

Florida Department of Environmental Regulation

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

Lawton Chiles, Governor

Carol M. Browner, Secretary

October 9, 1992

CERTIFIED MAIL - RETURN RECEIPT REQUESTED

Mr. Michael J. Hollander
Corporate Environmental Manager
E.R. Carpenter Company, Inc.
M.H. Reinhart Technical Center
P.O. Box 34526
Richmond, Virginia 23234

Dear Mr. Hollander:

Re: AC 53-176858 Polystyrene Manufacturing Facility
Visible Emission Test

The Department will modify Specific Conditions Nos. 1 and 10A of the above referenced permit as requested. In order to delete Specific Conditions Nos. 3, 5 and 6, E. R. Carpenter Company, Inc. needs to apply for an alternate standard procedure (ASP) to the Bureau of Air Regulation's Emissions Monitoring Section and Compliance Section. Therefore, these Specific Conditions (No. 3, 5 and 6) will not be deleted. This permit is modified as follows:

Specific Condition No. 1

FROM: Allowable VOC (n-pentane) emissions from the entire facility shall not exceed the emission rates listed as follows:

	<u>lbs</u>	<u>tons</u>
Maximum Hourly	132	0.07
Maximum Daily	1,632	0.82
Maximum Annually	255,000	116.3

These emissions shall be verifiable on a daily (24-hr) basis by production records and calculation of the emissions based upon the standard factors for n-pentane content of the raw material and final product. The daily emissions shall be calculated based upon the raw material usage. The factors used for emission calculation shall be: 1) n-pentane content of the raw material is 91% of the manufacturer's Certificate of Analysis, and 2) final product residual is (assumed to be) 15% of the initial n-pentane content of the raw material.

Mr. Michael J. Hollander
October 9, 1992
Page 2 of 5
Amendment to AC 53-176858

TO: Allowable VOC (n-pentane) emissions from the entire facility shall not exceed the emission rates listed as follows:

	<u>lbs</u>	<u>ton</u>
Maximum Hourly	132	0.07
Maximum Daily	1,632	0.82
Maximum Annually	255,000	127.50

These emissions shall be verifiable on a daily (24-hr) basis by production records and calculation of the emissions based upon the standard factors for n-pentane content of the raw material and final product. The daily emissions shall be calculated based upon the raw material usage. The factors used for emission calculation shall be: 1) n-pentane content of the raw material is 91% of the manufacturer's Certificate of Analysis, and 2) final product residual is (assumed to be) 15% of the initial n-pentane content of the raw material.

Specific Condition No. 10

FROM: The permitted materials and utilization rates are as stated in the application. These rates include but are not limited to:

- A. A maximum usage of 3,000 lbs per hour, 32,000 lbs per day, and 5 million lbs per year of expandable polystyrene.
- B. A maximum operating time as follows:
 - 16 hrs/day and 260 days/yr for the expander,
 - 16 hrs/day and 260 days/yr for the mold, and
 - 24 hrs/day and 365 days/yr for the storage bags and block/billet storage area.
- C. A maximum of 3000 lbs/hr of expandable polystyrene inputted to the expander as determined from the daily mass transferred and the daily operating time.
- D. A maximum of 6000 lbs/hr of material (prepuff) transferred from the storage bags to the mold as determined from the daily mass transferred and the daily operating time.

Mr. Michael J. Hollander
October 9, 1992
Page 3 of 5
Amendment to AC 53-176858

Any other operating parameters established during compliance testing and/or inspection that will confirm the proper operation of this facility, may be included in the operating permit.

TO: The permitted materials and utilization rates are as stated in the application. These rates include but are not limited to:

- A. A total maximum expanded polystyrene usage rate of 32,000 lbs/day to the expanders, 32,000 lbs/day to the mold, and 5,000,000 lbs/yr for the facility.
- B. A maximum operating time as follows:
 - 16 hrs/day and 260 days/yr for the expander,
 - 16 hrs/day and 260 days/yr for the mold, and
 - 24 hrs/day and 365 days/yr for the storage bags and block/billet storage area.
- C. A total maximum of 3000 lbs/hr of expandable polystyrene inputted to the **expanders** as determined from the daily mass transferred and the daily operating time.
- D. A total maximum of 6000 lbs/hr of material (prepuff) transferred from the storage bags to the mold as determined from the daily mass transferred and the daily operating time.

Any other operating parameters established during compliance testing and/or inspection that will confirm the proper operation of this facility, may be included in the operating permit.

A person whose substantial interests are affected by the Department's proposed permitting decision may petition for an administrative proceeding (hearing) in accordance with Section 120.57, Florida Statutes. The petition must contain the information set forth below and must be filed (received) in the Office of General Counsel of the Department at 2600 Blair Stone Road, Tallahassee, Florida 32399-2400. Petitions filed by the permit applicant and the parties listed below must be filed within 14 days of receipt of this intent. Petitions filed by other persons must be filed within 14 days of publication of the public notice or within 14 days of their receipt of this intent, whichever

Mr. Michael J. Hollander
October 9, 1992
Page 4 of 5
Amendment to AC 53-176858

first occurs. Petitioner shall mail a copy of the petition to the applicant at the address indicated above at the time of filing. Failure to file a petition within this time period shall constitute a waiver of any right such person may have to request an administrative determination (hearing) under Section 120.57, Florida Statutes.

The Petition shall contain the following information:

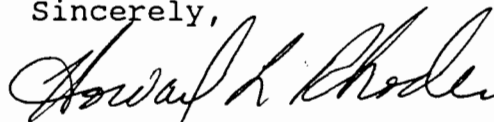
- (a) The name, address, and telephone number of each petitioner, the applicant's name and address, the Department Permit File Number and the county in which the project is proposed;
- (b) A statement of how and when each petitioner received notice of the Department's action or proposed action;
- (c)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

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

This letter must be attached to the above mentioned permit and shall become a part of this permit.

Mr. Michael J. Hollander
October 9, 1992
Page 5 of 5
Amendment to AC 53-176858

Sincerely,



Howard L. Rhodes
Director
Division of Air Resources
Management

HLR/TH/plm

Attachment to be Incorporated:

Mr. Jim McDonald's memo of August 18, 1992

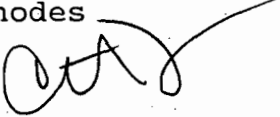
cc: Jim McDonald



State of Florida
DEPARTMENT OF ENVIRONMENTAL REGULATION

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

Interoffice Memorandum

TO: Howard L. Rhodes
FROM: C. H. Fancy 
DATE: October 8, 1992
SUBJ: Modification to Construction Permit AC 53-176858
E.R. Carpenter Company, Inc.

Attached for your approval and signature is a letter modifying the above referenced permit.

After an inspection of this facility, Mr. Jim McDonald, DER-SWD engineer, requested the Division to delete the visible emissions compliance test for this facility (Specific Conditions Nos. 3, 5, and 6). He contends, this test is unnecessary since compliance can be demonstrated through VOC recordkeeping outlined in Specific Conditions Nos. 1 and 4. In addition, Mr. McDonald also requested modifying Specific Condition No. 10A and changing Specific Condition No. 1 to its original status in the construction permit, since this condition basically represents the facility normal operation mode.

The Bureau recommends approval of the amendment to Specific Conditions Nos. 1 and 10A only.

CHF/TH/plm

Attachment

P 062 921 899



Receipt for Certified Mail

No Insurance Coverage Provided
Do not use for International Mail
(See Reverse)

PS Form 3800, June 1991

Send to	Michael Hollander
Street and No.	E. R. Carpenter Co
P.O. or State and ZIP Code	Mt. Reinhardt Tech
Postage	Richmond VA
Certified Fee	
Special Delivery Fee	
Restricted Delivery Fee	
Return Receipt Showing to Whom & Date Delivered	
Return Receipt Showing to Whom, Date, and Addressee's Address	
TOTAL Postage & Fees	\$
Postmark or Date	10-12-92
	AC 53-176858

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.

- Show to whom, date and address of delivery.
- Restricted Delivery.

3. Article Addressed to:
 Michael Hollander
 E. R. Carpenter Co.
 PO Box 34526
 Richmond, VA 23234

4. Type of Service:	Article Number
<input type="checkbox"/> Registered <input type="checkbox"/> Insured	P 062 921 899
<input checked="" type="checkbox"/> Certified <input type="checkbox"/> COD	
<input type="checkbox"/> Express Mail	

Always obtain signature of addressee or agent and **DATE DELIVERED.**

5. Signature - Addressee

Signature - Agent
Diane Smelser

7. Date of Delivery

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



TURN RECEIPT

BEST AVAILABLE COPY



Florida Department of Environmental Regulation

Southwest District • 4520 Oak Park Boulevard • Tampa, Florida 33607-7347
Lillian Lyles, Governor James M. Bronk, Secretary

FACSIMILE TRANSMISSION SHEET

8-24-92
Date

TO: Teresa Heron
Dept.: DARM - BAR
Phone: _____

FROM: Jim McDonald
Dept.: DER, Southwest District
Phone: (813) 620-6100 SunCom 542-6100 EXT. 421

OPERATOR: _____ EXT. _____

SUBJECT: E.R. Converter

Total Number of Pages, Including Cover Page: 1

Specific Condition No 10. A. should also state

"32,000 lbs./day to the expander"

otherwise $3,000 \frac{\text{lbs}}{\text{hr}} \times 16 \frac{\text{hrs}}{\text{day}} = 48,000 \frac{\text{lbs}}{\text{day}}$



BEST AVAILABLE COPY

Florida Department of Environmental Regulation

Southwest District • 4520 Oak Fair Boulevard • Tampa, Florida 33610-7347
Linton Childs, Governor • 813-620-6100 • Carol M. Browner, Secretary

FACSIMILE TRANSMISSION SHEET

8-18-92

Date

TO: Teresa Heron

Dept.: DARM - BAR

Phone: _____

FROM: Jim McDonald

Dept.: DER, Southwest District

Phone: (813) 620-6100 SunCom 542-6100 EXT. 421

OPERATOR: _____ EXT. _____

SUBJECT: E.R. Carpenter AC53-176858

Total Number of Pages, Including Cover Page: 3

Air Program FAX Number is (813) 620-6092
SunCom 542-6092

BEST AVAILABLE COPY

MEMORANDUM

TO: Teresa Heron

FROM: Jim McDonald *JM*

DATE: August 18, 1992

SUBJECT: Comments concerning E.R. Carpenter Co., Inc.'s permit AC53-176858

After reviewing your amendment letter dated July 21, 1992 and further discussions with Mr. Michael J. Hollander this day, I have the following comments:

1. On May 18 1992, Mr. Scott Sheplak of this office and I visited the E.R. Carpenter Co., Inc. and met with Mr. Al Leathers and Mr. Michael J. Hollander. During this meeting I concluded, the facility was stating the manufacturer of the beads only supplies a certificate of the n-pentane in the beads of 6% or less. Which, when the 9% loss (0.91%) is applied along with the 15% retention equates to the 116.025 tons/yr. as mention in my memorandum to you dated June 18, 1992. After further discussions with Mr. Michael J. Hollander this day, I now understand the facility does normally receive certificates with a 6% or less analysis, but may receive an analysis of 6.5% as stated in their application attached to their letter to you dated March 23, 1992. Therefore, since

$$6.5\% \times 0.91 = 5.92 \text{ which is basically } 6\% \text{ and}$$

$$3,000,000 \times 0.06 \times 0.85 \times 1/2000 = 127.5 \text{ TPY,}$$

I recommend your amendment dated July 21, 1992 for Specific Condition No. 1 be changed as follows to reflect this method of emission calculation and correspond to the 255,000 lbs./yr. as shown in the amend table:

	lbs.	tons
Maximum Hourly	132	0.07
Maximum Daily	1,632	0.82
Maximum Ann.	255,000	127.50

BEST AVAILABLE COPY

2. Delete Specific Condition No. 3.
3. Delete Specific Condition No. 5.
4. Delete Specific Condition No. 6.
5. Change Specific Condition No. 10.A. to read as follows:

"A maximum expanded polystyrene usage rate of 32,000 lbs./day to the expander, 32,000 lbs./day to the mold, and 5,000,000 lbs./yr. for the facility."

