.

The proposed project shall comply with FAC Rule 17-2.650(2)(c)11, Material Handling, Sizing, Screening, Crushing, and Grinding Operations. The emission standards under this rule specify a maximum limit for particulate matter loading at 0.03 gr/dscf of gas, and a no visible emissions limit (5% opacity).

The proposed project shall comply with FAC Rule 17-2.650(2)(c)12, for kilns. The maximum emissions allowed for particulate is 0.03 gr/dscf of gas, and no visible emissions (5% opacity).

The proposed project shall carry out compliance tests using the no visible emissions (5% opacity) limit as proposed under 17-2.700(1)(d)6, where a material handling source is equipped with a baghouse (emissions from the End Saw Dust Collector and Stucco/Additive Dust Collector). DER Method 9, Visual Determination of the Opacity of Emissions from Stationary Sources, shall be used.

The proposed project shall carry out compliance testing for the kiln emissions, with a no visible emissions (5% opacity) limit, as prescribed under FAC Rule 17-2.700 Table 1, using DER Method 9.

IV. SOURCE IMPACT ANALYSIS

A. Emission Limitations

The particulate matter emission limit for the the End Saw Dust Collector, and the Stucco/Additive Dust Collector, are based on the allowable emission rate of 0.03 gr/dscf. The emission limit on the combined emission from the natural gas burner is as per AP-42, Table 1.4-1. The emission limits are summarized below:

Source	Pollutant	Emissions (TPY)	VE (Opacity)
(i) Kiln Wet End Exhaust (BD-1) (ii) Kiln Wet Center Exhaust (BD-2) (iii) Kiln Dry End Exhaust (BD-3)	TSP SO_2 NOx CO VOC	1.00 0.12 1.62 7.00 0.54	5%
(iv) End Saw Dust Collector (B-5)	TSP	7.49	5%
(iv) Stucco/Additive Dust Collector (B1-K)	TSP	2.39	5%

B. Air Quality Analysis

The technical evaluation of this application determined that ambient air monitoring or modeling would not be required to provide reasonable assurance that Florida's air quality standards would not be violated.

V. CONCLUSION

Based on the information submitted by the applicant, the technical review concluded that the sources will be in compliance with the state air quality regulations, provided the general and specific conditions of the construction permit are fulfilled.

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:
United States Gypsum Company
6825 Evergreen Avenue
Jacksonville, FL 32208

Permit Number: AC 16-100644
Expiration Date: August 1, 1986
County: Duval
Latitude/Longitude: 30° 22' 52" N/
81° 38' 01" W
Project: #1 Board Line

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 drawing(s), plans, and other documents attached hereto or on file with the department and made a part hereof and specifically described as follows:

For the construction of a wall board line consisting of raw material bins, material conveyors, a material mixing system, a board drying kiln, end saws and a cut back saw, and dust collecting baghouses for the end saw and stucco/additive systems.

Construction shall be in accordance with the attached permit application unless otherwise stated in the general and specific conditions herein.

Attachments are as follows:

1. Application to construct an air pollution source, DER Form 17-1.202(1), dated March 5, 1985.
2. DER's Incompleteness letter, dated April 3, 1985.
3. U.S. Gypsum Co.'s information package, dated April 8, 1985.
4. DER's letter to USGC, dated April 30, 1985.
5. USGC's response letter, dated May 7, 1985.
6. USGC's letter with additional information, dated May 24, 1985.
7. USGC's letter deleting one source from the current application, dated May 31, 1985.

PERMITTEE:
United States Gypsum Company

Permit Number: AC 16-100644
Expiration Date: August 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 Statutes. The permittee is hereby placed on notice that the department will review this permit periodically and may initiate enforcement action for any violation of the "Permit Conditions" by the permittee, its agents, employees, servants or representatives.

2. This permit is valid only for the specific processes and operations applied for and indicated in the approved drawings or exhibits. Any unauthorized deviation from the approved drawings, exhibits, specifications, or conditions of this permit may constitute grounds for revocation and enforcement action by the department.

3. As provided in Subsections 403.087(6) and 403.722(5), Florida Statutes, the issuance of this permit does not convey any vested rights or any exclusive privileges. Nor does it authorize any injury to public or private property or any invasion of personal rights, nor any infringement of federal, state or local laws or regulations. This permit does not constitute a waiver of or approval of any other department permit that may be required for other aspects of the total project which are not addressed in the permit.

4. This permit conveys no title to land or water, does not constitute state recognition or acknowledgement of title, and does not constitute authority for the use of submerged lands unless herein provided and the necessary title or leasehold interests have been obtained from the state. Only the Trustees of the Internal Improvement Trust Fund may express state opinion as to title.

5. This permit does not relieve the permittee from liability for harm or injury to human health or welfare, animal, plant or aquatic life or property and penalties 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 systems of treatment and control (and related appurtenances) that are installed or used by the permittee to achieve compliance with the conditions of this permit, as required by department rules. This provision includes the operation of backup or auxiliary facilities or similar systems when necessary to achieve compliance with the conditions of the permit and when required by department rules.

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

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

b. Inspecting the facility, equipment, practices, or operations regulated or required under this permit; and

c. Sampling or monitoring any substances or parameters at any location reasonably necessary to assure compliance with this permit or department rules.

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

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

a. a description of and cause of 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 construction or operation of this permitted source, which are submitted to the department, may be used by the department as evidence in any enforcement case arising under the Florida Statutes or department rules, except where such use is proscribed by Sections 403.73 and 403.111, Florida Statutes.

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

11. This permit is transferable only upon department approval in accordance with Florida Administrative Code Rules 17-4.12 and 17-30.30, as applicable. The permittee shall be liable for any 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.

PERMITTEE:
United States Gypsum Company

Permit Number: AC 16-100644
Expiration Date: August 1, 1986

GENERAL CONDITIONS:

b. The permittee shall retain at the facility or other location designated by this permit records of all monitoring information (including all calibration and maintenance records and all original strip chart recordings for continuous monitoring instrumentation), copies of all reports required by this permit, and records of all data used to complete the application for this permit. The time period of retention shall be at least three years from the date of the sample, measurement, report or application unless otherwise specified by department rule.

c. Records of monitoring information shall include:

- the date, exact place, and time of sampling or 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 determine compliance with the permit. If the permittee becomes aware that relevant facts were not submitted or were incorrect in the permit application or in any report to the department, such facts or information shall be submitted or corrected promptly.

SPECIFIC CONDITIONS:

1. The #1 Boardline operating hours shall not exceed 24 hrs/day, 347 days/year.

2. The maximum material utilization rates and emission rates are tabulated below. Emissions are based on 0.03 gr/dscf for TSP.

Equipment	Utilization rate/capacity	Pollutant	Emissions lb/hr	Emissions TPY	VE % opacity
Kiln (Nat. gas fired)	0.048 MMCF/hr	TSP	0.24	1.0	5
		NOx	0.39	1.6	
		SO_2	0.03	0.1	
End Saw Dust Collector	7,000 ACFM	TSP	1.80	7.5	5
Stucco/Additive Dust Collector	2,700 ACFM	TSP	0.57	2.4	5

SPECIFIC CONDITIONS:

3. Only natural gas shall be used as the fuel in the board drying kiln.

4. A LOW-NOX Maxon burner shall be utilized in the kiln to minimize NO_x emissions.

5. There shall not be any visible emissions (5% opacity) from the End Saw Dust Collector, and the Stucco/Additive System Dust Collector.

6. There shall not be any visible emissions from the board kiln (5% opacity).

7. An initial compliance test shall be conducted for NO_x emissions from the kiln as per EPA Method 7, Determination of Nitrous Oxide Emissions from Stationary Sources.

8. Compliance test shall be conducted for particulate emissions from the kiln as per EPA Method 5, Determination of Particulate Matter Emissions from Stationary Sources if visible emissions exceed 5% opacity.

9. Compliance with the emission standards for particulate matter shall be determined by DER Method 9, Visual Determination of the Opacity for Emissions from Stationary Sources. This test shall be conducted for End Saw Dust Collector (B-5), Stucco/Additive System Dust Collector (Bl-K), and the exhaust from the Board Kiln (BD-1,2,3).

10. Construction shall reasonably conform to the information submitted in this application.

11. Compliance tests shall be performed at 90-100% of the permitted equipment capacity.

12. A fifteen day prior notification of the compliance testing date shall be given to the DER's Northeast District Air Quality office and Duval County's Bio-Environmental Services (BESD) office.

PERMITTEE:
United States Gypsum Company

Permit Number: AC 16-100644
Expiration Date: August 1, 1986

SPECIFIC CONDITIONS:

13. The applicant will demonstrate compliance with conditions of the construction permit and submit a complete application for an operating permit to the BESD office 90 days prior to the expiration date of this construction permit.

14. Upon obtaining an operating permit, the applicant will be required to submit annual reports on the actual operation and emissions of the source to the DER's Northeast District office and Duval County's Bio-Environmental Services office.

15. Any delay in the construction or completion of this project shall be reported to the DER's Northeast District office and Duval County's Bio-Environmental Services office.

16. Compliance tests, in accordance with FAC Rule 17-2.700, shall be submitted to DER's Northeast District office and BESD office within 45 days after completion of the tests.

Issued this_____day of_____,
19___.

STATE OF FLORIDA DEPARTMENT
OF ENVIRONMENTAL REGULATION

_____
VICTORIA J. TSCHINKEL, Secretary

____ pages attached.

No. 0155569

RECEIPT FOR CERTIFIED MAIL

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

SENT TO
Mr. Jerry Woosley

STREET AND NO.

P.O., STATE AND ZIP CODE

POSTAGE	$
CERTIFIED FEE	¢
SPECIAL DELIVERY	¢
RESTRICTED DELIVERY	¢
RETURN RECEIPT SERVICE — SHOW TO WHOM AND DATE DELIVERED	¢
RETURN RECEIPT SERVICE — SHOW TO WHOM, DATE, AND ADDRESS OF DELIVERY	¢
RETURN RECEIPT SERVICE — SHOW TO WHOM AND DATE DELIVERED WITH RESTRICTED DELIVERY	¢
RETURN RECEIPT SERVICE — SHOW TO WHOM, DATE AND ADDRESS OF DELIVERY WITH RESTRICTED DELIVERY	¢
TOTAL POSTAGE AND FEES	$

CONSULT POSTMASTER FOR FEES

OPTIONAL SERVICES

POSTMARK OR DATE

6/7/85

PS Form 3800, Apr. 1976

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. Jerry E. Woosley
JBES
515 West 6th St.
Jacksonville, FL 32206

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

Article Number
0155569

Always obtain signature of addressee or agent and DATE DELIVERED.

5. Signature – Addressee
X

6. Signature – Agent
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7. Date of Delivery

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

DOMESTIC RETURN RECEIPT

JACKSONVILLE FL GENERAL MAIL CENTER POST OFFICE 1985 JUN 10

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

June 6, 1985

CERTIFIED MAIL - RETURN RECEIPT REQUESTED

Mr. Jerry Woosley
Bio-Environmental Services Division
515 West 6th Street
Jacksonville, Florida 32206

Dear Mr. Woosley:

Re: United States Gypsum Company's Application for a Modification in Their Operating Permit AO 16-51598, Stucco Pneumatic Conveyor System

Since the change in the above permit involves the replacement of an old baghouse dust collector operating under the current above permit with a new one, and results in lower net emissions, a construction permit was not deemed necessary.

We are therefore forwarding the above to your office for processing.

If you have any questions, pleae contact Pradeep Raval or call me at (904)488-1344.

Sincerely,

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

CHF/ks

enclosure

UNITED STATES GYPSUM COMPANY
Post Office Box 3197/Jacksonville, Florida 32206-0197

May 31, 1985

DER

JUN 4 1985

BAQM

Mr. Pradeep Raval
Department of Environmental Regulation
2600 Blair Stone Road
Tallahassee, Florida 32301

Dear Mr. Raval:

Enclosed is the permit modification application for the Stucco Pneumatic Conveyor System, Permit No. A016-51598. This modification involves replacing the existing 2000 CFM Flex-Kleen baghouse (B1-G) venting #3 and #4 Stucco Storage Bins with a new 3000 CFM baghouse collector. The existing baghouse (B1-G) is incompatible with the continuous operation presently required.