P 710 058 524



Certified Mail Receipt

No Insurance Coverage Provided
Do not use for International Mail
(See Reverse)

PS Form 3800, June 1990

Sent to <i>Michael J. Hollander</i>	
Street & No. <i>M. H. Reinhardt Tech Ctr</i>	
P.O., State & ZIP Code <i>Richmond, VA</i>	
Postage	\$
Certified Fee	
Special Delivery Fee	
Restricted Delivery Fee	
Return Receipt Showing to Whom & Date Delivered	
Return Receipt Showing to Whom, Date, & Address of Delivery	
TOTAL Postage & Fees	\$
Postmark or Date <i>7-27-92</i> <i>AC53-176858</i>	

SENDER:

- Complete items 1 and/or 2 for additional services.
- Complete items 3, and 4a & b.
- Print your name and address on the reverse of this form so that we can return this card to you.
- Attach this form to the front of the mailpiece, or on the back if space does not permit.
- Write "Return Receipt Requested" on the mailpiece below the article number.
- The Return Receipt Fee will provide you the signature of the person delivered to and the date of delivery.

I also wish to receive the following services (for an extra fee):

1. Addressee's Address
2. Restricted Delivery

Consult postmaster for fee.

3. Article Addressed to:
Michael J. Hollander
Corp. Engr. Mfg.
E.R. Carpenter Co. Inc
M. H. Reinhardt Tech Ctr.
P.O. Box 34526
Richmond, VA 23234

4a. Article Number
P 710 058 524

4b. Service Type
 Registered Insured
 Certified COD
 Express Mail Return Receipt for Merchandise

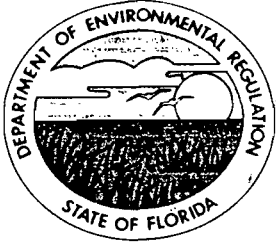
7. Date of Delivery

5. Signature (Addressee)

6. Signature (Agent)

Diane Somelser

8. Addressee's Address (Only if requested and fee is paid)



Florida Department of Environmental Regulation

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

Lawton Chiles, Governor

Carol M. Browner, Secretary

July 21, 1992

CERTIFIED MAIL - RETURN RECEIPT REQUESTED

Mr. Michael J. Hollander
Corporate Environmental Manager
E. R. Carpenter Company, Inc.
M. H. Reinhart Technical Center
P. O. Box 34526
Richmond, Virginia 23234

Dear Mr. Hollander:

Re: AC 53-176858, Polystyrene Manufacturing Facility

The Department acknowledges receipt of your May 28, 1992, letter requesting a modification of Specific Condition No. 1. This request is acceptable since there is no increase of emissions. The permit will be modified as requested. The following will be changed:

Specific Condition No. 1

FROM: Allowable VOC (n-pentane) emissions from the entire facility shall not exceed the emission rates listed as follows:

	<u>lbs</u>	<u>tons</u>
Maximum Hourly	132	0.07
Maximum Daily	1,632	0.82
Maximum Annually	255,000	127.50

These emissions shall be verifiable on a daily (24-hr) basis by production and analysis of the raw material and product for n-pentane.

TO: Allowable VOC (n-pentane) emissions from the entire facility shall not exceed the emission rates listed as follows:

	<u>lbs</u>	<u>tons</u>
Maximum Hourly	132	0.07
Maximum Daily	1,632	0.82
Maximum Annually	255,000	116.3

These emissions shall be verifiable on a daily (24-hr) basis by production records and calculation of the emissions based upon the standard factors for n-pentane content of the raw

Mr. Michael J. Hollander
Page 2 of 4
July 21, 1992
Amendment to AC 53-176858

material and final product. The daily emissions shall be calculated based upon the raw material usage. The factors used for emission calculation shall be: 1) n-pentane content of the raw material is 91% of the manufacturer's Certificate of Analysis, and 2) final product residual is (assumed to be) 15% of the initial n-pentane content of the raw material.

Specific Condition No. 4

FROM: Compliance with the VOC emission limitations shall be determined by materials balance. At a minimum, the daily records shall include the amount of expandable polystyrene to the expander, the amount of material (prepuff) to the mold, a VOC analysis (pentane content) of the raw material and product, quantity of beads processed, and the operating time of the expander and mold. From this information, VOC emission rates can be demonstrated to the Department in the same manner as the emission values submitted with the application. Daily record keeping shall be kept and retained on file for at least 3 years.

TO: Compliance with the VOC emission limitations shall be determined by materials balance. At a minimum, the daily records shall include the amount of expandable polystyrene to the expander, the amount of material (prepuff) to the mold, the quantity of beads processed, and the operating time of the expander and mold. From this information, VOC emission rates can be demonstrated to the Department in the same manner as the emission values submitted with the application. Daily record keeping shall be kept and retained on file for at least 2 years. In addition, at the end of each month, the permittee shall determine the cumulative 12 month total of VOC emissions from this facility. These records shall be kept for a minimum of two (2) years for Department inspections.

A person whose substantial interests are affected by the Department's proposed permitting decision may petition for an administrative proceeding (hearing) in accordance with Section 120.57, Florida Statutes. The petition must contain the information set forth below and must be filed (received) in the Office of General Counsel of the Department at 2600 Blair Stone Road, Tallahassee, Florida 32399-2400. Petitions filed by the permit applicant and the parties listed below must be filed within 14 days of receipt of this intent. Petitions filed by other persons must be filed within 14 days of publication of the public

Mr. Michael J. Hollander
Page 3 of 4
July 21, 1992
Amendment to AC 53-176858

notice or within 14 days of their receipt of this intent, whichever first occurs. Petitioner shall mail a copy of the petition to the applicant at the address indicated above at the time of filing. Failure to file a petition within this time period shall constitute a waiver of any right such person may have to request an administrative determination (hearing) under Section 120.57, Florida Statutes.

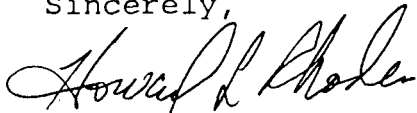
The Petition shall contain the following information:

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

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

Mr. Michael J. Hollander
Page 4 of 4
July 21, 1992
Amendment to AC 53-176858

Sincerely,



Howard L. Rhodes
Interim Director
Division of Air Resources
Management

HLR/TH/plm

Attachment to be Incorporated:

Mr. Michael J. Hollander's letter of May 28, 1992

cc: Jim McDonald, SWD

E. R. CARPENTER COMPANY, INC.

M. H. REINHART TECHNICAL CENTER

P. O. BOX 34526

RICHMOND, VIRGINIA 23234

TELEPHONE: (804) 233-0606

FAX: (804) 233-7741

RECEIVED

JUN 05 1992



CARPENTER

Division of Air
Resources Management

CERTIFIED MAIL - RETURN RECEIPT REQUESTED - P 924 566 965

May 28, 1992

Florida Department of Environmental Regulation
Twin Towers Office Building
2600 Blair Stone Rd.
Tallahassee, FL 32399

Attn: Ms. Teresa Heron
Air Permit Engineer

RE: AC 53-176858, Polystyrene Manufacturing Facility

Dear Ms. Heron:

This letter is in response to Mr. Steve Smallwood's letter of April 28, 1992 which modified the conditions of the previously issued construction permit (based upon information supplied in my letter of March 23, 1992).

There is one section of Specific Condition No. 1 which requires clarification and/or modification. The last paragraph states "These emissions shall be verifiable on a daily (24-hr) basis by production and analysis of the raw material and product for n-pentane."

It was never our intent nor is there any practical way that daily analysis for n-pentane content of raw material and product can be performed.

As indicated in the explanation of the methods to calculate emissions, pentane content of the raw material is taken to be 9% of the level indicated on the manufacturer's Certificate of Analysis (based upon sampling done at several other E. R. Carpenter Co., Inc. facilities). EPS manufacturing facilities are not equipped to perform the sophisticated chemical analysis required to determine the n-pentane content of the raw material. Our intent has always been to rely on the manufacturer's Certificate of Analysis, and to check yearly at some of our locations to assure there has not been a major change.

Daily analysis of finished product to determine n-pentane content is also not feasible. The final product is a block of expanded polystyrene that measures 24 feet long, by 3.5 feet wide by 4 feet high. To get an accurate analysis of the n-pentane content of the block, several samples must be taken from various locations within the block; this will result in the block being unusable for manufacturing the final product. In addition, the facility manufactures product with final densities ranging from .75 pounds

per cubic foot to 2.0 pounds per cubic foot. Each of these products will have a different residual n-pentane content. Also, the daily output of blocks (and finished board) does not always equal the daily input of raw materials (the process requires intermediate storage and aging of pre-puff beads prior to molding and blocks prior to cutting).

Based upon information from testing at other facilities and the USEPA publication "Control of VOC Emissions from Polystyrene Foam Manufacturing", (EPA-450/3-90-020), the average residual content in the final product is 15% of the initial pentane level. Again, our intent has been to rely on this "average" residual for calculation of emissions. Daily testing of the final product, as indicated by Special Condition No. 1, would result in either total inability to produce product, due to the need for 100% sampling, or erroneous results, due to selective sampling from the variety of products manufactured.

We are requesting that the last paragraph of Special Condition No. 1 be modified to state that: "These emissions shall be verifiable on a daily (24-hr) basis by production records and calculation of the emissions based upon the standard factors for n-pentane content of the raw material and final product. The daily emissions shall be calculated based upon the raw material usage. The factors used for emission calculation shall be: 1) n-pentane content of the raw material is 91% of the manufacturer's Certificate of Analysis, and 2) final product residual is (assumed to be) 15% of the initial n-pentane content of the raw material."

Jim McDonald, Permit Engineer, from the FL-DER Office in Tampa has recently visited the facility and can provide verification that the current requirements as indicated in Special condition No. 1, are unreasonable and impossible to comply with.

If you have any questions about these requested modifications to the Permit, please contact me at (804) 233-0606.

Sincerely,



Michael J. Hollander
Corporate Environmental Manager



State of Florida
DEPARTMENT OF ENVIRONMENTAL REGULATION

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

Interoffice Memorandum

TO: Howard L. Rhodes
FROM: *for* Clair Fancy *JKP*
DATE: July 15, 1992
SUBJ: Amendment to Construction Permit AC 53-176858
E. R. Carpenter Company, Inc.

Attached for your approval and signature is a letter amending Specific Conditions Nos. 1 and 4 for the above referenced construction permit.

The Bureau recommends approval of this amendment.