In addition, please remove this 3000 CFM dust collector (B1-J) from the construction permit application for #1 board line.

Please contact me if you have any questions.

Sincerely,

David Koscielniak

David Koscielniak
Project Engineer

DK:jw

Encl.

UNITED STATES GYPSUM COMPANY
Post Office Box 3197/Jacksonville, Florida 32206-0197

May 24, 1985

Mr. Pradeep Raval
Department of Environmental Regulation
Twin Towers Office Building
2600 Blair Stone Road
Tallahassee, Florida 32301-8241

Dear Mr. Raval:

The following items should be added/corrected on the permit application for #1 Board Line, permit No. AC16-100644:

1. On the addendum, Stucco and Additive System Dust Collector (B1-K), hours should be 8328/yr. not 8320/yr. The allowable emissions stay at 2.39 tons/yr.

2. On the sketch #1 Line End Saw Dust Collector Flow Diagram, exhaust should be 0.6 lbs/hr., not 0.51 lbs/hr.

3. On page 6-B, the velocity for the End Saws Dust Collector (B-5) should be 58.9, not 50.5 FPS.

4. On the emission control flow diagram, the dust collector atop Existing Stucco Bin should be deleted and the Landplaster Bin Dust Collector should be shown to vent inside.

5. All dust collectors venting inside associated with this permit are:
   a) Landplaster Bin Dust Collector
   b) HRA receiver hopper DC

6. All dust collectors venting outside associated with this permit are:
   a) #4 Stucco Storage Bin DC (B1-G), permit No. A016-51598
   b) #3 Stucco Storage Bin DC (B1-J), proposed
   c) Stucco and additive system dust collector (B1-K), proposed
   d) End saw Dust Collector (B-5), existing: no permit because it is not used, proposed replacement
   e) Dry end, center and wet end exhaust fans (BD-3, BD-2, BD-1, respectively) existing not permitted, not used.

Please contact me is I can be of any further assistance.

Sincerely,

David Koscielniak
Project Engineer

cc: Jim Rabe, USG Chi.,Engr.

DK:cp

UNITED STATES GYPSUM COMPANY
Post Office Box 3197/Jacksonville, Florida 32206-0197

May 7, 1985

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

Dear Mr. Fancy:

Enclosed is the emission control flow diagram for #1 board line requested by your department.

In addition, information covering the stucco and additive system dust collector (B1-K) is included. This source is to be included in the permit application for #1 board line as discussed. Design data and emission calculations were modified where applicable to include this source. These modified pages should replace the corresponding pages on the permit previously submitted. A $100.00 check is included to cover this additional source.

Also, please note the capacity of the end saws dust collector was changed from 6000 CFM to 7000 CFM. All calculations affected by this change were modified.

Please contact me if you have any questions.

Sincerely,

David Koscielniak

David Koscielniak
Project Engineer

DK:jw

Encls.

Copy to Mr. Jerry Woosley
Air & Water Pollution
515 W. 6th Street
Jacksonville, Fl. 32203

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 Ragan M. Womack

Ragan M. Womack
Name (Please Type)

United States Gypsum Co.
Company Name (Please Type)

P.O. Box 3197, Jacksonville, Fl. 32206
Mailing Address (Please Type)

Florida Registration No. 17417 Date: 5/8/85 Telephone No. (904) 768-2501

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.

The project involves the rejuvenation of an existing board machine with an upgrading of burner type, a new end saw dust collector baghouse, an additional stucco bin dust collector and a stucco and additive system dust collector.

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

Start of Construction 6-1-85 Completion of Construction 2-86

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

New Burners and Ducts	$442,000
End Saw Baghouse Dust Collector & Duct	68,000
Stucco & Additive Baghouse Collector & Duct	37,380
Stucco	36,000
TOTAL	$ 583,380

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

A016-31838 Iss. 11-20-80 - Expires 10-31-85

A016-31840 Iss. 11-20-80 - Expires 10-31-85
A016-31843 Iss. 11-20-80 - Expires 10-31-85
A016-20347 Iss. 6-13-79 - Expires 4-30-84

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		
$CaSO_4 \cdot 1/2\ H_2O$	Particulate		80,000	B1-J
"	"		270	B5
"	"		607	B1-K

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

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

2. Product Weight (lbs/hr): _____

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

Name of Contaminant	Emission[1]		Allowed[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	
*Particulate	0.24	1.0	***	***			3-Exhausts
SO_2	0.03	0.12					BD-1
NO_x	0.39	1.62					BD-2
CO	1.68	7.00					BD-3
VOC	0.13	0.54					
**Particulate	1.22	5.07		2.73			B1-J & B-5 & B1-K

[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).

*TSP - Total for Combustion

**TSP - Total for Process - Three Dust Collectors.

*** - See Attached

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

Name and Type (Model & Serial No.)	Contaminent	Efficiency	Range of Particles Size Collected (in microns) (If applicable)	Basis for Efficiency (Section V Item 5)
For Three Dust Collectors				
Flex Kleen or				
Equivalent	Particulate	99.9%	1 - 512	Design
	$CaSO_4 \cdot 1/2\ H_2O$			Specifications
	SEE ATTACHMENTS			

E. Fuels

Type (Be Specific)	Consumption*		Maximum Heat Input (MMBTU/hr)
	avg/hr	max./hr	
Natural Gas	0.043 MMCF/Hr.	0.048 MMCF/Hr.	50×10^6 BTU/Hr.

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

Fuel Analysis: Only Natural Gas Used.

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.

All solid waste as dust is disposed of on our raw material pile and re-used in our system as a raw material.

END SAW DUST COLLECTOR - B-5

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

Stack Height: 23 ft. Stack Diameter: 19" X 15" ft.

Gas Flow Rate: 7,000 ACFM ____ DSCFM Gas Exit Temperature: AMBIENT °F.

Water Vapor Content: AMBIENT % Velocity: 50.5 FPS

DESIGN EFFICIENCY: 99.9% AIR TO CLOTH RATIO: 4/1

TOTAL CLOTH AREA: 1,256

STUCCO AND ADDITIVE DUST COLLECTOR - B1-K

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

Stack Height: 60 ft. Stack Diameter: 14" x 14" ft.

Gas Flow Rate: 2700 ACFM ____ DSCFM Gas Exit Temperature: 100 - 180 °F.

Water Vapor Content: Ambient % Velocity: 33.06 FPS

Design Efficiency: 99.94% Air-To-Cloth Ratio: 4:1

Total Cloth Area: 680 Ft.^{2}

JACKSONVILLE

#1 MACHINE

Heat Rate 50 X 10^6 BTU/Hour (Natural Gas Only)
Estimated Hours 8328.0 Hours/Year
Assume H.V. = 1050 BTU/$Ft.^3$
(50 X 10^6 BTU/Hr.) (1050 BTU/$Ft.^3$) = 0.048 X 10^6 $Ft.^3$/Hr.

A. COMBINATION (Total)

1. TSP. AP42 - (Suppl. 13) - 5 Lb./$10^6Ft.^3$
(0.048 X 10^6 $Ft.^3$/Hr.) X (5 Lb./$10^6Ft.^3$) =
.24 Lb./Hr. = 1.0 Tons/Year

2. SO_2 AP-42 - (Suppl. 13) - 0.6#/$10^6Ft.^3$
(0.048 X $10^6Ft.^3$/Hr.) X (0.6#/$10^6Ft.^3$) =
0.03 Lb./Hr. = 0.12 Tons/Year

3. NO_x Maxon Test Assurance* - 0.0078 Lb./10^6BTU
(50 X 10^6BTU/Hr.) X (0.0078 Lb./10^6BTU) =
0.39 Lb./Hr. = 1.62 Tons/Year

4. CO AP-42 - (Suppl. 13) - 35 Lb./$10^6Ft.^3$
(0.048 X $10^6Ft.^3$/Hr.) X (35 Lb./$10^6Ft.^3$) =
1.68 Lb./Hr. = 7.0 Tons/Year

5. VOC (Non-Methane) AP-42 - (Suppl. 13)
2.8 Lb./$10^6Ft.^3$
(0.048 X $10^6Ft.^3$/Hr.) X (2.8 #/$10^6Ft.^3$) =
0.13 Lb./Hr. = 0.54 Tons/Year

* SEE ATTACHED LETTER

COMBUSTION

4-Burner Banks will exhaust through three stacks.

The BTU Input Is Reflected Below

Exhaust 1 - 14.5 MMBTU or, 14.5/50 = 29%
Exhaust 2 - 17.7 MMBTU or, 17.7/50 = 35.4%
Exhaust 3 - 17.8 MMBTU or, 17.8/50 = 35.6%
100 %

% Total		Exhaust #1 29%	Exhaust #2 35.4%	Exhaust #3 35.6%	TOTAL 100%
TSP	Tons Per Year	0.29	0.35	0.36	1.0
SO_2		0.34	0.043	0.043	0.12
NO_x		0.47	0.57	0.58	1.62
CO		2.03	2.48	2.49	7.00
VOC		0.16	0.20	0.20	0.54

B. PROCESS TSP

1. Stucco Bin Dust Collector B1-J

Dust Loading - (80,000 Lb./Hr.) X (.01) = 800 Lb./Hr.
Design % Efficiency 99.94%
Design Flow Rate 3000 $Ft.^3$/Min.

(800 Lb./Hr.) X (.0006) = 0.48 Lb./Hr. = 1.99 Tons/Year

(0.48 Lb./Hr.) X (7000 gr./Lb.) X $\frac{1}{3000}$ $Ft.^3$/Min.)
X ($\frac{1}{60}$ Min./Hr.) = 0.019 Gr./$Ft.^3$

2. End Saw Dust Collector B-5

a. End Saw Loading (Automatic Operation)

Line Speed 80 Ft./Min.
1/2 TESR
Cut Maximum Total - 1/2"

($\frac{.5}{2}$)X(80 Ft./Min.)X(60 Min./Hr.)X($\frac{1Ft.}{12\ In.}$)X
(1.8 Lb./$Ft.^2$) = 180 Lbs./Hr.

b. Cut Back Saw Loading (Manual Operation)

Operation Time - 55 Min./Hr.
Maximum - 10 Boards/Min.
Cut Maximum - 1/4"

(10 Boards) X (.25") X (4 Ft. Wide) X
($\frac{1\ Ft.}{12\ In.}$) X 1.8 Lb./$Ft.^2$) X (55 Min./Hr.) = 82.5 Lb./Hr.

Assume 85 Lb./Hr.

c. Estimate Mixer Vent @5 Lb./Hr.- Loading Rate

d. Total Input Rate

180 Lb./Hr. + 85 Lb./Hr. + 5 Lb./Hr. = 270 Lbs./Hr.

e. Total Emission Rate

Design Efficiency - 99.9%
Design Discharge Rate - 0.01 Gr./ACFM
Design Flow Rate - 7000 ACFM

(7000 ACFM)(0.01 Gr./ACFM)(60 Min./Hr.($\frac{1\ Lb.}{7000}$)
0.60 Lb./Hr. = 2.50 Tons/Year

3. Stucco & Additive Dust Collector - B1-K

Design Efficiency - 99.94%
Design Discharge - 0.01 Gr./ACFM
Design Flow Rate - 2700 ACFM

(2700 ACFM)(0.01 Gr./ACFM)(60 Min./Hr.)$\left(\frac{1 \text{ Lb.}}{7000}\right)$ = 0.23 Lb./Hr. = 0.96 Tons/Year

4. Total Process TSP

Stucco Bin	0.48 Lbs./Hr.	1.99 Tons/Year
End Saw	0.60 Lbs./Hr.	2.50 Tons/Year
Stucco & Additive System	0.23 Lbs./Hr.	0.96 Tons/Year
	1.31 Lbs.Hr.	5.45 Tons/Year

Permit No. AC16-100644, No. 1 Board Plant

ADDENDUM

Allowable Emissions:

1. Stucco Bin Dust Collector (B1-J)

3000ACFM at 200°F * $\frac{528°R}{660°R}$ = 2400 SCFM

= 2400 DSCFM * $\frac{0.03 \text{ Grains}}{\text{DSCF}}$ * $\frac{60 \text{ Min.}}{\text{Hr.}}$ * $\frac{1\text{-Lb.}}{7000\text{Gr.}}$ = 0.617 Lbs./Hr.