CF/TH/plm

Attachment

~~FR~~ 2 PM 3/29

Check Sheet

Company Name: *Carpenter Insulation Co*
Permit Number: *A-C03-176858*
PSD Number:
County: *Polk*
Permit Engineer: *Barry Andrews*
Others involved:

Application:

- Initial Application
- Incompleteness Letters
- Responses
- Final Application (if applicable)
- Waiver of Department Action
- Department Response

Intent:

- Intent to Issue
- Notice to Public
- Technical Evaluation
- BACT Determination
- Unsigned Permit

Attachments:

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

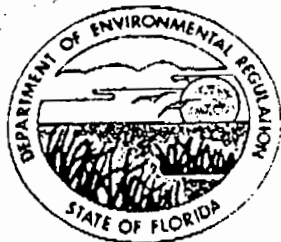
Final Determination:

- Final Determination
- Signed Permit
- BACT Determination

Post Permit Correspondence:

- Extensions
- Amendments/Modifications
- Response from EPA
- Response from County
- Response from Park Services

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Florida Department of Environmental Regulation

Southwest District • 4520 Oak Fair Boulevard • Tampa, Florida 33610-7347
Lawton Chiles, Governor 813-620-6100 Carol M. Browner, Secretary

FACSIMILE TRANSMISSION SHEET

6-18-92
Date

TO: Teresa Heron

Dept.: DARM - BAR

Phone: _____

FROM: JIM Mc DONALD

Dept.: DER, Southwest District

Phone: (813) 620-6100 SunCom 542-6100 EXT. 421

OPERATOR: _____ EXT. _____

SUBJECT: Comments for E.R. Carpenter

Total Number of Pages, Including Cover Page: 2

Call me if you have questions

BEST AVAILABLE COPY

MEMORANDUM

TO: Teresa Heron

FROM: Jim McDonald *JM*

DATE: June 18, 1992

SUBJECT: Comments concerning E.R. Carpenter Co., Inc.'s
permit AC53-176858.

After reviewing E.R. Carpenter Co., Inc.'s letter dated May 28, 1992 I have the following comments:

- Handwritten mark*
1. Based on their requested emission calculation method, allowable emissions should be decreased. For example:

Previous: $5,000,000 \times 0.06 \times 0.85 \times 1/2000 = 127.5$ TPY

Now: $5,000,000 \times 0.06 \times 0.91 \times 0.85 \times 1/2000 = 116.025$ TPY

- set in op. permit*
2. Change project description to state there are 2 expanders each operates at a maximum of 1500 lbs./hr.

Note: Each expander is allowed to operate 16 hrs./day.

- is already there*
3. Add a recordkeeping condition that requires at the end of each month a cumulative 12 month total of VOC emissions.

4. In Specific Condition No. 4 delete "a VOC analysis (pentane content) of the raw material and product".

5. ~~Specific Condition No. 3 delete.~~

6. ~~Specific Condition No. 5 delete.~~

7. ~~Specific Condition No. 6 delete.~~

P 710 058 459



Certified Mail Receipt

No Insurance Coverage Provided
Do not use for International Mail
(See Reverse)

Michael Hollander	
Street & No. ER Carpenter Co	
P.O., State & ZIP Code M.H. Reinhart Tech	
Postage	Richmond, VA
Certified Fee	
Special Delivery Fee	
Restricted Delivery Fee	
Return Receipt Showing to Whom, & Date Delivered	
Return Receipt Showing to Whom, Date, & Address of Delivery	
TOTAL Postage & Fees	\$
Postmark or Date	AC 53-176 4-29-92 858

PS Form 3800, June 1990

wish to receive the following services (for an extra fee):

- 1. Addressee's Address
- 2. Restricted Delivery

Consult postmaster for fee.

- Write "Return Receipt Requested" on the mailpiece below the article number.
- The Return Receipt Fee will provide you the signature of the person delivered to and the date of delivery.

3. Article Addressed to:

Michael G. Hollander
 ER Carpenter Co., Inc
 M.H. Reinhart Tech. Ctr.
 P.O. Box 34526
 Richmond, VA 23234

4a. Article Number

D 710 058 459

4b. Service Type

- Registered
- Certified
- Express Mail
- Insured
- COD
- Return Receipt for Merchandise

7. Date of Delivery

5-4-92

5. Signature (Addressee)

6. Signature (Agent)

Deane Smelcer

8. Addressee's Address (Only if requested and fee is paid)

Department of Environmental Regulation
Routing and Transmittal Slip

To: (Name, Office, Location)

1. *Steve Smallwood*

2.

3.

4.

Remarks:

permit amendment. OK to sign

From:

Cher

Date

4/27

Phone



Florida Department of Environmental Regulation

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

Lawton Chiles, Governor

Carol M. Browner, Secretary

April 28, 1992

CERTIFIED MAIL - RETURN RECEIPT REQUESTED

Mr. Michael J. Hollander
Corporate Environmental Manager
E. R. Carpenter Company, Inc.
M. H. Reinhart Technical Center
P. O. Box 34526
Richmond, Virginia 23234

Dear Mr. Hollander:

Re: AC 53-176858, Polystyrene Manufacturing Facility

The Department acknowledges receipt of your March 23, 1992, letter requesting an extension of the expiration date, a change in the transfer process rate, and a decrease in the maximum hourly emissions of the above mentioned permit. This request is acceptable since there is no increase of emissions as a result of the proposed process rate. The permit will be modified as requested. The following will be changed:

Expiration Date

FROM: May 30, 1992
TO: August 30, 1992

Specific Condition No. 1

FROM: Allowable VOC (n-pentane) emissions from the entire facility shall not exceed the emission rates listed as follows:

	lbs	tons
Maximum Hourly	153	0.07
Maximum Daily	1,632	0.82
Maximum Annually	255,000	127.50

These emissions shall be verifiable on a daily (24-hr) basis by production and analysis of the raw material and product for n-pentane.

TO: Allowable VOC (n-pentane) emissions from the entire facility shall not exceed the emission rates listed as follows:

	<u>lbs</u>	<u>tons</u>
Maximum Hourly	132	0.07
Maximum Daily	1,632	0.82
Maximum Annually	255,000	127.50

These emissions shall be verifiable on a daily (24-hr) basis by production and analysis of the raw material and product for n-pentane.

Specific Condition No. 10

FROM: The permitted materials and utilization rates are as stated in the application. These rates include but are not limited to:

- A. A maximum usage of 3,000 lbs per hour, 32,000 lbs per day, and 5 million lbs per year of expandable polystyrene.
- B. A maximum operating time as follows:
 - 16 hrs/day and 260 days/yr for the expander,
 - 16 hrs/day and 260 days/yr for the mold, and
 - 24 hrs/day and 365 days/yr for the storage bags and block/billet storage area.
- C. A maximum of 3000 lbs/hr of expandable polystyrene inputted to the expander as determined from the daily mass transferred and the daily operating time.
- D. A maximum of 3000 lbs/hr of material (prepuff) transferred from the storage bags to the mold as determined from the daily mass transferred and the daily operating time.

Any other operating parameters established during compliance testing and/or inspection that will confirm the proper operation of this facility, may be included in the operating permit.

TO: The permitted materials and utilization rates are as stated in the application. These rates include but are not limited to:

- A. A maximum usage of 3,000 lbs per hour, 32,000 lbs per day, and 5 million lbs per year of expandable polystyrene.
- B. A maximum operating time as follows:
 - 16 hrs/day and 260 days/yr for the expander,
 - 16 hrs/day and 260 days/yr for the mold, and
 - 24 hrs/day and 365 days/yr for the storage bags and block/billet storage area.
- C. A maximum of 3,000 lbs/hr of expandable polystyrene inputted to the expander as determined from the daily mass transferred and the daily operating time.
- D. A maximum of 6,000 lbs/hr of material (prepuff) transferred from the storage bags to the mold as determined from the daily mass transferred and the daily operating time.

Any other operating parameters established during compliance testing and/or inspection that will confirm the proper operation of this facility, may be included in the operating permit.

This letter must be attached to the above mentioned permit and shall become a part of this permit.

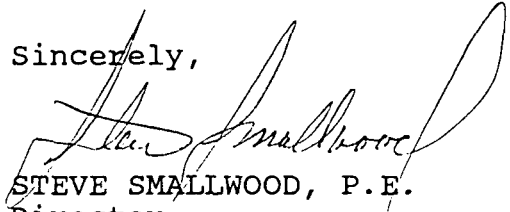
A person whose substantial interests are affected by the Department's proposed permitting decision may petition for an administrative proceeding (hearing) in accordance with Section 120.57, Florida Statutes. The petition must contain the information set forth below and must be filed (received) in the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

The Petition shall contain the following information:

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

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

Sincerely,


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

SS/TH/plm

Attachment to be Incorporated:

Mr. Michael J. Hollander's letter of March 23, 1992

RECEIVED
DER - MAIL ROOM

1992 APR -3 AM 8:52



E. R. CARPENTER COMPANY, INC.

M. H. REINHART TECHNICAL CENTER
P. O. BOX 34526
RICHMOND, VIRGINIA 23234
TELEPHONE: (804) 233-0606
FAX: (804) 233-7741
March 23, 1992

Florida Department of Environmental Regulation
Twin Towers Office Building
2600 Blair Stone Rd.
Tallahassee, FL 32399

Attn: Ms. Teresa Heron
Air Permit Engineer

Dear Ms. Heron:

Enclosed is an amendment to the Construction Permit for the E. R. Carpenter Co., Inc. Polystyrene Manufacturing Facility in Lakeland and the required Two Hundred and Fifty Dollar (\$250) Fee. The application has been signed by Harold E. Costley, VP of Engineering; the Letter of Authorization for his signing the Permit Application was included with the Application for the Construction Permit previously submitted for this facility, to your office.

The application has been reviewed by Mr. William R. Johnson, P.E., of Chastain-Skillman, who reviewed our application for the original Construction Permit.

This amendment is being submitted at the request of Mr. James McDonald of the Tampa Office of FL-DER. He cannot proceed with the processing of the Operating Permit Application until this amendment is approved. Therefore, we are requesting expedited review of this application.

This amendment changes the hourly maximum allowable material transfer rates to the Expanders and Mold, to reflect actual equipment performance. The maximum potential hourly emission rate has been reduced to reflect most recent information available on emissions from EPS Block Manufacturing Operations. There is no change in the annual or daily emissions.

The application contains the chemical concentration data based on Air Dispersion Modeling of the facility using the proposed operating conditions (both maximum and average) using the ISCST program. The models indicate that concentrations do not exceed the ESLs for pentane at any point beyond the property line.

If you have any questions about the Permit Application please feel free to contact me at (804) 233-0606.

Sincerely,

Michael J. Hollander
Corporate Environmental Manager

001031

RECEIVED
DER - MAIL ROOM
1992 APR -3 AM 8:52



E. R. CARPENTER COMPANY, INC.
M. H. REINHART TECHNICAL CENTER
P. O. BOX 34526
RICHMOND, VIRGINIA 23234
TELEPHONE: (804) 233-0606
FAX: (804) 233-7741
March 23, 1992

Florida Department of Environmental Regulation
Twin Towers Office Building
2600 Blair Stone Rd.
Tallahassee, FL 32399

Attn: Ms. Teresa Heron
Air Permit Engineer

Dear Ms. Heron:

Enclosed is an amendment to the Construction Permit for the E. R. Carpenter Co., Inc. Polystyrene Manufacturing Facility in Lakeland and the required Two Hundred and Fifty Dollar (\$250) Fee. The application has been signed by Harold E. Costley, VP of Engineering; the Letter of Authorization for his signing the Permit Application was included with the Application for the Construction Permit previously submitted for this facility, to your office.