0.617 $\frac{\text{Lbs.}}{\text{Hr.}}$ *24 Hrs./Day *347 Days/Year * $\frac{1\text{-Ton}}{2000 \text{ Lbs.}}$ = 2.569 Tons/Year

2. End Saw Dust Collector (B-5)

7000 $\frac{\text{Ft.}^3}{\text{Min.}}$ * $\frac{0.03 \text{ Grains}}{\text{DSCF}}$ * $\frac{60 \text{ Min.}}{\text{Hr.}}$ * $\frac{1 \text{ Lb.}}{7000 \text{ Gr.}}$ = 1.80 Lbs./Hr.

1.80 Lbs./Hr. *24 Hrs./Day *347 Days/Yr.
1 Ton/2000 = 7.49 Tons/Year

3. Stucco and Additive System Dust Collector (B1-K)

2700 @ 180°F * $\frac{528°R}{640°R}$ = 2228 SCFM

= 2228 SCFM * $\frac{0.03 \text{ Grains}}{\text{DSCF}}$ * $\frac{60 \text{ Mins.}}{\text{Hr.}}$ * $\frac{1 \text{ Lb.}}{7000 \text{ Gr.}}$ = 0.573 Lbs./Hr.

0.573Lbs./Hr. * $\frac{8320 \text{ Hrs.}}{\text{Year}}$ * $\frac{1\text{-Ton}}{2000\text{Lb.}}$ = 2.39 Tons/Yr.

2/20/85

- REVISED -

END SAW DUST COLLECTOR

CONTROL EQUIPMENT DATA

Manufacturer	Flex-Kleen or equal
Model and Name	To be determined
Type	Baghouse
Design Flow Rate	7000 ACFM
Efficiency Rating at Design Capacity	99.9% Minimum
Pressure Drop Through Bags	3 - 4" W.C.
Gas Flow Rate	7000 CFM
Air To Cloth Ratio	4:1
Bag Material	16 Oz. Dacron Felt
Gas Temperature	Ambient
Pulse Air Pressure	80 - 100 PSI
Grains Loading Input (Average)	5.25 Grains/CFM
Grains Loading Output (Averate	0.01 Grains/CFM

NOTES:
REMOVE ALL BURRS AND UNNECESSARY SHARP CORNERS.
TOLERANCES ON DIMENSIONS FOR MACHINING OPERATIONS ARE + OR − .010" UNLESS OTHERWISE SPECIFIED. DO NOT SCALE DRAWING.

UNITED STATES GYPSUM CO.

JACKSONVILLE CHICAGO, ILL

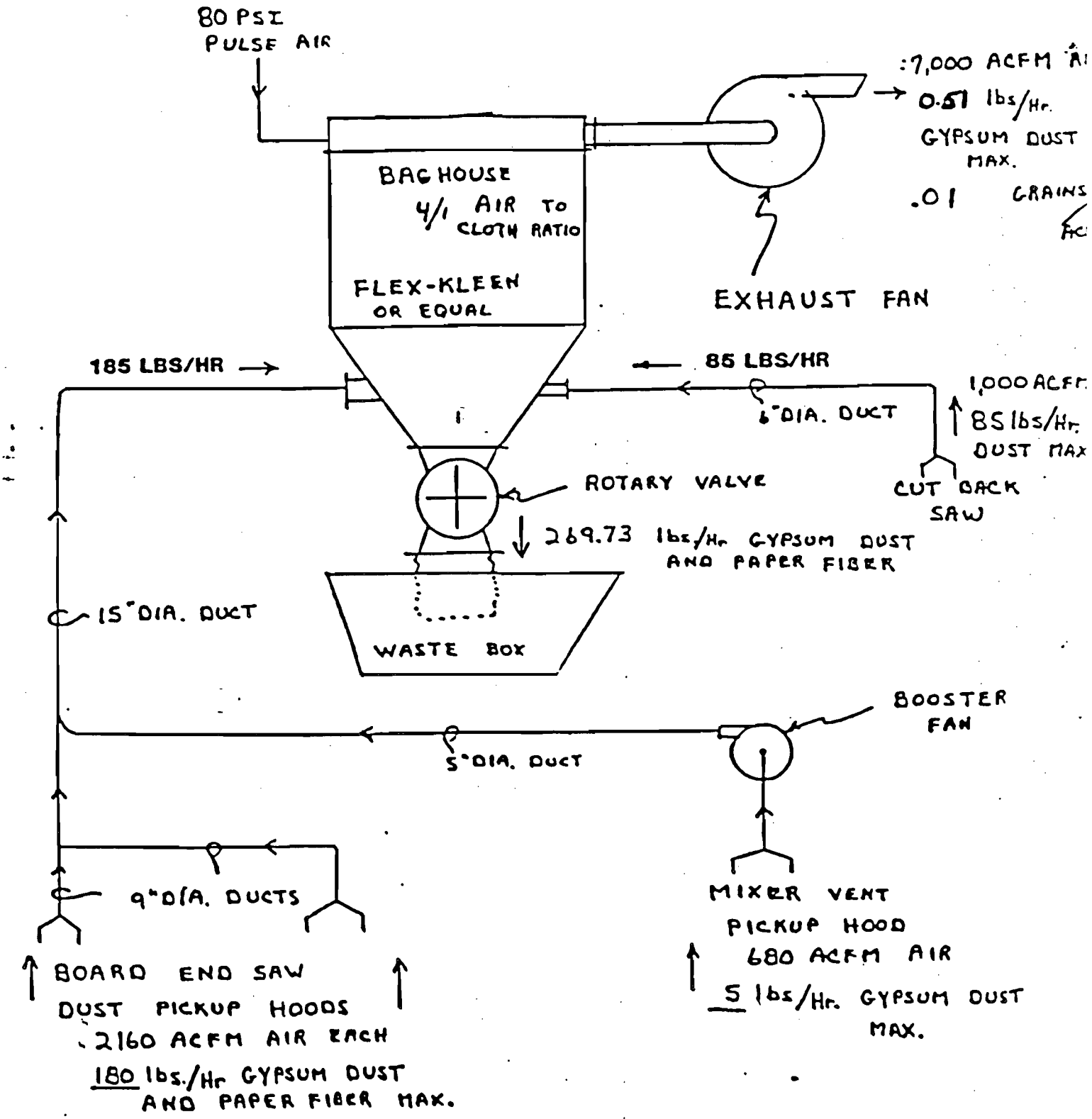
#1 LINE END SAW DUST COLLECTOR

FLOW DIAGRAM

SKETCH NO.