The application has been reviewed by Mr. William R. Johnson, P.E., of Chastain-Skillman, who reviewed our application for the original Construction Permit.

This amendment is being submitted at the request of Mr. James McDonald of the Tampa Office of FL-DER. He cannot proceed with the processing of the Operating Permit Application until this amendment is approved. Therefore, we are requesting expedited review of this application.

This amendment changes the hourly maximum allowable material transfer rates to the Expanders and Mold, to reflect actual equipment performance. The maximum potential hourly emission rate has been reduced to reflect most recent information available on

	E. R. CARPENTER CO., INC. RICHMOND, VIRGINIA	011912 68-589 514 SIGNET BANK, VIRGINIA
DATE	MARCH 31, 1992	AMOUNT
PAY EXACTLY	*****250 AND 00/100 DOLLARS	\$250.00
TO THE ORDER OF	FLORIDA DEPARTMENT OF ENVIRONMENTAL REGULATION	
	E. R. CARPENTER CO., INC	***** *** **< S. F. PAULEY >*** *****





Florida Department of Environmental Regulation

Southwest District

4520 Oak Fair Boulevard

Tampa, Florida 33610-7347

Lawton Chiles, Governor

813-620-6100

Carol M. Browner, Secretary

March 12, 1992

Mr. Michael J. Hollander
Corporate Environmental Manager
E. R. Carpenter Company, Inc.
M. H. Reinhart Technical Center
P.O. Box 34526
Richmond, Virginia 23234

Dear Mr. Hollander:

Re: Polk County-AP
Carpenter Insulation Co.
A053-208669

On February 13, 1992, the Department received your air pollution application to operate a polystyrene manufacturing facility located near Lakeland. In order to continue processing the application, the Department will need the following additional information pursuant to Rule 17-4.070(1), F.A.C.:

1. Since the Certificate of Completion of Construction and the Application to Operate submitted each have a different company name, explain which name is correct.
2. In accordance with Specific Condition No. 4 of permit AC53-176858, submit the following daily records to document compliance with Specific Condition Nos. 1 and 10:
 - A. For the last operating day of 1991 which should include a tons/yr. emission value that corresponds to the 97,965 lbs./yr. value stated on your annual operating report recently submitted.
 - B. For September 9, 1991.
 - C. For the first 3 operating days of November of 1991.
 - D. For the last 3 operating days of February of 1992.
3. As required by Specific Condition No. 3 of permit AC53-176858, submit the results of a visible emission test from the expanded bead (storage bags) and the billet storage areas.

4. Concerning the annual operating report submitted for this facility, explain the following:
 - A. How the actual hours of operation were determined to be 10 hrs./day, 5 days/wk., and 50 wks./yr.
 - B. Why is the basis of the emissions determined by 6.0% - 1.5%, when your letter dated May 18, 1990 and the operating application use the basis 15% of the n-pentane will remain in the product? Will this effect the emission total given? If yes, re-submit the report with the revised emission calculations.
5. What was the date of permanent shutdown of your facility located at 3130 Reynolds Road which was permitted on AC53-160500/A053-178827?
6. As the extension of the expiration date of permit AC53-176858 was processed, you need to request from our Tallahassee office an amendment to the construction permit by submitting the same package as submitted to this office. The amendment is necessary to change the following:
 - A. The maximum transfer rate to the mold from 3000 lbs./hr. to 6000 lbs./hr.
 - B. The maximum hourly emission rate from 153 lbs./hr. to 131.2 lbs./hr.

Note, the request should include the appropriate fee (\$250.00). Please be aware, this office can not issue an operating permit with these proposed changes until the amendment to the construction permit is finalized.

"NOTICE: Pursuant to the provisions of Section 120.600, F.S. and Chapter 17-12.070(5), F.A.C., if the Department does not receive a response to this request for information within 90 days of the date of this letter, the Department will issue a final order denying your application. You need to respond within 30 days after you receive this letter, responding to as many of the information requests as possible and indicating when a response to any unanswered question will be submitted. If the response will require longer than 90 days to develop, an application for new construction should be withdrawn and resubmitted when completed information is available. Or for operating permits, you should develop a specific time table for the submission of the requested information for Department review and consideration. Failure to comply with a time table accepted by the Department will be grounds for the Department to issue a

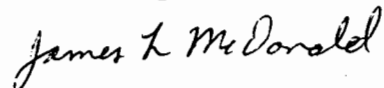
Mr. Michael J. Hollander
E. R. Carpenter Company, Inc.
Richmond, Virginia 23234

Page Three

Final Order of Denial for lack of timely response. A denial for lack of information or response will be unbiased as to the merits of the application. The applicant can reapply as soon as the requested information is available."

If you have any questions, please call me at (813)620-6100 extension 421.

Sincerely,



James L. McDonald
Air Permitting Engineer

cc: William R. Johnson, P.E.
Teresa M. Heron - FDER, Tallahassee
J. Harry Kerns, P.E. - FDER, Tampa

P 617 884 145



Certified Mail Receipt

No Insurance Coverage Provided
Do not use for International Mail
(See Reverse)

Sent to <i>William R. Johnson</i>	
Street & No. <i>Chastain Skillman</i>	
P.O., State & ZIP Code <i>Lakeland, FL</i>	
Postage	\$
Certified Fee	
Special Delivery Fee	
Restricted Delivery Fee	
Return Receipt Showing to Whom & Date Delivered	
Return Receipt Showing to Whom, Date, & Address of Delivery	
TOTAL Postage & Fees	\$
Postmark or Date <i>1-31-92</i> <i>AC53-176858</i>	

PS Form 3800, June 1990

SENDER:

- Complete items 1 and/or 2 for additional services.
- Complete items 3, and 4a & b.
- Print your name and address on the reverse of this form so that we can return this card to you.
- Attach this form to the front of the mailpiece, or on the back if space does not permit.
- Write "Return Receipt Requested" on the mailpiece next to the article number.

I also wish to receive the following services (for an extra fee):

1. Addressee's Address
2. Restricted Delivery

Consult postmaster for fee.

3. Article Addressed to:

*William R. Johnson, P.E.
Project Mgr.
Chastain Skillman
P.O. BOX 5710
LAKELAND, FL 33807-5710*

4a. Article Number

P 617 884 145

4b. Service Type

- | | |
|---|---|
| <input type="checkbox"/> Registered | <input type="checkbox"/> Insured |
| <input checked="" type="checkbox"/> Certified | <input type="checkbox"/> COD |
| <input type="checkbox"/> Express Mail | <input type="checkbox"/> Return Receipt for Merchandise |

7. Date of Delivery

FEB 05 1992

5. Signature (Addressee)

6. Signature (Agent)

Rich Edwards

8. Addressee's Address (Only if requested and fee is paid)



Florida Department of Environmental Regulation

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

Lawton Chiles, Governor

Carol M. Browner, Secretary

January 22, 1992

CERTIFIED MAIL - RETURN RECEIPT REQUESTED

Mr. William R. Johnson, P.E.
Project Manager
Chastain Skillman, Inc.
P. O. Box 5710
Lakeland, Florida 33807-5710

Dear Mr. Johnson:


Re: Permit AC 53-176858, Polystyrene Plant

The Department is in receipt of your letter dated December 6, on behalf of Carpenter Insulation Company, requesting an extension of the expiration date of the above mentioned permit. This request is acceptable. The expiration date for this permit will be changed as follows:

From: January 31, 1992
To: May 30, 1992

This letter must be attached to the above mentioned permit and shall become a part of the permit.

Sincerely,

for

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

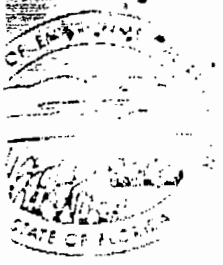
SS/TH/plm

Attachment to be Incorporated

Mr. William R. Johnson's letter of December 6, 1991

c: Jim McDonald

BEST AVAILABLE COPY



Florida Department of Environmental Regulation

FAX TRANSMISSION SHEET

12-31-91

DATE

TO:

Dave Michael

DEPT: WAK

FROM:

Vicki Andrews

DEPT: WAK

PHONE: 904-252-3300

OPERATOR:

Vicki Andrews

SUBJECT:

Carpenter Insulations

NUMBER OF PAGES INCLUDING COVER PAGE: 8

8

PROGRAM FAX NUMBER IS 904-252-3392

SUNCOM 904-6392

engineers • scientists • surveyors



chastain
skillman
incorporated
4705 Old Highway 37
P.O. Box 5710
Lakeland, FL 33807-5710
813/646-1402

LETTER OF TRANSMITTAL

TO: Department of Environmental Regulation
4520 Oak Fair Boulevard
Tampa, Florida 33610-7347

DATE:	PROJ. NO.
December 6, 1991	3135.05
ATTENTION	
Mr. James McDonald	
RE:	
Carpenter Insulation Company	
AC53-176858	
PROJECT PHASE:	

GENTLEMEN:

WE ARE SENDING YOU

- | | | | |
|--------------------------------|--|--|---|
| <input type="checkbox"/> Plans | <input type="checkbox"/> Reproducibles | <input type="checkbox"/> Permit Applications | <input type="checkbox"/> Specifications |
| <input type="checkbox"/> Copy | <input type="checkbox"/> Change Order | <input type="checkbox"/> | <input type="checkbox"/> |

COPIES	SHEET NO.	ISSUE NO.	DATE	DESCRIPTION
1			9/9/91	Visible Emissions Evaluation by Certified Observer
1			10/91	Plant Process Records and Evaluation of Flow Rates for Month of October 1991

THESE ARE TRANSMITTED as checked below:

- | | | |
|--|---|---|
| <input type="checkbox"/> For approval | <input type="checkbox"/> For review & comment | <input type="checkbox"/> Approved as submitted |
| <input type="checkbox"/> For your use | <input type="checkbox"/> For construction | <input type="checkbox"/> Approved as noted |
| <input type="checkbox"/> For signature | <input type="checkbox"/> As requested | <input type="checkbox"/> Revise/Resubmit by _____ |

REMARKS Please accept this submittal as compliance with specific permit conditions
No. 4 and No. 6

COPY TO Michael Hollander, Corp. Eng. Eng.
Al Leather's, Plant Manager

SIGNED



D. E. R.

Reply to: Lakeland
646-1402
FAX - 647-3806

DEC 09 1991

SOUTHWEST DISTRICT
TAMPA

December 6, 1991

Mr. James McDonald, Permit Engineer
Department of Environmental Regulation
4520 Oak Park Boulevard
Tampa, Florida 33610-7347

Re: Ent. No. 4053-176058
Carpenter Insulation Company
Polystyrene Plant - Lakeland
OSI Project Number 3185-05

Under a request on behalf of the Permittee, Carpenter Insulation Company, to extend the air
emission permit for a period of 3 months, from January 31, 1992 to April 30, 1992.

We are currently in the process of preparing the operating permit application. Testing and record-
keeping required by the construction permit indicates that the processes are within compliance.
Because of scheduling conflicts and the need to develop technical back-up data for the permit
application, it appears we will not be in a position to submit the complete application on a timely
basis in January. We are, therefore, requesting the extension to provide for the 90-day administrative review
period.