AUTH.
DATE 2-5-85
DR. R.L. NELSO
CK.
SCALE NONE

REVISIONS	REVISIONS



REQ. NO.	PRINT ISSUED

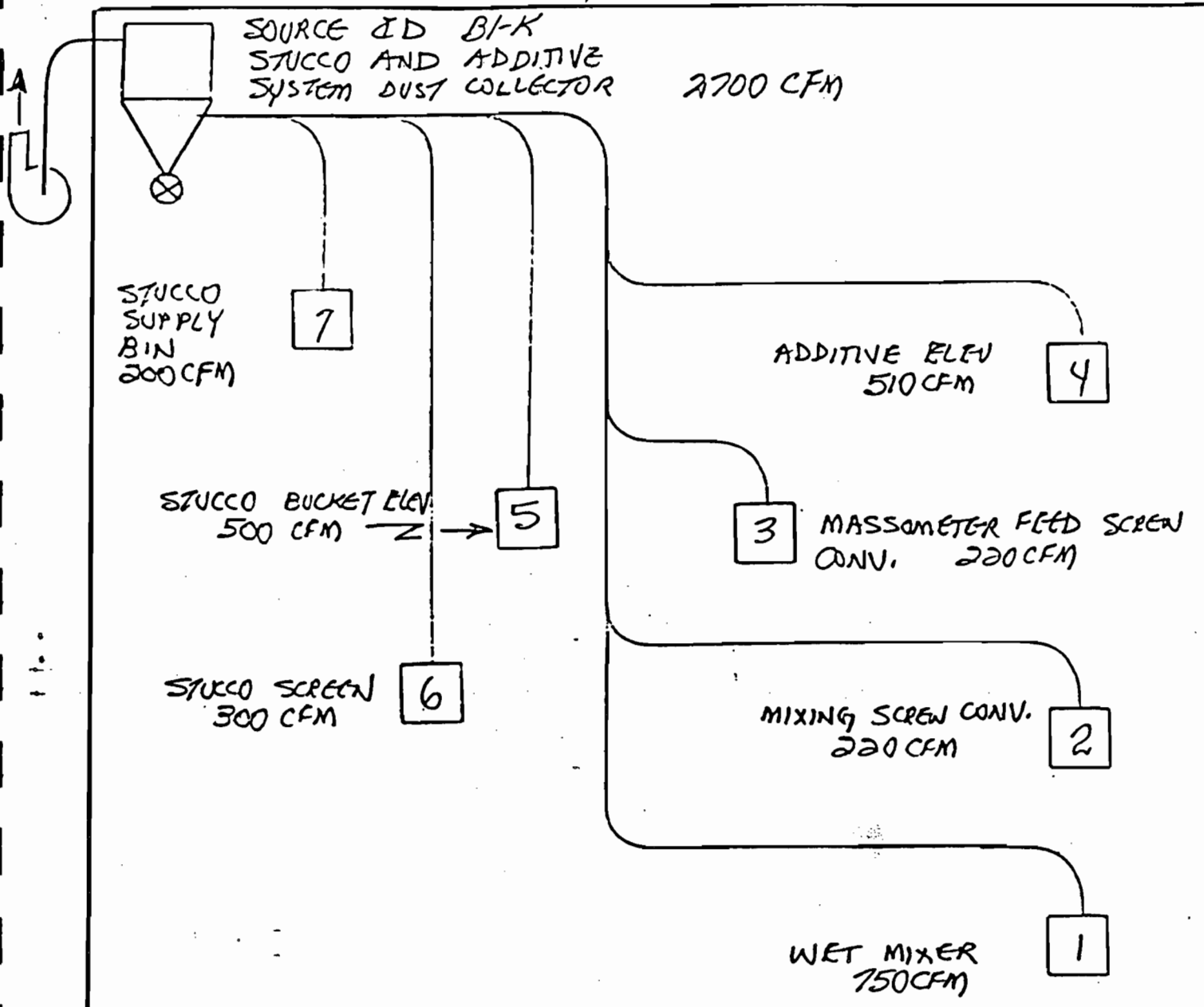
STUCCO & ADDITIVE SYSTEM DUST COLLECTOR

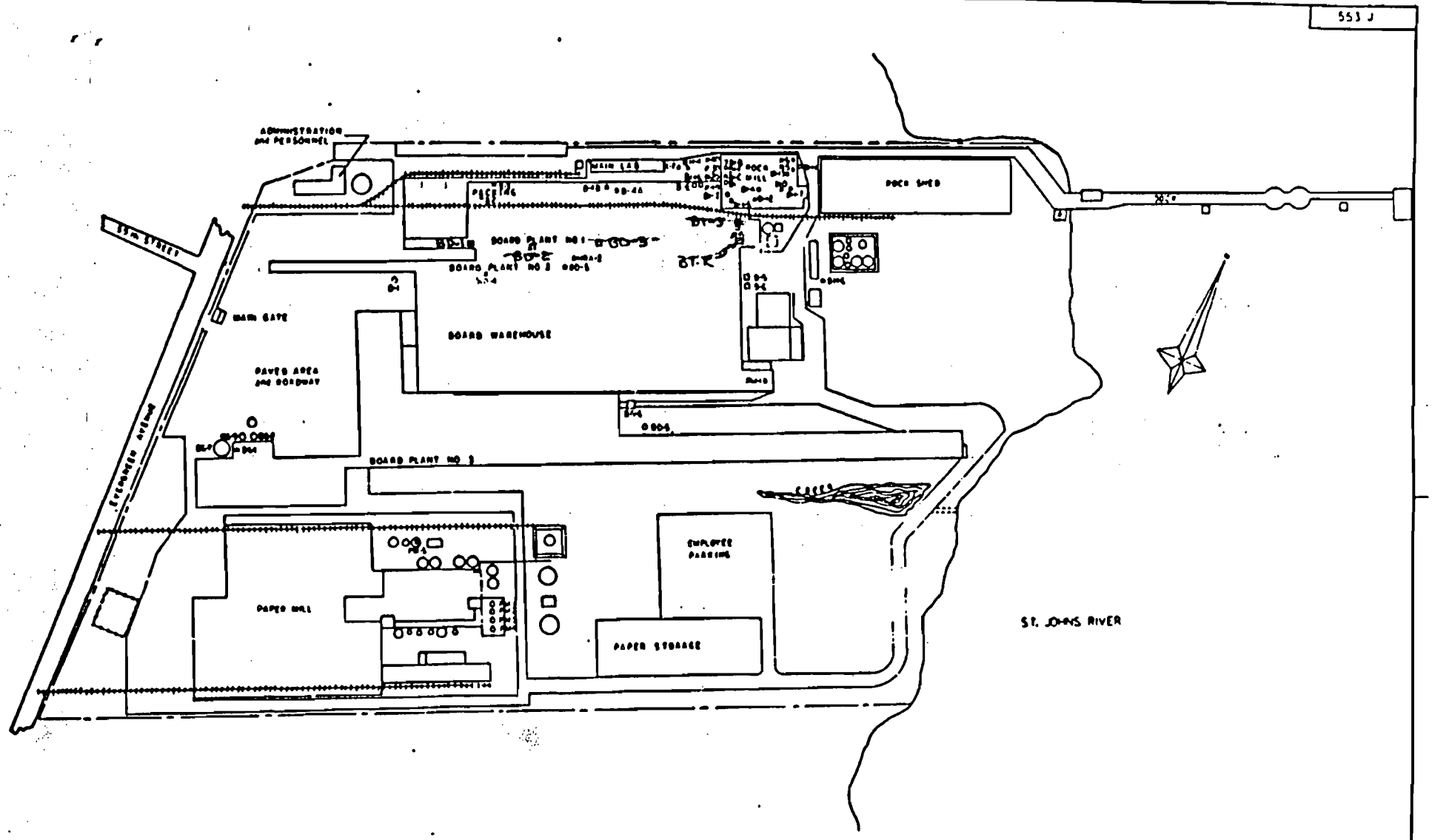
CONTROL EQUIPMENT DATA

Manufacturer	Flex Kleen or equal
Model and Name	To be determined
Type	Baghouse
Design Flow Rate	2700 ACFM
Efficiency Rating at Design Capacity	99.94% Minimum
Pressure drop through bags	3 - 4" W.C.
Gas Flow Rate	2700 CFM
Air to Cloth Ratio	4:1
Bag Material	16 Oz. Dacron Felt
Gas Temperature	100 -to- 180°F
Pulse Air Pressure	80 PSI
Grains Loading Input (Average)	26.2 Grains/CFM
Grains Loading Output Average)	0.01 Grains/CFM

USG CORPORATION
CHICAGO, ILL.

MADE BY W.E. FAUGHT
DATE 4-24-85
CHKD. BY
DATE
CALCULATION OF STUCCO AND ADDITIVE SYSTEM DUST COLLECTOR
PLANT JACKSONVILLE FL
AUTH. NO P-3758-E
CALC. NO
SH 3 OF





							D ADDITIONAL	10-74	UNITED STATES GYPSUM CO. CHICAGO ILL.
									UNITED STATES GYPSUM COMPANY AIR POLLUTION SOURCES
									553 J-A
									REV. J

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

April 30, 1985

CERTIFIED MAIL - RETURN RECEIPT REQUESTED

Mr. Dan J. Nootens
Works Manager
United States Gypsum Company
6825 Evergreen Ave.
Jacksonville, Florida 32208

Dear Mr. Nootens:

Re: Completeness Review for the Application to Construct Air Pollution Sources Permit No. AC 16-100644, No. 1 Board Plant

The bureau has received information brought by Mr. Jim Rabe on April 10, 1985, in response to the incompleteness letter dated April 3, 1985.

During our discussion with Mr. Rabe, it was agreed that an overall process flow diagram would be submitted by you, to complement the information we have recently received.

If there are any questions, please call Pradeep Raval at (904)488-1344 or write to me at the above address.

Sincerely,

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

CHF/PR/s

cc: J. Woosley
J. Cole
D. Koscielniak
J. Rabe

UNITED STATES GYPSUM COMPANY
Post Office Box 3197/Jacksonville, Florida 32206-0197

April 8, 1985

Mr. C. H. Fancy, P.E.
Department of Environmental Regulation
Twin Towers Office Building
2600 Blair Stone Road
Tallahassee, Florida 32301-8241

Dear Mr. Fancy:

Re: Application to Construct Air Pollution Sources,
Permit No. AC16-100644, No.1 Board Plant

Per your request, the following data should be added to/modified in the permit application previously submitted:

1. End Saw Dust Collector - B-5 on page 6-B, velocity should be changed to 50.5 FPS as shown below:

$$6000 \text{ ACFM} * \frac{1 \text{ vent}}{1.979 \text{ sq.ft.}} * \frac{1 \text{ min.}}{60 \text{ sec.}} = 50.5 \text{ FPS}$$

2. Insert attached addendum.

3. Operating time is to be 24 hrs./day, 347 days/yr.

4. Attached Annual Operations Report has been modified to include all information requested on current permits.

Please contact me if you have any additional questions.

Sincerely,

David Koscielniak

David Koscielniak
Project Engineer

DK:jw

Encls.

Permit No. AC16-100644, No.1 Board Plant

DER

APR 10 1985

BAQM

ADDENDUM

Allowable Emissions:

1. Stucco Bin Dust Collector (B1-J)

$$3000 \text{ ACFM at } 200°F * \frac{0.0602 \text{ PSI at } 200°F}{0.0769 \text{ PSI at } 68°F}$$

$$= 2348 \text{ DSCFM} * 0.03 \frac{\text{Grains}}{\text{DSCF}} * 60 \frac{\text{min.}}{\text{hr.}} * \frac{1 \text{ lb.}}{7000 \text{ grains}} = 0.604 \frac{\text{lbs.}}{\text{hr.}}$$

$$0.604 \frac{\text{lbs.}}{\text{hr.}} * 24 \text{ hrs./day} * 347 \text{ days/year} * \frac{1\text{-ton}}{2000 \text{ lbs.}} = 2.515 \frac{\text{tons}}{\text{years}}$$

2. End Saw Dust Collector (B-5)

$$6000 \frac{\text{ft.}^3}{\text{min.}} * \frac{0.03 \text{ Grains}}{\text{DSCF}} * 60 \frac{\text{min.}}{\text{hr.}} * \frac{1 \text{ lb.}}{7000 \text{ grains}} = 1.543 \text{ lbs./hr.}$$

1.543 lbs./hr. * 24 hrs./day * 347 days/yr. * 1 ton/2000 lbs. = 6.425 tons/year

JACKSONVILLE

#1 MACHINE

Heat Rate 50 X 10^6 BTU/Hour (Natural Gas Only)
Estimated Hours 8328.0 Hours/Year
Assume H.V. = 1050 BTU/$Ft.^3$
(50 X 10^6 BTU/Hr.) (1050 BTU/$Ft.^3$) = 0.048 X 10^6 $Ft.^3$/Hr

A. COMBINATION (Total)

1. TSP: AP42 - (Suppl. 13) - 5 Lb./$10^6Ft.^3$
(0.048 X 10^6 $Ft.^3$/Hr.) X (5 Lb./$10^6Ft.^3$) =
.24 Lb./Hr. = 1.0 Tons/Year

2. SO_2 AP-42 - (Suppl. 13) - 0.6#/$10^6Ft.^3$
(0.048 X $10^6Ft.^3$/Hr.) X (0.6#/$10^6Ft.^3$) =
0.03 Lb./Hr. = 0.12 Tons/Year

3. NO_x Maxon Test Assurance* - 0.0078 Lb./10^6BTU
(50 X 10^6BTU/Hr.) X (0.0078 Lb./10^6BTU) =
0.39 Lb./Hr. = 1.62 Tons/Year

4. CO AP-42 - (Suppl. 13) - 35 Lb./$10^6Ft.^3$
(0.048 X $10^6Ft.^3$/Hr.) X (35 Lb./$10^6Ft.^3$) =
1.68 Lb./Hr. = 7.0 Tons/Year

5. VOC (Non-Methane) AP-42 - (Suppl. 13)
2.8 Lb./$10^6Ft.^3$
(0.048 X $10^6Ft.^3$/Hr.) X (2.8 #/$10^6Ft.^3$) =
0.13 Lb./Hr. = 0.56 Tons/Year

* SEE ATTACHED LETTER

COMBUSTION

4-Burner Banks will exhaust through three stacks.

The BTU Input Is Reflected Below

Exhaust 1 - 14.5 MMBTU or, 14.5/50 = 29%
Exhaust 2 - 17.7 MMBTU or, 17.7/50 = 35.4%
Exhaust 3 - 17.8 MMBTU or, 17.8/50 = 35.6%
100 %

% Total		Exhaust #1 29%	Exhaust #2 35.4%	Exhaust #3 35.6%	TOTAL 100%
TSP	Tons Per Year	0.29	0.35	0.36	1.0
SO_2		0.34	0.043	0.043	0.12
NO_x		0.47	0.57	0.58	1.62
CO		2.03	2.48	2.49	7.00
VOC		0.16	0.20	0.20	0.56

MAXON
CORPORATION

MUNCIE, INDIANA 47302
TEL.(317) 284-3304 · TELEX 27-392

MAXON® *Industrial Combustion Equipment and Valves*

Address reply to:
80 RIVER OAKS, SUITE 204
CALUMET CITY, ILLINOIS 60409
Chicago Phone (312) 264-8511
Telex 253-165

March 15, 1985

U. S. Gypsum Company
101 So. Wacker Drive
Chicago, Illinois 60606

Attention: Mr. James R. Rabe, Tech. Mgr., Environmental Services

SUBJECT: NOX ESTIMATES FOR YOUR JACKSONVILLE, FLORIDA
BOARD LINE #1

Dear Jim:

Just a note to confirm our recent conversation regarding estimated NO_X output on the LO-NOX Burner being considered for your subject board line.

As we discussed, although we have no control over your total system NO_X discharge, we feel the LO-NOX Burner will yield no more than .0078 lbs. of NO_X per 1,000,000 BTU. on a differential basis, (NO_X across the burner, or added by the burner). This, of course, is largely dependent upon proper burner installation, adjustment and operation.

We are in the process of working with your Engineering Department on the possible burner layouts for your four zones, and should have our suggestions finalized within the next few days. Should you have any questions on our offerings, or can assist you in any way, please let us know.

Sincerely,

MAXON CORPORATION

RICH RUBLE

RR:jn

MAXON
CORPORATION

MUNCIE, INDIANA 47302
TEL (317) 284-3304 · TELEX 027-392

MAXON®
Industrial Burner Systems & Valve Equipment
Add on reply to
80 RIVER OAKS, SUITE 204
CALUMET CITY, ILLINOIS 60409
Chicago Phone (312) 264-8311
Telex 253-365

January 8, 1981

U. S. Gypsum Company
101 So. Wacker Drive
Chicago, Illinois 60606

Attention: Mr. Jeff Oberlander

SUBJECT: YOUR JACKSONVILLE, FLORIDA BOARD DRYER INSTALLATION

Dear Jeff:

Thanks again for the opportunity to work with you on this application, we sincerely appreciate it.

As we discussed during our phone conversation of 1/6/81, we have the following data related to our testing of the fully premixed AIRFLO burner, under conditions as similar as possible, to those anticipated in Jacksonville:

- Maximum combustion chamber temperature at 450°F. and 75% recirculation.
- 0.3 lbs. H_2O/lb. dry air in recirculated airstream.

Based on the testing performed, (copies of test data already presented to you), we found the increase in NO_2 level over the burner assembly to be no greater than 1 lb. NO_2 per million cubic feet of methane burned. (This data has been corrected to a dry basis). Your actual readings may be different due to many extraneous factors which can considerably affect NO_2 output, such as:

- Ambient NO_2 conditions.
- Downstream duct conditions.
- Recirculating air temperature.
- Moisture content in recirculated air stream.
- Burner adjustment and maintenance procedures.