In compliance with the construction permit, we are also forwarding a copy of the Visible Emissions
Evaluations, as well as an excerpt of the process records. Both of these demonstrate that the
processes are being operated in compliance with the permit conditions. This information will, of
course, be sent again as part of the required attachments to the permit application.

If you have any questions about this request for extension or if there are any other comments about
the matter, please contact me.

Sincerely,

CHASTAIN SKILLMAN

William R. ...
Project Manager

WRS/ps

OSI Facility, Inc., 1401 ...
Mechanical, Inc., Corp., Environmental Engineer, B.S. Chem.
At Leathers, Polystyrene Plant Manager, Lakeland, FL

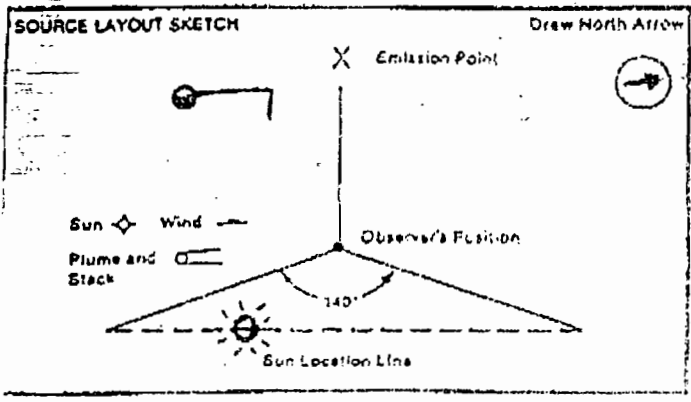
Southern Environmental Sciences, Inc.

VISIBLE EMISSIONS EVALUATION

COMPANY NAME CARPENTER INSULATION Co.	
UNIT POLYSTYRENE MANUFACTURING FACILITY BOILER	
ADDRESS 5100 FRONTAGE RD. South LAKELAND, FLA 33802-4158	
PERMIT NO. ACS3-176858	COMPLIANCE YES <input checked="" type="checkbox"/> NO <input type="checkbox"/>

PROCESS RATE Cycling to Hi-FIRE-RATE	PERMITTED RATE 6.3 MMBTU/HR.
PROCESS EQUIPMENT BOILER	
CONTROL EQUIPMENT NONE	
OPERATING MODE NATURAL GAS FIRED	AMBIENT TEMP. START 84°F STOP 84°F

HEIGHT ABOVE GROUND LEVEL APPROX. START 40ft STOP 40ft	HEIGHT RELATIVE TO OBSERVER APPROX. START 40ft. STOP 40ft.
DISTANCE FROM OBSERVER APPROX. START 50ft STOP 50ft	DIRECTION FROM OBSERVER START SW STOP SW
EMISSION COLOR NONE	PLUME TYPE CONTINUOUS <input type="checkbox"/> N/A INTERMITTENT <input type="checkbox"/>
WATER DROPLETS PRESENT NO <input checked="" type="checkbox"/> YES <input type="checkbox"/>	IS WATER DROPLET PLUME ATTACHED <input type="checkbox"/> N/A DETACHED <input type="checkbox"/>
POINT IN THE PLUME AT WHICH OPACITY WAS DETERMINED START STACK EXIT STOP Stack Exit	
DESCRIBE BACKGROUND START SKY STOP SKY	
BACKGROUND COLOR START BLU/WHI STOP BLU/WHI	SKY CONDITIONS START BKN CLDS STOP BKN CLDS
WIND SPEED START 6-10 KTS STOP 6-10 KTS	WIND DIRECTION START E STOP E
AVERAGE OPACITY FOR HIGHEST PERIOD 0	RANGE OF THE OPACITY READINGS MIN. 0 MAX. 0



COMMENTS

OBSERVATION DATE 9/9/91					START TIME 10:10					STOP TIME 11:10				
MIN	SEC				MIN	SEC				MIN	SEC			
	0	15	30	45		0	15	30	45		0	15	30	45
0	0	0	0	0	30	0	0	0	0	0	0	0	0	
1	0	0	0	0	31	0	0	0	0	0	0	0	0	
2	0	0	0	0	32	0	0	0	0	0	0	0	0	
3	0	0	0	0	33	0	0	0	0	0	0	0	0	
4	0	0	0	0	34	0	0	0	0	0	0	0	0	
5	0	0	0	0	35	0	0	0	0	0	0	0	0	
6	0	0	0	0	36	0	0	0	0	0	0	0	0	
7	0	0	0	0	37	0	0	0	0	0	0	0	0	
8	0	0	0	0	38	0	0	0	0	0	0	0	0	
9	0	0	0	0	39	0	0	0	0	0	0	0	0	
10	0	0	0	0	40	0	0	0	0	0	0	0	0	
11	0	0	0	0	41	0	0	0	0	0	0	0	0	
12	0	0	0	0	42	0	0	0	0	0	0	0	0	
13	0	0	0	0	43	0	0	0	0	0	0	0	0	
14	0	0	0	0	44	0	0	0	0	0	0	0	0	
15	0	0	0	0	45	0	0	0	0	0	0	0	0	
16	0	0	0	0	46	0	0	0	0	0	0	0	0	
17	0	0	0	0	47	0	0	0	0	0	0	0	0	
18	0	0	0	0	48	0	0	0	0	0	0	0	0	
19	0	0	0	0	49	0	0	0	0	0	0	0	0	
20	0	0	0	0	50	0	0	0	0	0	0	0	0	
21	0	0	0	0	51	0	0	0	0	0	0	0	0	
22	0	0	0	0	52	0	0	0	0	0	0	0	0	
23	0	0	0	0	53	0	0	0	0	0	0	0	0	
24	0	0	0	0	54	0	0	0	0	0	0	0	0	
25	0	0	0	0	55	0	0	0	0	0	0	0	0	
26	0	0	0	0	56	0	0	0	0	0	0	0	0	
27	0	0	0	0	57	0	0	0	0	0	0	0	0	
28	0	0	0	0	58	0	0	0	0	0	0	0	0	
29	0	0	0	0	59	0	0	0	0	0	0	0	0	

Observer: CHARLES R. WILSON JR

Certified by: F.D.E.R. through E.T.A.

Certified at: TAMPA, FLORIDA

Date certified: AUG 1991

Expiration date: FEB 1991

BEST AVAILABLE COPY

CHASTAIN SULLMAN INC

Carpenter Insulation - Polystyrene Plant
 Data Evaluation
 Process Records
 October '91 Activity

(Max permitted rates 3000 lb/hr)

date	*****Mold Activity hours pounds	***** lb/hr	***** hours	Expander ***** pounds lb/hr
1	5.20 14988.00	2882.31	5.73	9000.00 1570.68
2	5.10 7900.00	1549.02	6.67	10000.00 1499.25
3	5.05 10986.00	2155.64	9.97	20000.00 2006.02
4			10.32	9000.00 872.09
5				
6				
7	9.40 26710.00	2841.49	7.38	12000.00 1626.02
8	5.10 10875.00	2132.35	6.92	5000.00 722.54
9	3.50 6184.00	1766.86	10.07	15000.00 1489.57
10	6.30 15247.00	2420.16	6.58	12500.00 1899.70
11				
12				
13				
14				
15	3.60 8050.00	2236.11	6.20	18000.00 2903.23
16	6.80 16506.00	2471.47	11.33	28000.00 2450.46
17	10.75 30657.00	2851.81	10.83	12000.00 1108.03
18	6.20 17307.00	2791.45	10.45	27000.00 2583.73
19				
20				
21	6.30 17871.00	2836.67	8.53	12000.00 1406.80
22	7.20 19401.00	2694.58	10.32	17000.00 1647.29
23	3.40 5814.00	1710.00	5.68	6000.00 1056.34
24	2.90 4291.00	1514.14	11.18	11000.00 983.90
25	4.40 7970.00	1811.36		
26				
27				
28	3.40 5929.00	2049.71		
29	4.70 8211.00	1747.02	13.17	15000.00 1138.95
30	5.60 13667.00	2440.54	5.65	9000.00 1592.92
31	3.80 11589.00	2963.59	7.25	12000.00 1655.17

OK
 [Signature]

Form I U | Expander U October

Beads Expanded	Beads Expanded YTD	Beads Received	Beads Received YTD	Ln.
	1,473,200			1
9,000	1,482,200			2
10,000	1,492,200			3
20,000	1,512,200	44,000	1,649,000	4
9,000	1,521,200			5
12,000	1,533,200			6
5,000	1,538,200			7
15,000	1,553,200			8
12,500	1,565,700			9
				10
				11
				12
				13
19,000	1,583,700	88,000	1,737,000	14
28,000	1,611,700	44,000	1,781,000	15
12,000	1,623,700			16
27,000	1,650,700	44,000	1,825,000	17
				18
				19
12,000	1,662,700	44,000	1,869,000	20
17,000	1,679,700			21
6,000	1,685,700	44,000	1,913,000	22
11,000	1,696,700	44,000	1,957,000	23
				24
				25
				26
				27
		44,000	2,001,000	28
75,000	1,711,700			29
9,000	1,720,700	44,000	2,045,000	30
12,000	1,732,700	44,000	2,089,000	31

22-141 50 SHEETS
22-142 100 SHEETS
22-144 200 SHEETS



Form II

Expander

October 91

Hours Expanded	Total Rounds Expanded	Date
5.73	9,000	1
6.67	10,000	2
9.97	20,000	3
10.32	9,000	4
		5
		6
7.38	12,000	7
6.92	5,000	8
10.07	17,000	9
6.58	12,500	10
		11
		12
		13
		14
6.20	18,000	15
11.38	28,000	16
10.83	12,000	17
10.45	27,000	18
		19
		20
8.53	12,000	21
10.32	17,000	22
5.68	6,000	23
11.18	11,000	24
		25
		26
		27
		28
13.17	15,000	29
5.65	9,000	30
7.25	12,000	31

22-141 50 SHEETS
22-142 100 SHEETS
22-144 200 SHEETS



Form JT

Mold

October 91

Hours
Molding

Pounds
Molded

Date

5.20
5.10
5.05

14988
7900
10886

1
2
3

9.40
5.10
3.50
6.30

26710
10875
6184
15247

4
5
6
7
8
9
10

3.60
6.80
10.75
6.20

8050
16806
30657
17307

11
12
13
14
15
16
17
18

6.30
7.20
3.40
2.90
4.10

17871
19401
5814
4391
7870

19
20
21
22
23
24

3.40
4.70
5.60
3.90

6969
8211
13667
11559

25
26
27
28
29
30
31



RECEIVED
DER - MAIL ROOM
1992 JAN 17 AM 10:48
Reply to: Lakeland
646-1402
FAX - 647-3806

January 15, 1992

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

Re: Carpenter Insulation Co.
Air Construction Permit Extension
Permit No. AC53-176858
CSI Project Number 3135.05

Dear Ms. Adams:

On December 6, 1991, we requested a 90-day extension for the above-referenced permit. Ms. Teresa Heron in your office has informed us that the extension will be approved as requested. She explained, however, that there is now a \$50.00 review fee for minor permit modifications (17-4.050(4)(o)3) such as time extensions.

Attached is a check for \$50.00 for this fee. Please accept this on behalf of the Carpenter Insulation Co. and notify Ms. Heron to release confirmation of the requested time extension.

Sincerely,

CHASTAIN-SKILLMAN, INC.

William R. Johnson, P.E.
Project Manager

WRJ:pls

cc: Michael Hollander, E.R. Carpenter, Richmond, Virginia

Enclosure

cc: 2 DeLeon

001031

engineers • scientists • surveyors



P.O. Box 5710
Lakeland, Florida 33807-5710
813/646-1402

DATE
Jan. 15, 19 92

SUN FIRST NATIONAL BANK
OF POLK COUNTY • 524
LAKELAND, FL 33801

63-682
631 524

AY

CHECK AMOUNT
\$50.00

THE SUM 50 DOLS 00 CTS

THE
DER
OF
DER

CHASTAIN-SKILLMAN INC.
GENERAL ACCOUNT

AUTHORIZED SIGNATURES



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

Re: Carpenter Insulation Co.
Air Construction Permit Extension
Permit No. AC53-176858
CSI Project Number 3135.05

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Sincerely,

CHASTAIN-SKILLMAN, INC.

William R. Johnson, P.E.
Project Manager

WRJ:pls

cc: Michael Hollander, E.R. Carpenter, Richmond, Virginia

Enclosure

001031

P 407 852 699

RECEIPT FOR CERTIFIED MAIL

NO INSURANCE COVERAGE PROVIDED
NOT FOR INTERNATIONAL MAIL

(See Reverse)

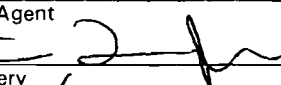
U.S.G.P.O. 1989-234-555

PS Form 3800, June 1985

Sent to Mr. William R. Johnson, P.E.	
Street and No. Chastain-Skillman, Inc P.O. Box 5710	
P.O. State and ZIP Code Lakeland, FL 33807-5710	
Postage	\$
Certified Fee	
Special Delivery Fee	
Restricted Delivery Fee	
Return Receipt showing to whom and Date Delivered	
Return Receipt showing to whom, Date, and Address of Delivery	
TOTAL Postage and Fees	\$
Postmark or Date Mailed: 5-24-91 Permit: AC 53-176858	

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

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

3. Article Addressed to: Mr. William R. Johnson, P.E. Project Manager Chastain-Skillman, Inc. P. O. Box 5710 Lakeland, FL 33807-5710	4. Article Number P 407 852 699
	Type of Service: <input type="checkbox"/> Registered <input type="checkbox"/> Insured <input checked="" type="checkbox"/> Certified <input type="checkbox"/> COD <input type="checkbox"/> Express Mail <input type="checkbox"/> Return Receipt for Merchandise
	Always obtain signature of addressee or agent and DATE DELIVERED.
5. Signature - Addressee X	8. Addressee's Address (ONLY if requested and fee paid)
6. Signature - Agent X 	
7. Date of Delivery 5/29/91	



Florida Department of Environmental Regulation

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

Lawton Chiles, Governor

Carol M. Browner, Secretary

May 22, 1991

CERTIFIED MAIL - RETURN RECEIPT REQUESTED

Mr. William R. Johnson, P.E.
Project Manager
Chastain-Skillman, Inc.
P. O. Box 5710
Lakeland, Florida 33807-5710

Dear Mr. Johnson:

Re: Permit AC 53-176858, Polystyrene Plant

The Department is in receipt of your letter dated April 29 on behalf of Carpenter Insulation Company requesting an extension of the expiration date of the above mentioned permit. The source is located in Lakeland, Florida. This request is acceptable. The expiration date for this permit will be changed as follows:

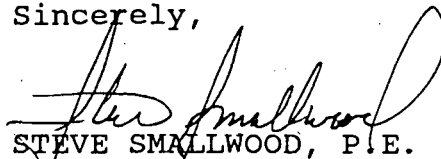
From: April 30, 1991
To: January 31, 1992

This letter must be attached to the above mentioned permit and shall become a part of the permit.

Attachment to be Incorporated

Mr. Johnson's letter of April 29, 1991.

Sincerely,



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

SS/TH/plm

c: Jim MacDonald



State of Florida
DEPARTMENT OF ENVIRONMENTAL REGULATION

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

Interoffice Memorandum

TO: Steve Smallwood
FROM: Clair Fancy *CF*
DATE: May 22, 1991
SUBJ: Amendment to Construction Permit AC 53-176858
Carpenter Insulation Company

Attached for your approval and signature is a letter to Mr. William R. Johnson extending the expiration date for the above referenced construction permit.

The Bureau recommends approval of this amendment.

CF/TH/plm

Attachment

FAX TRANSMISSION

DATE 4-29-91

SENT TO:

Name Mr. Clair H Fancy PE
Company DER - Bureau of Air Regulation
FAX No. (904) 922 6979
No. of Sheets (including cover) 2

SENT FROM:

Name WR Johnson
Company CHASTAIN-SKILLMAN, INC.
Phone No. (813) 646-1402
FAX No. (813) 647-3806 (Civil/Environmental/Structural)
FAX No. (813) 646-8023 (Surveying and Accounting)

REFERENCE:

Request of Air Construction Permit Extension
AC 53-176858 Carpenter/Insulation Co Polystyrene Plant Lakeland

MESSAGE:

As suggested by Ms Teresa Heron of your staff, we are Faxing this request for permit extension to beat the April 30, 1991 expiration date. We are sending this original request by Federal Express so you can have it for your file by tomorrow. Please extend this permit as requested.

CSI Project No. 3135.08

engineers • surveyors • planners



engineers • scientists • surveyors



Reply to: Lakeland
646-1402
FAX - 647-3806

April 29, 1991

Mr. Clair H. Fancy, P.E., Chief
Bureau of Air Regulations
Florida Department of Environmental Regulation
2600 Blair Stone Road
Tallahassee, Florida 32399-2400

Re: Extension of AC53-176858
Carpenter Insulation Company
Polystyrene Plant - Lakeland
CSI Project Number 3135.04

Dear Mr. Fancy:

This is a request, on behalf of the Permittee, Carpenter Insulation Company, to extend the air construction permit referenced above for a period of nine (9) months.

As your records should show, this air pollution control permit to construct and operate a new polystyrene plant was issued in July 1990 with an expiration date of April 30, 1991. At this time, the construction of the facility has been substantially completed and start-up operations are beginning. We are requesting the 9-month extension of this construction permit to allow time to get the facility into full operation, collect operating data, perform the required testing, and then prepare and submit the required application to your Southwest District Office for an operating permit 90 days prior to the expiration of this extension.

We will appreciate your prompt agreement to issue this construction permit extension.

Sincerely,

CHASTAIN-SKILLMAN, INC.

A handwritten signature in black ink that reads "Bill Johnson". The signature is written in a cursive style with a long, sweeping underline.

William R. Johnson, P.E.
Project Manager

WRJ:pls

cc: Michael J. Hollander, Corp. Environmental Engineer, ERC, Richard, VA
Al Leathers, Polystyrene Plant Manager, Lakeland, FL

*J. Heron
B. Thomas, SW Dist.*

RECEIVED
APR 30 1991
DER - BAQM

Best Available Copy

FEDERAL EXPRESS
QUESTIONS? CALL 800-238-5355 TOLL FREE

1094M **9776670890**

AIRBILL
PACKAGE TRACKING NUMBER **9776670890**

RECIPIENT'S COPY

Date: **4-29-91**

From (Your Name) Please Print: **Bill Johnson** Your Phone Number (Very Important): **813-646-1502** To (Recipient's Name) Please Print: **Mr. Clair Fancy** Recipient's Phone Number (Very Important): **904-488-8163**

Company: **CHASTAIN-SKILLMAN INC** Department/Floor No.: Department/Floor No. Company: **Dept. of Environmental Regulation** Department/Floor No.:
Street Address: **205 OLD HIGHWAY 37** Exact Street Address (We Cannot Deliver to P.O. Boxes or P.O. Zip Codes.): **2600 Blair Stone Rd. (Bar. of Air Reg.**
City: **AKELAND FL** State: **FL** ZIP Required: **33813** City: **Tallahassee** State: **FL** ZIP Required: **32399-2**

YOUR INTERNAL BILLING REFERENCE INFORMATION (First 24 characters will appear on invoice.): **3135-04** IF HOLD FOR PICK-UP, Print FEDEX Address Here: Street Address: City: State: ZIP Required:

PAYMENT: 1 Bill Sender 2 Bill Recipient's FedEx Acct' No 3 Bill 3rd Party FedEx Acct' No 4 Bill Credit Card 5 Cash/Check

SERVICES (Check only one box)		DELIVERY AND SPECIAL HANDLING (Check services required)		PACKAGES	WEIGHT in Pounds Only	YOUR DECLARED VALUE	Emp. No.	Date	Federal Express Use
11 <input type="checkbox"/> PRIORITY OVERNIGHT SERVICE (Delivery by next business morning)	51 <input type="checkbox"/> STANDARD OVERNIGHT SERVICE (Delivery by next business afternoon)	1 <input type="checkbox"/> HOLD FOR PICK-UP (Fig in Box #)	2 <input checked="" type="checkbox"/> DELIVER WEEKDAY				<input type="checkbox"/> Cash Received		Base Charges
16 <input checked="" type="checkbox"/> FEDEX LETTER	56 <input type="checkbox"/> FEDEX LETTER**	3 <input type="checkbox"/> DELIVER SATURDAY (Extra charge) (Not available to all locations)	4 <input type="checkbox"/> DANGEROUS GOODS (Extra charge)				<input type="checkbox"/> Return Shipment		Declared Value Charge
12 <input type="checkbox"/> FEDEX PAK**	52 <input type="checkbox"/> FEDEX PAK**	5 <input type="checkbox"/> DRY ICE lbs.	6 <input type="checkbox"/> OTHER SPECIAL SERVICE	Total	Total	Total	<input type="checkbox"/> Third Party		Other 1
13 <input type="checkbox"/> FEDEX BOX	53 <input type="checkbox"/> FEDEX BOX	7 <input type="checkbox"/> SATURDAY PICK-UP (Extra charge)	8 <input type="checkbox"/> HOLIDAY DELIVERY (if offered) (Extra charge)				<input type="checkbox"/> Chg. To Del.		Other 2
14 <input type="checkbox"/> FEDEX TUBE	54 <input type="checkbox"/> FEDEX TUBE	9 <input type="checkbox"/> REGULAR STOP					<input type="checkbox"/> Chg. To Hold		Total Charges
30 <input type="checkbox"/> ECONOMY TWO-DAY SVC. (Delivery commitment may be later in some areas.)	80 <input type="checkbox"/> DEFERRED HEAVYWEIGHT** *Declared Value Limit \$100. **Call for delivery schedule.	10 <input type="checkbox"/> REGULAR STOP					<input checked="" type="checkbox"/> Street Address		
		11 <input type="checkbox"/> REGULAR STOP					City	State	Zip
		12 <input type="checkbox"/> REGULAR STOP					Received By:		
							Date/Time Received	FedEx Employee Number	
									REVISION DATE 8/90 PART #119501 FORMAT #041 NCREC 8/90
									041
									© 1990 F.E.C. PRINTED IN U.S.A.