Jeff, we trust this information will be helpful to you, and welcome any further questions or comments you may have.

Sincerely,

MAXON CORPORATION

RICH RUBLE
RR:jm

MAXON
CORPORATION

MUNCIE, INDIANA 47302
TEL (317) 284-3304 · TELEX 27-392

MAXON

Industrial Combustion Equipment and Valves

Address reply to
80 RIVER OAKS, SUITE 204
CALUMET CITY, ILLINOIS 60409
Chicago Phone (312) 264-8511
Telex 253-165

October 14, 1980

U. S. Gypsum Company
101 South Wacker Drive
Chicago, Illinois 60606

Attention: Mr. Herb Martin

SUBJECT: NO_X ESTIMATES

Reference: Your Jacksonville, Florida Board Dryer

Dear Mr. Martin:

We appreciate this opportunity to work with you regarding combustion equipment with low NO_X generation.

As we've discussed, in reference to the Jacksonville application; although we have no control over your total system NO_X discharge, we feel the AIRFLO burner will yield no more than 10 ppm differential NO_X (NO_X across the burner, or added by the burner). This, of course, is largely dependent on proper burner installation, adjustment and operation.

If my figures correlate with those we discussed during our last meeting, this would amount to approximately .0078 lbs. NO_X per one million BTU.

Thanks again for this opportunity to be of service.

Sincerely,

MAXON CORPORATION

RICH RUBLE

RR:jn

In my discussion with Fred Schooley, he requested that, on the main letter, no reference be made to other contingencies (re: testing, etc.) As we've discussed, we do plan to conduct tests where we'll closely duplicate your operating conditions, to determine just how low a NO_X level can be obtained. This will also allow us to ascertain if there are any unforeseen factors which might affect our estimate of NO_X levels.

MAXON CORPORATION

MUNCIE, INDIANA 47302

We plan to do this testing during the first week in November, and would be pleased to have you and your associates come to our plant in Muncie, Indiana to witness our findings.

Dick Rubb

cc: T. R. Wanthal - Muncie

Comments	Sample Conditions / Sample Positions	NO_x Parts Per Billion	LBS NO_x Per MMBTU	CO Parts Per Million	Room Temperature °F	Air Temperature Before Burner °F	Air Temperatur After Burner °F
	Before Burner	1636.3		2.64	82.0	427.0	438.8
	After Burner	2807.0	.00130	2.91	81.2	424.0	433.9
	Before Burner	2054.4		1.89	85.9	455.6	459.4
	After Burner	3020.1	.00173	2.62	82.9	457.5	467.2

Tests Conditions

Avg. .00152

1. Date - 11/7/80
2. Site - Muncie, Indiana (Maxon Laboratory Facilities)
3. Equipment - Low NO_x Burner
4. Equipment Firing Rate - 350,000 BTU/Linear Ft. of Burner (3' Used)
5. 120% of stoiciometric combustion air pre-mixed
6. 12 inches of mixing pressure (fuel-air)
7. 30% Absolute Humidity
8. Recirculation was kept at a maximum

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

April 3, 1985

CERTIFIED MAIL - RETURN RECEIPT REQUESTED

Mr. Dan J. Nootens
Works Manager
United States Gypsum Company
6825 Evergreen Avenue
Jacksonville, Florida 32208

Dear Mr. Nootens:

Re: Completeness Review for the Application to Construct Air Pollution Sources, Permit No. AC 16-100644, No. 1 Board Plant

The bureau has received and reviewed the application package dated February 28, 1985, and finds it incomplete. Before the status of the application can be determined, you must submit to the bureau the following data, including all calculations, assumptions and reference material:

1. Submit the most recent test reports on the emissions from the Maxon AIRFLO burner. Maxon Corporation was going to conduct tests, closely duplicating your operating conditions, to determine emissions of several pollutants, particularly NO_x.

2. Verify the calculation on the End Saw Dust Collector air velocity, in 6B. Our calculations indicate a velocity of 50.5 FPS as compared to 42.1 FPS, as submitted by you.

3. Since the proposed sources B1-J and B-5 are subject to FAC Rule 17.2.650(2)(c)11, calculate the allowable emissions of particulate matter. Please note that the volumetric air flow rate from the Stucco bin collector, of 3000 ACFM, will have to be corrected to standard conditions, on which the applicable allowable emission concentration of 0.03 gr/dscf is based.

4. Two different operating times have been listed in the application: 24 hrs/day, 6 2/3 days/week, 52 wks/yr on page

3; and 24 hrs/day, 347 days/yr in the Addendum. Please indicate which operating time is intended, since it will be a permit limitation.

5. Please indicate the following:

(a) On what date was USG classifed as a major emitting facility?

(b) What is USG's baseline date and the baseline emission limit?

(c) Has LAER been done on any permit? If it has, indicate the permit number and the date.

(d) Submit information on current permits issued to USG in the following way, indicating any sources which have been retired and dismantled:

Please make a table showing (i) current permit numbers and their date of issue, (ii) location of source (iii) facility ID#, (iv) operating hours (v) emission in TPY, actual and allowable, for the pollutants particulate matter, NO_x and SO_2.

If there are any questions, please call Pradeep Raval at (904)488-1344 or write to me at the above address.

Sincerely,

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

CHF/PR/s

cc: J. Woosley
J. Cole
D. Koscielniak
J. Rabe

USG Corporation

101 South Wacker Drive
Chicago, Illinois 60606-4385

Telephone 312/321-4000

CERTIFIED MAIL - RETURN RECEIPT REQUESTED

February 28, 1985

Mr. William A. Thomas, Engineer
Department of Environmental Regulations
Bureau of Air Quality Management
2600 Blair Stone Road
Tallahassee, Florida 32301

RE: USG CORPORATION - JACKSONVILLE FLORIDA - Start-Up of No. 1 Board Line

Dear Mr. Thomas:

As discussed, attached is a Permit Application for the Start-Up of the No. 1 Board Line at Jacksonville.

It is my understanding that our plant at Jacksonville is a major facility but that this project will not cause a significant emission rate increase in F.A.C. 17-2, Table 500-2.

I will be in contact to arrange a preliminary meeting for the week of March 11, 1985. Should you have any questions prior to that time, feel free to contact me at 1-312-321-3769.

Sincerely,

USG CORPORATION

J. R. Rabe
Technical Manager
Corporate Environmental Services

JRR:sam
cc: Mr. J. Woosley - Bio Environmental Services
Mr. J. Cole - D & R - Jacksonville
Mr. D. Nootens - U.S. Gypsum Co., Jacksonville
Mr. D. Koscielniak - U.S. Gypsum Co., Jacksonville
Mr. F. May - USG Corporation - Chicago Office
Mr. S. Oleksy - USG Corporation - Chicago Office

AC 16-11494

STATE OF FLORIDA

DEPARTMENT OF ENVIRONMENTAL REGULATION

NORTHEAST DISTRICT
3426 BILLS ROAD
JACKSONVILLE, FLORIDA 32207

BOB GRAHAM
GOVERNOR

VICTORIA J. TSCHINKEL
SECRETARY

G. DOUG DUTTON
DISTRICT MANAGER

APPLICATION TO OPERATE/CONSTRUCT AIR POLLUTION SOURCES

SOURCE TYPE: GYPSUM WALLBOARD PLANT [X] New[1] [ ] Existing[1]

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

COMPANY NAME: UNITED STATES GYPSUM COMPANY COUNTY: DUVAL

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) BOARD PLANT #1

SOURCE LOCATION: Street 6325 Evergreen Avenue City Jacksonville

UTM: East 4 38 900 North 33 61 200

Latitude 30 ° 22 ' 52 "N Longitude 81 ° 38 ' 01 "W

APPLICANT NAME AND TITLE: Dan J. Nootens, Works Manager

APPLICANT ADDRESS: 6825 Evergreen Avenue - Jacksonville, Florida 32208

SECTION I: STATEMENTS BY APPLICANT AND ENGINEER

A. APPLICANT

I am the undersigned owner or authorized representative* of UNITED STATES GYPSUM COMPANY

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

*Attach letter of authorization

Signed: D J Nootens by DS Feldman

Dan J. Nootens, Works Manager
Name and Title (Please Type)

Date: 3/5/85 Telephone No. 768-2501

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 Ragan M. Womack

Ragan M. Womack
Name (Please Type)

United States Gypsum Co.
Company Name (Please Type)

P.O. Box 3197, Jacksonville, Fl. 32206
Mailing Address (Please Type)

Florida Registration No. 17417 Date: 3/5/85 Telephone No. (904) 768-2501

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 inatallation. State whether the project will result in full compliance. Attach additional sheet if necessary.

The project involves the rejuvenation of an existing board machine with an upgrading of burner type, a result end saw duct collector baghouse, and an additional stucco bin dust collector.

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

Start of Construction 6-1-85 Completion of Conatruction 2-86

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

New Burners and Ducts	$442,000
End Saw Baghouse Dust Collector & Duct	68,000
Stucco	36,000
TOTAL	$546,000

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

A016-31838 Iss. 11-20-80 - Expires 10-31-85

A016-31840 Iss. 11-20-80 - Expires 10-31-85
A016-31843 Iss. 11-20-80 - Expires 10-31-85
A016-20347 Iss. 6-13-79 - Expires 4-30-84

E. Requested permitted equipment operating time: hrs/day 24 ; days/wk 6-2/3 ; wks/yr 52 ;

if power plant, hrs/yr_____; if seasonal, describe:_____

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

1. Is this source in a non-attainment area for a particular pollutant? NO

   a. If yes, has "offset" been applied? _____

   b. If yes, has "Lowest Achievable Emission Rate" been applied? _____

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

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

3. Does the State "Prevention of Significant Deterioriation" (PSD) requirement apply to this source? If yes, see Sections VI and VII. NO

4. Do "Standards of Performance for New Stationary Sources" (NSPS) apply to this source? NO

5. Do "National Emission Standards for Hazardous Air Pollutants" (NESHAP) apply to this source? NO

H. Do "Reasonably Available Control Technology" (RACT) requirements apply to this source? NO

   a. If yes, for what pollutants?_____

   b. If yes, in addition to the information required in this form, any information requested in Rule 17-2.650 must be submitted.

Attach all supportive information related to any answer of "Yes". Attach any 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		
$CaSO_4 \cdot 1/2\ H_2O$	Particulate		80,000	B1-J
"	"		270	B5

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

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

2. Product Weight (lbs/hr): _____

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	
*Particulate	0.24	1.0	***	***			3-Exhausts
SO_2	0.03	0.12					BD-1
NO_x	0.39	1.62					BD-2
CO	1.68	7.00					BD-3
VOC	0.13	0.56					
**Particulate	0.75	3.11		2.31			B1-J & B-5

[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).

*TSP - Total for Combustion

**TSP - Total for Process - Two Dust Collectors

*** - See Attached

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)
For Both Dust Collectors				
Flex Kleen or				
Equivalent	Particulate	99.9%	1 - 512	Design
	$CaSO_4 \cdot 1/2\ H_2O$			Specifications
	SEE ATTACHMENTS			

E. Fuels

Type (Be Specific)	Consumption*		Maximum Heat Input (MMBTU/hr)
	avg/hr	max./hr	
Natural Gas	0.043 MMCF/Hr.	0.048 MMCF/Hr.	50×10^6 BTU/Hr.

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

Fuel Analysis: Only Natural Gas Used.

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.

All solid waste as dust is disposed of on our raw material pile and re-used in our system as a raw material.

SEE ATTACHED SHEETS - 6A and 6B

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

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

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

Water Vapor Content: _____ % Velocity: _____ FPS

SECTION IV: INCINERATOR INFORMATION

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 _____ DSCFM* Velocity: _____ FPS

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

Type of pollution control device: [ ] Cyclone [ ] Wet Scrubber [ ] Afterburner

[ ] Other (specify) _____

WET END EXHAUST - BD-1

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

Stack Height: 31' - 0" ft. Stack Diameter: 3'-1½" X 2' - 7" ft.