5 Release Signature: **[Signature]** Date/Time: **4/29/91**

P 256 396 146

RECEIPT FOR CERTIFIED MAIL

NO INSURANCE COVERAGE PROVIDED
NOT FOR INTERNATIONAL MAIL

(See Reverse)

U.S.G.P.O. 1989-294-555

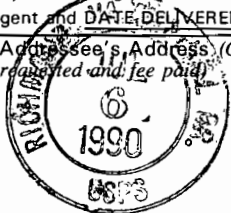
PS Form 3800, June 1985

Mr. D. R. Crum	
MH Reinhart Technical Center	
Post Office Box 34526	
Richmond, VA 23234	
Postage	\$
Certified Fee	
Special Delivery Fee	
Restricted Delivery Fee	
Return Receipt showing to whom and Date Delivered	
Return Receipt showing to whom, Date, and Address of Delivery	
TOTAL Postage and Fees	\$
Postmark or Date	
mailed: 7/3/90	
AC 53-176858	

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

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

3. Article Addressed to: Mr. D. R. Crum MH Reinhart Technical Center P.O. Box 34526 Richmond, VA 23234	4. Article Number P 256 396 146
5. Signature - Addressee X	Type of Service: <input type="checkbox"/> Registered <input type="checkbox"/> Insured <input checked="" type="checkbox"/> Certified <input type="checkbox"/> COD <input type="checkbox"/> Express Mail <input type="checkbox"/> Return Receipt for Merchandise
6. Signature - Agent X Diane Smelser	Always obtain signature of addressee or agent and DATE DELIVERED.
7. Date of Delivery	8. Addressee's Address (ONLY if requested and fee paid)





Florida Department of Environmental Regulation

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

Bob Martinez, Governor

Dale Twachtmann, Secretary

John Shearer, Assistant Secretary

STATE OF FLORIDA DEPARTMENT OF ENVIRONMENTAL REGULATION NOTICE OF PERMIT

Mr. D. R. Crum
Corporate Industrial Engineer
MH Reinhart Technical Center
P. O. Box 34526
Richmond, Virginia 23234

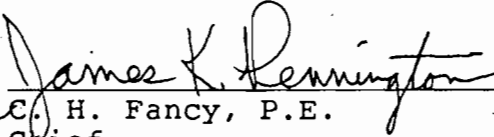
July 3, 1990

Enclosed is construction permit No. AC 53-176858 for MH Reinhart Technical Center to construct/modify a polystyrene manufacturing facility at the new Carpenter Insulation Company's chemical complex in Lakeland, Polk County, Florida. This permit is issued pursuant to Section 403, Florida Statutes.

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

Executed in Tallahassee, Florida.

STATE OF FLORIDA DEPARTMENT
OF ENVIRONMENTAL REGULATION


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

Copies furnished to:

Bill Thomas, SW District
Jerry Campbell, HCEPC
William R. Johnson, P.E.
Ready File } 7-3-90 RBL
Teresa Henon }
CHF/BA

CERTIFICATE OF SERVICE

The undersigned duly designated deputy clerk hereby certifies that this NOTICE OF PERMIT and all copies were mailed before the close of buisness on 7-3-90.

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

Kym Daber
Clerk

7-3-90
Date

Final Determination

Carpenter Insulation Company
Lakeland, Polk County, Florida

Polystyrene Manufacturing Facility
AC 53-176858

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

July 2, 1990

Final Determination

Carpenter Insulation's application for a permit to construct a polystyrene manufacturing facility in Lakeland, Polk County, Florida, has been reviewed by the Bureau of Air Regulation.

Public Notice of the Department's Intent to Issue the construction permit was published in The Ledger of Lakeland, Florida in the May 15, 1990 issue.

Copies of the Technical Evaluation and Preliminary Determination have been available for public inspection at the Department's Southwest District office in Tampa and Bureau of Air Regulation office in Tallahassee.

Comments were received from David Crump, Industrial Engineer, of E.R. Carpenter Co., Inc. Mr. Crump requested some changes in Specific Conditions Nos. 1, 4, 5, 10, and 18. Mr. Crump contends that the emission rates are a process variable and depend upon the manufacturer, size, pentane content, density required, and several other factors, etc. He also requested that EPA Method 25A be waived since it will be costly and emission rates can be determined by analysis of the raw material and product since the plant has no air pollution control equipment. He feels that following the documentation and record keeping procedures is enough to demonstrate compliance with the VOC emission limitation. The Bureau has analyzed his request and has modified Specific Conditions Nos. 1, 3, 4, and 10 as follows:

Specific Condition No. 1

FROM:

1. Allowable VOC (n-pentane) emissions shall not exceed the emission rates listed as follows:

Source Location	Allowable VOC Emissions		
	lb/hr	lbs/day	tons/yr
Expander	18.0	288	36.0
Bag Storage	6.5	156	28.5
Molding	10.5	168	21.0
Block Storage	9.6	230	42.0
TOTAL	44.6	842	127.5

Total VOC emissions from the entire facility shall not exceed 44.6 lbs/hr, 842 lbs/day, and 127.5 tons/yr. These emissions shall be verifiable on a daily (24-hr) basis.

TO:

1. Allowable VOC (n-pentane) emissions from the entire facility shall not exceed the emission rates listed as follows:

	<u>lbs</u>	<u>tons</u>
Maximum Hourly	153	0.07
Maximum Daily	1,632	0.82
Maximum Annually	255,000	127.50

These emissions shall be verifiable on a daily (24-hr) basis by production and analysis of the raw material and product for n-pentane.

Specific Condition No. 3

FROM:

3. Visible emissions from the expanded bead and billet storage areas shall not exceed 20% opacity.

TO:

3. Visible emissions (excluding steam emissions) from the expanded bead and billet storage areas shall not exceed 20% opacity.

Specific Condition No. 4

FROM:

4. Compliance with the VOC standard shall be determined by EPA Method 25A, Determination of Total Gaseous Organic Concentrations Using a Flame Ionization Analyzer, in accordance with 40 CFR, Appendix A (July 1, 1988) and F.A.C. Rule 17-2.700 or other methods approved by the Department. Concentration data and calculated mass emission rate will be reported to the Southwest District office. Additionally, compliance with the VOC emission limitations will be maintained based on the VOC inventory. At a minimum the daily records shall include the amount of expandable polystyrene to the expander, the amount of material (prepuff) to the mold, and the operating time of the expander and mold. From this information, VOC emission rates can be determined by the Department in the same manner as the emission values submitted with the application. Daily record keeping shall be kept and retained on file for at least 3 years.

TO:

4. Compliance with the VOC emission limitations shall be determined by materials balance. At a minimum, the daily records shall include the amount of expandable polystyrene to the expander, the amount of material (prepuff) to the mold, a VOC analysis (pentane content) of the raw material and product, quantity of beads processed, and the operating time of the expander and mold. From this information, VOC emission rates can be demonstrated to the Department in the same manner as the emission values submitted with the application. Daily record keeping shall be kept and retained on file for at least 3 years.

Specific Condition No. 10

FROM:

10. The permitted materials and utilization rates are as stated in the application. These rates include but are not limited to:

- A. A maximum usage of 5 million lbs/yr of expandable polystyrene.
- B. A maximum operating time as follows:
 - 16 hrs/day and 250 days/yr for the expander,
 - 16 hrs/day and 250 days/yr for the mold, and
 - 24 hrs/day and 250 days/yr for the storage bags and block/billet storage area.
- C. A maximum of 2000 lbs/hr of expandable polystyrene inputted to the expander as determined from the daily operating time.
- D. A maximum of 2400 lbs/hr of material (prepuff) transferred from the storage bags to the mold as determined from the daily operating time.

Any other operating parameters established during compliance testing and/or inspection that will confirm the proper operation of this facility, shall be included in the operating permit.

TO:

10. The permitted materials and utilization rates are as stated in the application. These rates include but are not limited to:

- A. A maximum usage of 3,000 lbs per hour, 32,000 lbs per day, and 5 million lbs per year of expandable polystyrene.
- B. A maximum operating time as follows:
 - 16 hrs/day and 260 days/yr for the expander,
 - 16 hrs/day and 260 days/yr for the mold, and
 - 24 hrs/day and 365 days/yr for the storage bags and block/billet storage area.

Specific Condition 10 cont'd

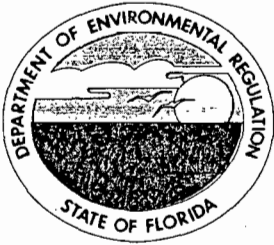
- C. A maximum of 3000 lbs/hr of expandable polystyrene inputted to the expander as determined from the daily mass transferred and the daily operating time.
- D. A maximum of 3000 lbs/hr of material (prepuff) transferred from the storage bags to the mold as determined from the daily mass transferred and the daily operating time.

Any other operating parameters established during compliance testing and/or inspection that will confirm the proper operation of this facility, may be included in the operating permit.

Minor changes were also made to Specific Conditions Nos. 6, 7, and 12. Specific Conditions No. 19 and 20 were deleted from this air permit because these pollutants are regulated by separate bureaus within the Department. The modifications do not change the annual permitted emission limit.

The applicant requested Specific Condition No. 18 be changed. This condition will not be changed. It is the Department's intent to replace the existing permit AC 53-160500 with this permit (AC 53-176858) if the company elects to shut down the existing facility and begin operation at the new facility. New permit AC 53-176858 is valid only for the new facility to be constructed at S. Frontage of I-4 and Kensinger Road. Existing permit AC 53-160500 is valid only for the existing facility at 3130 Reynold Road.

The final action of the Department is to issue the permit with the changes as stated above.



Florida Department of Environmental Regulation

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

Bob Martinez, Governor

Dale Twachtmann, Secretary

John Shearer, Assistant Secretary

PERMITTEE:
Carpenter Insulation Company
P. O. Box 34529
Richmond, VA 23234

Permit Number: AC 53-176858
Expiration Date: April 30, 1991
County: Polk
Latitude/Longitude: 28°03'00"N
82°02'30"W
Project: Polystyrene Manufacturing
Facility

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

For the construction of a polystyrene products manufacturing facility. This facility receives expandable polystyrene which contains approximately 6% by weight of pentane and injects the polystyrene into an expander at a maximum rate of 2000 lbs/hr. Inside the expander, steam from a natural gas fired boiler with a maximum heat input of 6.3 MMBTU/hr is used to expand the polystyrene to approximately 1/8" diameter. The expanded polystyrene is then discharged through a fluidized bed to storage bags. After aging in the storage bags to stabilize the now called prepuff is transferred to a mold at a maximum rate of 2400 lbs/hr where steam from the same boiler is used to further expand the prepuff/beads and fuse them together into a block form. The blocks/billets are then transferred from the mold to a storage area for aging and stabilization. After aging and stabilization has taken place, the blocks are then cut into specific dimensions for shipment as insulation products. Pentane emissions are exhausted by the expander through 1 stack, the storage bags as unconfined emissions, the mold through 2 roof top vents, and the block/billet storage area as unconfined emissions.

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

Attachments are listed below:

1. D.E.R. Application Form 17-1.202(1) submitted on Feb. 28, 1990.

PERMITTEE:
Carpenter Insulation Co.

Permit Number: AC 53-176858
Expiration Date: April 30, 1991

GENERAL CONDITIONS:

1. The terms, conditions, requirements, limitations, and restrictions set forth in this permit are "Permit Conditions" and are binding and enforceable pursuant to Sections 403.161, 403.727, or 403.859 through 403.861, Florida Statutes. The permittee is placed on notice that the Department will review this permit periodically and may initiate enforcement action for any violation of these conditions.