Gas Flow Rate: 17,428 ACFM -- DSCFM Gas Exit Temperature: 315 °F.

Water Vapor Content: .087 $\frac{Lbs.H_2O}{Lbs.Air}$ % Velocity: 36.0 FPS

WET CENTER EXHAUST - BD-2

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

Stack Height: 30' - 0" ft. Stack Diameter: 3'-1½" X 2' - 7" ft.

Gas Flow Rate: 21,707 ACFM -- DSCFM Gas Exit Temperature: 339 °F.

Water Vapor Content: .15 $\frac{Lbs.H_2O}{Lbs.Air}$ % Velocity: 44.7 FPS

DRY END EXHAUST - BD-3

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

Stack Height: 38' - 6" ft. Stack Diameter: 2'-11" X 3' - 11" ft.

Gas Flow Rate: 29,927 ACFM -- DSCFM Gas Exit Temperature: 218 °F.

Water Vapor Content: .11 $\frac{Lbs.H_2O}{Lbs.Air}$ % Velocity: 43.3 FPS

#3 STUCCO BIN DUST COLLECTOR - B1-J)

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

Stack Height: 60 ft. Stack Diameter: 19" X 15" ft.

Gas Flow Rate: 3,000 ACFM -- DSCFM Gas Exit Temperature: 200 °F.

Water Vapor Content: % Velocity: 25.3 FPS

Design Efficiency: 99.9% Air to Cloth Ratio: 4.0/1

TOTAL CLOTH AREA: 678 Square Feet

END SAW DUST COLLECTOR - B-5

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

Stack Height: 23 ft. Stack Diameter: 19" X 15" ft.

Gas Flow Rate: 6,000 ACFM _____ DSCFM Gas Exit Temperature: AMBIENT °F.

Water Vapor Content: AMBIENT % Velocity: 42.1 FPS

DESIGN EFFICIENCY: 99.9% AIR TO CLOTH RATIO: 4/1

TOTAL CLOTH AREA: 1,256

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

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

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

Water Vapor Content: _____ % Velocity: _____ FPS

Brief description of operating characteristics of control devices: _____

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

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

SECTION V: SUPPLEMENTAL REQUIREMENTS

Please provide the following supplements where required for this application.

1. Total process input rate and product weight -- show derivation [Rule 17-2.100(127)]

2. To a construction application, attach basis of emission estimate (e.g., design calculations, design drawings, pertinent manufacturer's test data, etc.) and attach proposed methods (e.g., FR Part 60 Methods 1, 2, 3, 4, 5) to show proof of compliance with applicable standards. To an operation application, attach test results or methods used to show proof of compliance. Information provided when applying for an operation permit from a construction permit shall be indicative of the time at which the test was made.

3. Attach basis of potential discharge (e.g., emission factor, that is, AP42 test).

4. With construction permit application, include design details for all air pollution control systems (e.g., for baghouse include cloth to air ratio; for scrubber include cross-section sketch, design pressure drop, etc.)

5. With construction permit application, attach derivation of control device(s) efficiency. Include test or design data. Items 2, 3 and 5 should be consistent: actual emissions = potential (1-efficiency).

6. An 8 1/2" x 11" flow diagram which will, without revealing trade secrets, identify the individual operations and/or processes. Indicate where raw materials enter, where solid and liquid waste exit, where gaseous emissions and/or airborne particles are evolved and where finished products are obtained.

7. An 8 1/2" x 11" plot plan showing the location of the establishment, and points of airborne emissions, in relation to the surrounding area, residences and other permanent structures and roadways (Example: Copy of relevant portion of USGS topographic map).

8. An 8 1/2" x 11" plot plan of facility showing the location of manufacturing processes and outlets for airborne emissions. Relate all flows to the flow diagram.

9. The appropriate application fee in accordance with Rule 17-4.05. The check should be made payable to the Department of Environmental Regulation.

10. With an application for operation permit, attach a Certificate of Completion of Construction indicating that the source was constructed as shown in the construction permit.

SECTION VI: BEST AVAILABLE CONTROL TECHNOLOGY

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

[ ] Yes [ ] No

Contaminant	Rate or Concentration

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

. 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:

. 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 available, 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 yesr 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

8. 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.

JACKSONVILLE

#1 MACHINE

Heat Rate 50 X 10^6 BTU/Hour (Natural Gas Only)
Estimated Hours 8332.8 Hours/Year
Assume H.V. = 1050 BTU/$Ft.^3$
(50 X 10^6 BTU/Hr.) (1050 BTU/$Ft.^3$) = 0.048 X 10^6 $Ft.^3$/Hr.

A. COMBINATION (Total)

1. TSP. AP42 - (Suppl. 13) - 5 Lb./$10^6Ft.^3$
(0.048 X 10^6 $Ft.^3$/Hr.) X (5 Lb./$10^6Ft.^3$) =
.24 Lb./Hr. = 1.0 Tons/Year

2. SO_2 AP-42 - (Suppl. 13) - 0.6#/$10^6Ft.^3$
(0.048 X $10^6Ft.^3$/Hr.) X (0.6#/$10^6Ft.^3$) =
0.03 Lb./Hr. = 0.12 Tons/Year

3. NO_x Maxon Test Assurance* - 0.0078 Lb./10^6BTU
(50 X 10^6BTU/Hr.) X (0.0078 Lb./10^6BTU) =
0.39 Lb./Hr. = 1.62 Tons/Year

4. CO AP-42 - (Suppl. 13) - 35 Lb./$10^6Ft.^3$
(0.048 X $10^6Ft.^3$/Hr.) X (35 Lb./$10^6Ft.^3$) =
1.68 Lb./Hr. = 7.0 Tons/Year

5. VOC (Non-Methane) AP-42 - (Suppl. 13)
2.8 Lb./$10^6Ft.^3$
(0.048 X $10^6Ft.^3$/Hr.) X (2.8 #/$10^6Ft.^3$) =
0.13 Lb./Hr. = 0.56 Tons/Year

* SEE ATTACHED LETTER

COMBUSTION

4-Burner Banks will exhaust through three stacks.

The BTU Input Is Reflected Below

Exhaust 1 - 14.5 MMBTU or, 14.5/50 = 29%
Exhaust 2 - 17.7 MMBTU or, 17.7/50 = 35.4%
Exhaust 3 - 17.8 MMBTU or, 17.8/50 = 35.6%
100 %

% Total		Exhaust #1 29%	Exhaust #2 35.4%	Exhaust #3 35.6%	TOTAL 100%
TSP	Tons Per Year	0.29	0.35	0.36	1.0
SO_2		0.34	0.043	0.043	0.12
NO_x		0.47	0.57	0.58	1.62
CO		2.03	2.48	2.49	7.00
VOC		0.16	0.20	0.20	0.56

B. PROCESS TSP

1. Stucco Bin Dust Collector B1-J

Dust Loading - (80,000 Lb./Hr.) X (.01) = 800 Lb./Hr.
Design % Efficiency 99.94%
Design Flow Rate 3000 $Ft.^3$/Min.

(800 Lb./Hr.) X (.0006) = 0.48 Lb./Hr. = 1.99 Tons/Year

(0.48 Lb./Hr.) X (7000 gr./Lb.) X $\frac{1}{3000}$ $Ft.^3$/Min.)
X ($\frac{1}{60}$ Min./Hr.) = 0.019 Gr./$Ft.^3$

2. End Saw Dust Collector B-5

a. End Saw Loading (Automatic Operation)

Line Speed 80 Ft./Min.
1/2 TESR
Cut Maximum Total - 1/2"

($\frac{.5}{2}$)X(80 Ft./Min.)X(60 Min./Hr.)X($\frac{1Ft.}{12\ In.}$)X
(1.8 Lb./$Ft.^2$) = 180 Lbs./Hr.

b. Cut Back Saw Loading (Manual Operation)

Operation Time - 55 Min./Hr.
Maximum - 10 Boards/Min.
Cut Maximum - 1/4"

(10 Boards) X (.25") X (4 Ft. Wide) X
($\frac{1\ Ft.}{12\ In.}$) X 1.8 Lb./$Ft.^2$) X (55 Min./Hr.) = 82.5 Lb./Hr.

Assume 85 Lb./Hr.

c. Estimate Mixer Vent @5 Lb./Hr.- Loading Rate

d. Total Emission Rate

Design % Efficiency - 99.9%

180 Lb./Hr. + 85 Lb./Hr. + 5 Lb./Hr. = 270 Lbs./Hr.

270 Lbs./Hr. X .001 = .27 Lb./Hr. = 1.12 Tons/Year

ADDENDUM

Potential PM Emissions

1. Stucco Bin Dust Collector (B1-J)

$$3000 \frac{Ft.^3}{Min.} * 0.03 \frac{Grains}{Ft.^3} * \frac{60\ Min.}{Hr.} * \frac{1\ Lb.}{7000\ Grains} = 0.771\ Lbs./Hr.$$

$$0.771\ Lbs./Hr. * 24\ Hrs./Day * 347\ Days/Year * \frac{1\text{-}Ton}{2000\ Lbs.} = 3.210 \frac{Tons}{Year}$$

2. End Saw Dust Collector (B-5)

$$6000 \frac{Ft.^3}{Min.} * 0.03 \frac{Grains}{Ft.^3} * 60 \frac{Min.}{Hr.} * \frac{1\ Lb.}{7000\ Grains} = 1.543\ Lbs./Hr.$$

$$1.543\ Lbs./Hr. * 24\ Hrs./Day * 347 \frac{Days}{Year} * \frac{1\ Ton}{2000\ Lbs.} = 6.425 \frac{Tons}{Year}$$

MAXON
CORPORATION

MUNCIE, INDIANA 47302
TEL (317) 284-3304 · TELEX 27-392

MAXON

Industrial Combustion Equipment and Valves

Address reply to
80 RIVER OAKS, SUITE 206
CALUMET CITY, ILLINOIS 60409
Chicago Phone (312) 264-8511
Telex 253-165

October 14, 1980

U. S. Gypsum Company
101 South Wacker Drive
Chicago, Illinois 60606

Attention: Mr. Herb Martin

SUBJECT: NO_x ESTIMATES

Reference: Your Jacksonville, Florida Board Dryer

Dear Mr. Martin:

We appreciate this opportunity to work with you regarding combustion equipment with low NO_x generation.

As we've discussed, in reference to the Jacksonville application; although we have no control over your total system NO_x discharge, we feel the AIRFLO burner will yield no more than 10 ppm differential NO_x (NO_x across the burner, or added by the burner). This, of course, is largely dependent on proper burner installation, adjustment and operation.

If my figures correlate with those we discussed during our last meeting, this would amount to approximately .0078 lbs. NO_x per one million BTU.

Thanks again for this opportunity to be of service.

Sincerely,

MAXON CORPORATION

RICH RUBLE

RR:jn

In my discussion with Fred Schooley, he requested that, on the main letter, no reference be made to other contingencies (re: testing, etc.) As we've discussed, we do plan to conduct tests where we'll closely duplicate your operating conditions, to determine just how low a NO_x level can be obtained. This will also allow us to ascertain if there are any unforeseen factors which might affect our estimate of NO_x levels.

MAXON CORPORATION

We plan to do this testing during the first week in November, and would be pleased to have you and your associates come to our plant in Muncie, Indiana to witness our findings.

Dick Rubb

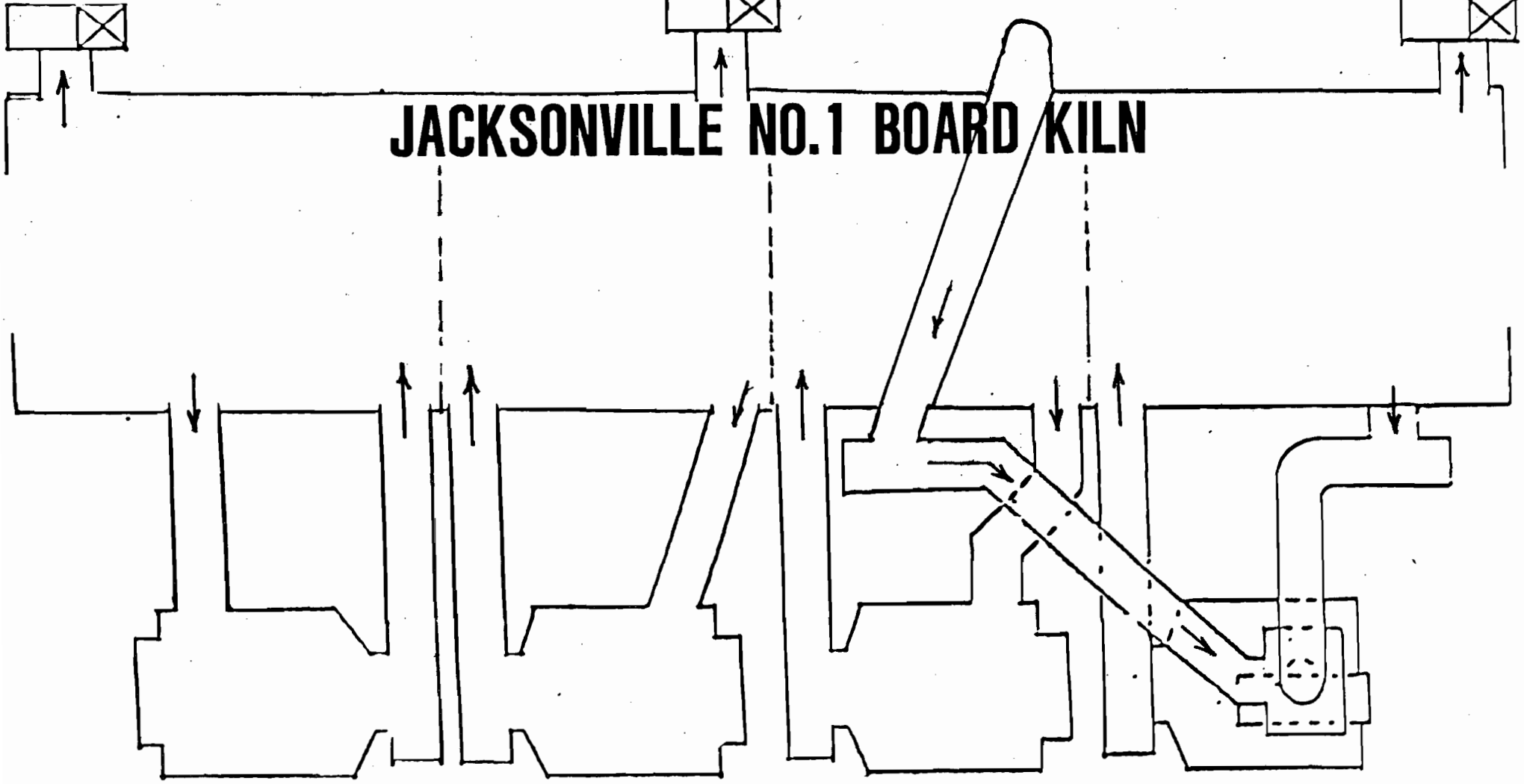
cc: T. R. Wanthal - Muncie

STACK HEIGHT 31'- 0"
VELOCITY 2159 FEET/MIN

STACK HEIGHT 30'- 0"
VELOCITY 2680 FEET/MIN

STACK HEIGHT 38'- 6"
VELOCITY 2600 FEET/MIN

JACKSONVILLE NO.1 BOARD KILN



2/20/85

STUCCO DUST COLLECTOR

#3 BIN VENT

CONTROL EQUIPMENT DATA

Manufacturer	Flex-Kleen or equal
Model Name and Number	To be determined
Type	Bin Vent Baghouse
Design Flow Rate	3000 ACFM
Efficiency Rating at Design Capacity	99.4% Minimum
Pressure Drop Through Bags	3 - 4" W.C.
Gas Flow Rate	
Air To Cloth Ratio Design	4.0/1
Bag Material	16 Oz. Dacron
Gas Temperature	160° - 200°F
Pulse Air Pressure	80 - 100 PSI
Grain Loading Input 512 Microns to 0.35 Microns	30.9 Grains/CFM
Grain Loading Output 30.9*(1 - .9994)=0.0185	.02 Grains/CFM*

* Refer to attached letter from Mills-Winfield Engineering Sales, Inc. Dated February 19, 1985

NOTES:
REMOVE ALL BURRS AND UNNECESSARY SHARP CORNERS.
TOLERANCES ON DIMENSIONS FOR MACHINING OPERATIONS ARE + OR − .010" UNLESS OTHERWISE SPECIFIED. DO NOT SCALE DRAWING.

UNITED STATES GYPSUM CO.

JACKSONVILLE — CHICAGO, ILL.

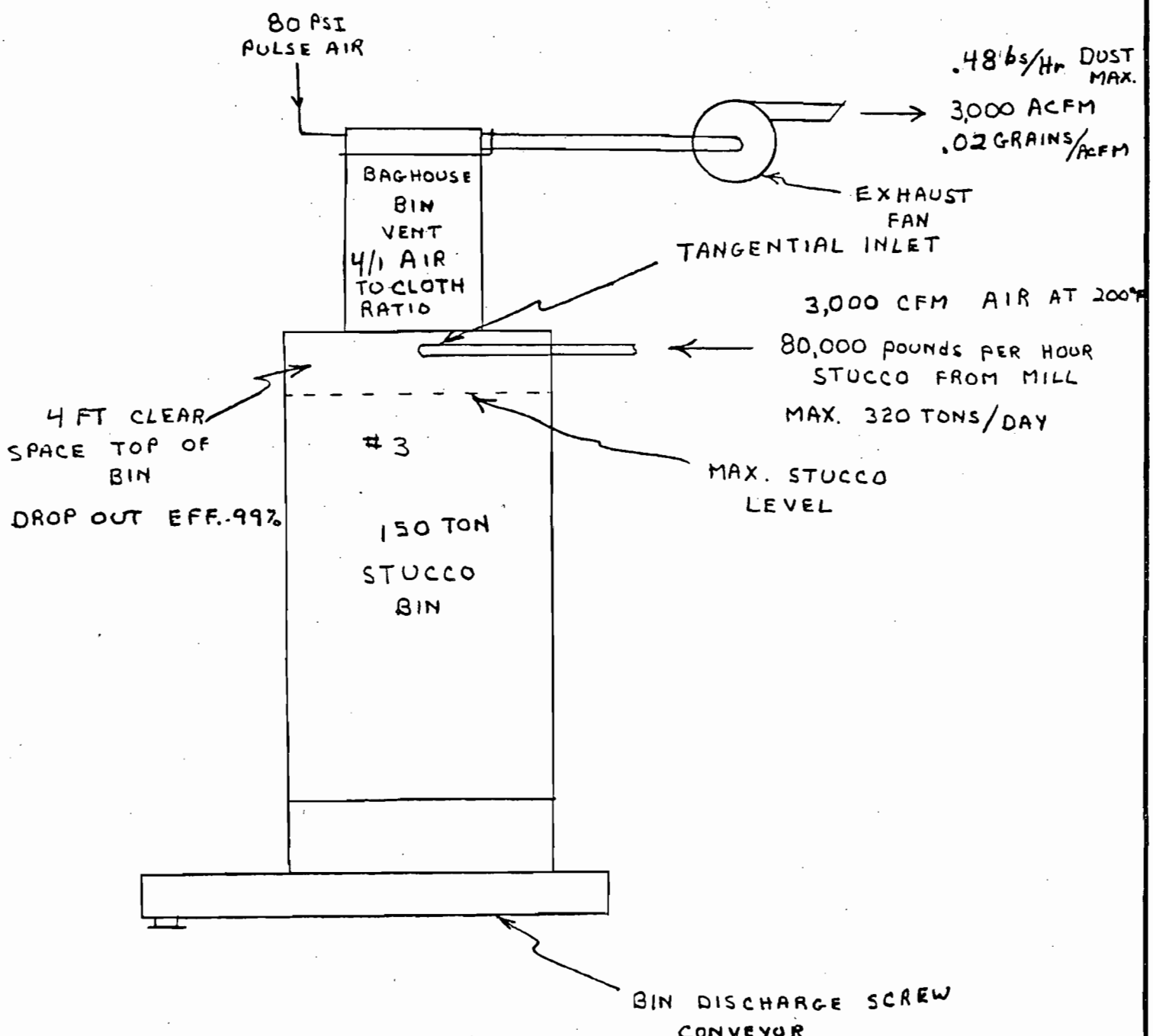
#3 BIN DUST COLLECTOR

FLOW DIAGRAM

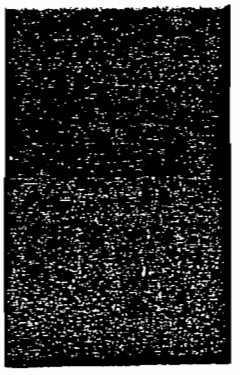
SKETCH NO.

AUTH.	
DATE	2-7-85
DR.	R. L. NELSON
CK.	
SCALE	NONE

REVISIONS	REVISIONS



REQ. NO.	APPROVED	PRINT ISSUED	



industrial process equipment

MILLS-WINFIELD
Engineering Sales, inc.

2 N. RIVERSIDE PLAZA / CHICAGO, ILLINOIS 60606

(312) 648-1373

February 19, 1985

U. S. Gypsum Co.
101 S Wacker Dr.
Chicago, IL 60606

Attn: Mr. Robert Nelson, Division Engr.

Subject: Jacksonville, Florida - Flex-Kleen Bin Vent Collector

Dear Bob:

We have reviewed the particle size analysis data. We note that some 5% by weight of the material is less than one micron in size. You have indicated 3,000 acfm with a 32 grain loading and a 200°F. maximum temperature.

Flex-Kleen is comfortable that an emission rate less than .01 grains per acfm will be obtained. As the coarser material builds up on the bag, the permeability of the fabric alone is quickly superseded. The result is that the finer fraction is effectively collected.

On such an application we prefer to run with a slightly higher pressure drop across the bags than would otherwise be tolerated. By the same token, bag cleaning is done less assiduously so that we have some remainder cake to continue to assist in trapping the finer particles.

The foregoing is based on our many years of experience in collecting gypsum dust in various applications with your company, plus conversations with the chief engineer of Flex-Kleen on this specific subject.

Please let us know what other information would be helpful to you. We look forward to quoting the specific collector as soon as requested by you.

Yours very truly,

MILLS-WINFIELD ENGINEERING SALES, INC.
Representing Flex-Kleen Corp.

Cal

Roland B. Calhoun

cc Mr. J. E. Riley - USG - Purch. Dept.

END SAW DUST COLLECTOR

CONTROL EQUIPMENT DATA

Manufacturer	Flex-Kleen or equal
Model and Name	To be determined
Type	Baghouse
Design Flow Rate	6000 ACFM
Efficiency Rating at Design Capacity	99.9% Minimum
Pressure Drop Through Bags	3 - 4" W.C.
Gas Flow Rate	6000 CFM
Air To Cloth Ratio	4/0
Bag Material	16 Oz. Dacron Felt
Gas Temperature	Ambient
Pulse Air Pressure	80 - 100 PSI
Grains Loading Input (Average)	5.25 Grains/CFM
Grains Loading Output (Averate	.0052 Grains/CFM

NOTES:
REMOVE ALL BURRS AND UNNECESSARY SHARP CORNERS.
TOLERANCES ON DIMENSIONS FOR MACHINING OPERATIONS ARE + OR - .010" UNLESS OTHERWISE SPECIFIED. DO NOT SCALE DRAWING.

UNITED STATES GYPSUM CO.

JACKSONVILLE CHICAGO, ILL.

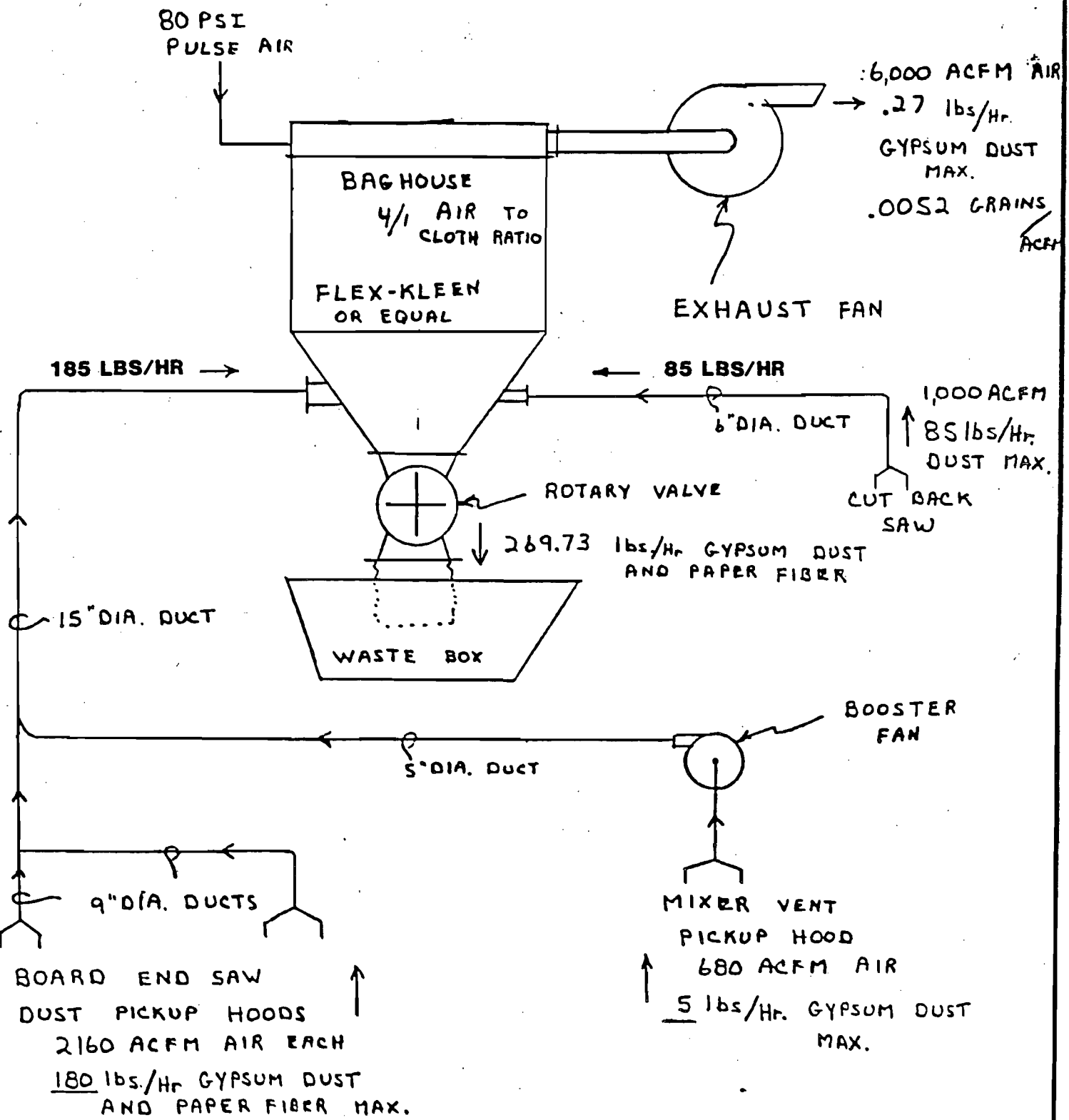
#1 LINE END SAW DUST COLLECTOR

FLOW DIAGRAM

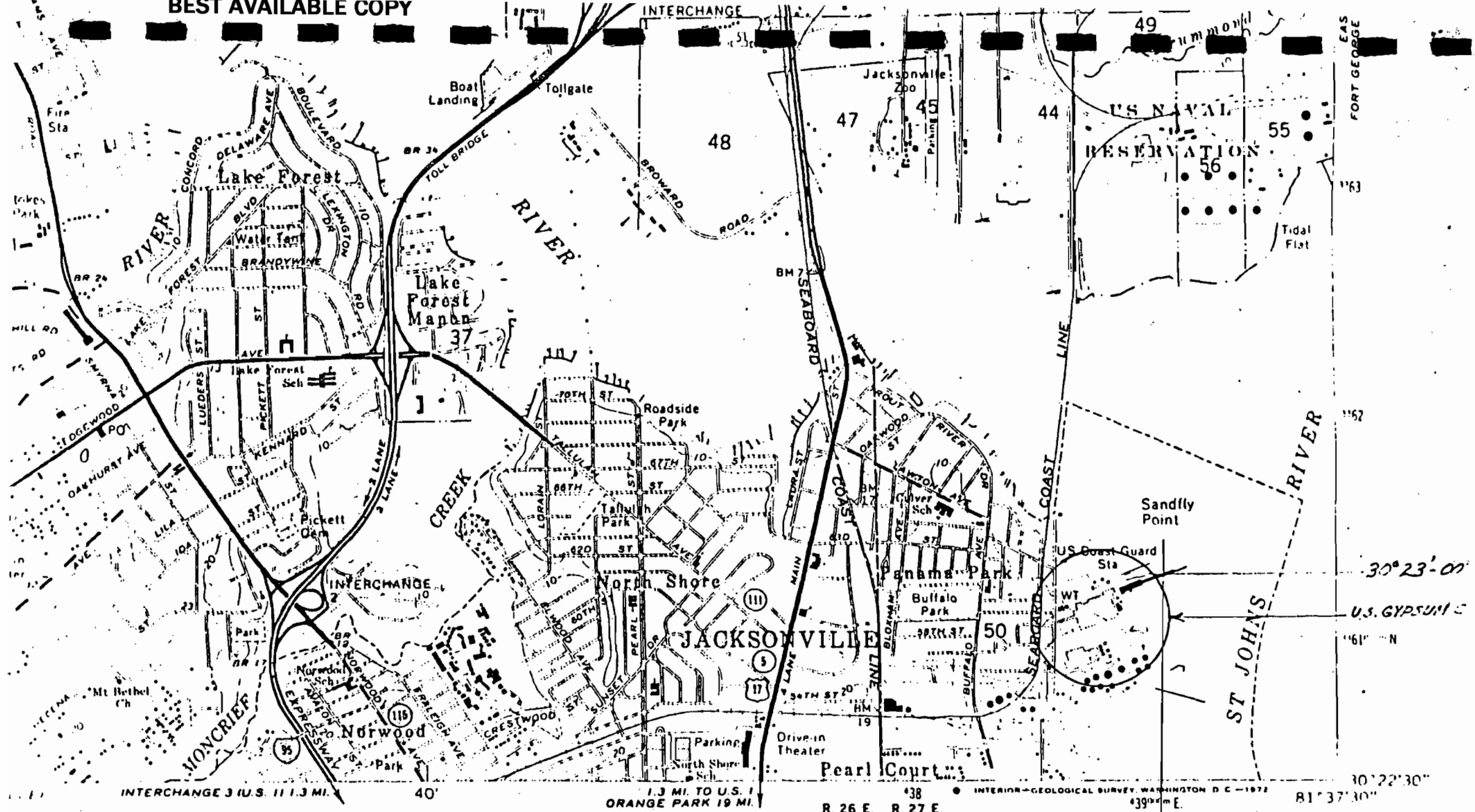
SKETCH NO.

AUTH.	
DATE	2-5-85
DR.	R.L. NELSON
CK.	
SCALE	NONE

REVISIONS	REVISIONS



EQ. NO.	APPROVED	PRINT ISSUED	



1 MILE

1000 FEET

1 KILOMETER

10 FEET

MEAN LOW WATER

MEAN HIGH WATER

ROAD CLASSIFICATION

Heavy-duty

Light-duty

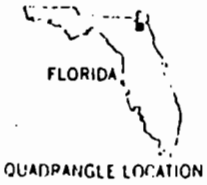
Medium-duty

Unimproved dirt

Interstate Route

U.S. Route

State Route



QUADRANGLE LOCATION

TROUT RIVER, FLA.

N3022.5—W8137.5/7.5

1964

PHOTOREVISED 1972

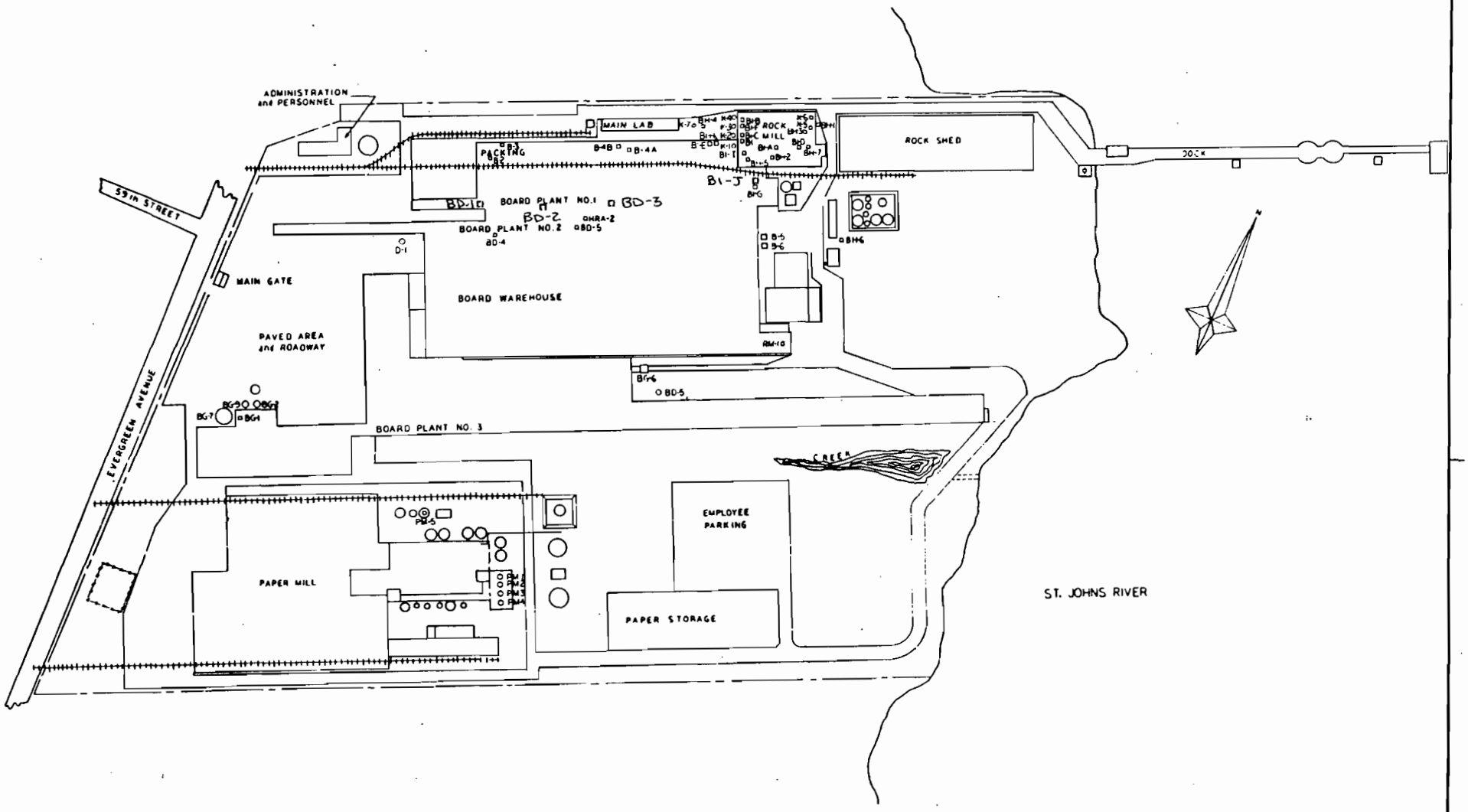
AMS 4644 I NW—SERIES V794

ACY STANDARDS

WASHINGTON, D. C. 20242

SYMBOLS IS AVAILABLE ON REQUEST

553 J



					NOTES:	DRAWN BY	D. KOSCIELNIAK	10/84
						CHECKED BY		
						APPROVED BY		
						SCALE	1" = 80'-0"	

UNITED STATES GYPSUM CO. CHICAGO, ILL.

UNITED STATES GYPSUM COMPANY
AIR POLLUTION SOURCES

553 J-A

REV. 0