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

3. As provided in Subsections 403.087(6) and 403.722(5), Florida Statutes, the issuance of this permit does not convey any vested rights or any exclusive privileges. Neither does it authorize any injury to public or private property or any invasion of personal rights, nor any infringement of federal, state or local laws or regulations. This permit is not a waiver of or approval of any other Department permit that may be required for other aspects of the total project which are not addressed in the permit.

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

5. This permit does not relieve the permittee from liability for harm or injury to human health or welfare, animal, or plant life, or property caused by the construction or operation of this permitted source, or from penalties therefore; nor does it allow the permittee to cause pollution in contravention of Florida Statutes and Department rules, unless specifically authorized by an order from the Department.

PERMITTEE:
Carpenter Insulation Co.

Permit Number: AC 53-176858
Expiration Date: April 30, 1991

GENERAL CONDITIONS:

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

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

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

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

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

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

PERMITTEE:
Carpenter Insulation Co.

Permit Number: AC 53-176858
Expiration Date: April 30, 1991

GENERAL CONDITIONS:

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

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

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

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

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

13. The permittee shall comply with the following:

- a. Upon request, the permittee shall furnish all records and plans required under Department rules. During enforcement actions, the retention period for all records will be extended automatically unless otherwise stipulated by the Department.
- b. The permittee shall hold at the facility or other location designated by this permit records of all monitoring information (including all calibration and maintenance records and all original strip chart recordings for continuous monitoring instrumentation) required by the permit, copies of all reports required by this permit, and

PERMITTEE:
Carpenter Insulation Co.

Permit Number: AC 53-176858
Expiration Date: April 30, 1991

GENERAL CONDITIONS:

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

c. Records of monitoring information shall include:

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

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

SPECIFIC CONDITIONS:

Emission Limits

1. Allowable VOC (n-pentane) emissions from the entire facility shall not exceed the emission rates listed as follows:

	lbs	tons
Maximum Hourly	153	0.07
Maximum Daily	1,632	0.82
Maximum Annually	255,000	127.50

These emissions shall be verifiable on a daily (24-hr) basis by production and analysis of the raw material and product for n-pentane.

PERMITTEE:
Carpenter Insulation Co.

Permit Number: AC 53-176858
Expiration Date: April 30, 1991

SPECIFIC CONDITIONS:

2. VOC (n-pentane) emissions shall not cause ambient air concentrations to exceed the following acceptable ambient concentrations (AAC):

<u>Toxic Contaminant</u>	<u>Acceptable Ambient Concentrations</u>	<u>Avg. Time</u>
n-pentane	8,570 ug/m ³	24 hrs
(CAS#109-66-0)	36,000 ug/m ³	8 hrs

3. Visible emissions (excluding steam emissions) from the expanded bead and billet storage areas shall not exceed 20% opacity.

Compliance Determination

4. Compliance with the VOC emission limitations shall be determined by materials balance. At a minimum, the daily records shall include the amount of expandable polystyrene to the expander, the amount of material (prepuff) to the mold, a VOC analysis (pentane content) of the raw material and product, quantity of beads processed, and the operating time of the expander and mold. From this information, VOC emission rates can be demonstrated to the Department in the same manner as the emission values submitted with the application. Daily record keeping shall be kept and retained on file for at least 3 years.

5. Compliance with the visible emission (V.E.) standard shall be determined by Method 9, Visual Determination of the Opacity of Emissions from Stationary Sources, which is described in 40 CFR 60, Appendix A, July 1, 1988.

6. The V.E. compliance test shall comply with F.A.C. Rule 17-2.700. The source shall operate between 90 and 100% of permitted capacity during compliance test. The permittee shall notify the DER's Southwest District office in writing at least 15 days in advance of the compliance test. Compliance test results shall be submitted to the District no later than 45 days after completion.

7. Compliance with the acceptable ambient concentrations shall be demonstrated based on calculations done by the Professional Engineer using actual operating conditions. Determination of the ambient concentration for this toxic compound (n-pentane) shall be made with Department approved dispersion model calculations. Ambient monitoring may be used in addition to modeling.

PERMITTEE:
Carpenter Insulation Co.

Permit Number: AC 53-176858
Expiration Date: April 30, 1991

SPECIFIC CONDITIONS:

8. When the Department, after investigation, has good reason (such as complaints, increased visible emissions, etc.), to believe that any applicable emission standard contained in F.A.C. Chapter 17-2, or in this permit is being violated, it may require the owner or operator of the source to conduct compliance tests which identify the nature and quantity of pollutant emissions from the source and to provide a report on the results of the tests to the Department.

9. If any spills, leaks, releases, etc., occur the DER Southwest District office shall be promptly notified.

Operating Parameters

10. The permitted materials and utilization rates are as stated in the application. These rates include but are not limited to:

- A. A maximum usage of 3,000 lbs per hour, 32,000 lbs per day, and 5 million lbs per year of expandable polystyrene.
- B. A maximum operating time as follows:
 - 16 hrs/day and 260 days/yr for the expander,
 - 16 hrs/day and 260 days/yr for the mold, and
 - 24 hrs/day and 365 days/yr for the storage bags and block/billet storage area.
- C. A maximum of 3000 lbs/hr of expandable polystyrene inputted to the expander as determined from the daily mass transferred and the daily operating time.
- D. A maximum of 3000 lbs/hr of material (prepuff) transferred from the storage bags to the mold as determined from the daily mass transferred and the daily operating time.

Any other operating parameters established during compliance testing and/or inspection that will confirm the proper operation of this facility, may be included in the operating permit.

Rule Requirements

11. This facility shall comply with all applicable provisions of Chapter 403, Florida Statutes, and Chapters 17-2 and 17-4, Florida Administrative Code.

PERMITTEE:
Carpenter Insulation Co.

Permit Number: AC 53-176858
Expiration Date: April 30, 1991

SPECIFIC CONDITIONS:

12. Issuance of this permit does not relieve the facility owner or operator from compliance with any applicable federal, state, or local permitting requirements and regulations (F.A.C. Rule 17-2.210(1)).

13. According to F.A.C. Rule 17-2.620(1)(a), no person shall store, pump, handle, process, load, unload, or use in any process or installation volatile organic compounds or organic solvents without applying known and existing vapor emission control devices or systems deemed necessary and ordered by the Department. Currently, there are no control strategies associated with this operation other than crew efficiency to minimize pollutant emissions. The following procedures shall be utilized to minimize pollutant emissions:

- maintain tightly fitting covers, lids, etc., on all containers of VOC when they are not being handled, tapped, etc.;
- prevent excessive air turbulence across exposed VOCs;
- where possible and practical, procure/fabricate a tightly fitting cover for any open trough, basin, bath, etc., of VOC so that it can be covered when not in use;
- all fittings, valve lines, etc., shall be properly maintained; and,
- all VOC spills shall be attended to immediately and the waste properly disposed of, recycled, etc.

14. No person shall cause, suffer, allow, or permit the discharge of air pollutants which cause or contribute to an objectionable odor pursuant to F.A.C. Rule 17-2.620(2). Objectionable odor is defined as any odor present in the outdoor atmosphere which by itself or in combination with other odors, is or may be harmful or injurious to human health or welfare, which unreasonably interferes with the comfortable use and enjoyment of life or property, or which creates a nuisance pursuant to F.A.C. Rule 17-2.100(135). Odor is defined as a sensation resulting from stimulation of the human olfactory organ pursuant to F.A.C. Rule 17-2.100(136).

15. Pursuant to F.A.C. 17-2.210(2) Air Operating Permits, the permittee will be required to submit annual reports on the actual operating rates and emissions from the facility. These reports shall include but are not limited to the following: density of chemical compound, utilization rates (lbs/yr), VOC emissions (tons/yr, lbs/day, and lbs/hr), hours of operation, etc. Annual reports shall be sent to the Department's Southwest District office.

PERMITTEE:
Carpenter Insulation Co.

Permit Number: AC 53-176858
Expiration Date: April 30, 1991

SPECIFIC CONDITIONS:

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

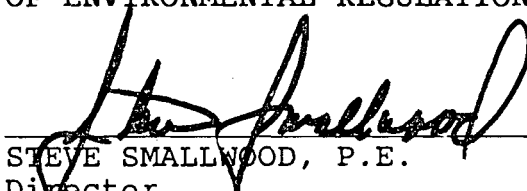
17. An application for an operation permit must be submitted to the Southwest District office at least 90 days prior to the expiration date of this construction permit or within 45 days after completion of compliance testing, whichever occurs first. To properly apply for an operation permit, the applicant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

Other

18. This permit replaces current permit AC 53-160500.

Issued this 3rd day
of July, 1990

STATE OF FLORIDA DEPARTMENT
OF ENVIRONMENTAL REGULATION



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



State of Florida
DEPARTMENT OF ENVIRONMENTAL REGULATION

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

Interoffice Memorandum

TO: Steve Smallwood
FROM: *for* Clair Fancy *JCP*
DATE: July 2, 1990
SUBJ: Approval of Permit Application

Attached for your approval and signature is a permit prepared by the Bureau of Air Regulation for Carpenter Insulation Company to construct a polystyrene manufacturing facility in Lakeland, Polk County, Florida.

Comments were submitted on the Department's Intent to Issue this permit and are addressed in the Final Determination.

Day 90, after which this permit will be issued by default, is July 14, 1990.

I recommend your approval and signature.

CF/TH/plm

Attachment

engineers • scientists • surveyors



chastain
skillman
incorporated
4705 Old Highway 37
P.O. Box 5710
Lakeland, FL 33807-5710
813/646-1402

RECEIVED
LETTER OF TRANSMITTAL
JUN 07 1990

TO: Department of Environmental Regulation
4520 Oak Fair Boulevard
Tampa, Florida 33610-7347

DATE:	June 1, 1990
ATTENTION:	Mr. James McDonald - Air Permits
RE:	Carpenter Insulation Co.
	Lakeland Polystyrene Plant - Permit
PROJECT PHASE:	

GENTLEMEN:

WE ARE SENDING YOU

- Prints
- Copy
- Reproducibles
- Change Order
- Permit Applications
- Specifications

COPIES	SHEET NO.	ISSUE NO.	DATE	DESCRIPTION
1			5/15/90	Affidavit of Publication of the Notice of Intent to Issue a Permit D.E.R. JUN - 4 1990 SOUTHWEST DISTRICT TAMPA

THESE ARE TRANSMITTED as checked below:

- For approval
- For review & comment
- Approved as submitted
- For your use
- For construction
- Approved as noted
- For signature
- As requested
- Revise/Resubmit by _____

REMARKS: This confirms the Notice of Intent was published in the local newspaper on May 15, 1990. We understand DER can issue the permit if no adverse public comments were received within 14 days after publication. Please arrange for prompt issuance of the permit upon receiving this affidavit.

COPY TO: David Crum

SIGNED:
William R. Johnson, P.E.

DEPARTMENT OF ENVIRONMENTAL REGULATION

ROUTING AND TRANSMITTAL SLIP

ACTION NO

ACTION DUE DATE

1. TO: (NAME, OFFICE, LOCATION)

Ms. Teresa Heron

Initial

Date

2.

DER - Tallahassee

Initial

Date

3.

Twin Towers

Initial

Date

4.

Air Resource Management

Initial

Date

REMARKS:

Attached is the proof of publication for Carpenter Insulation Co.

INFORMATION

Review & Return

Review & File

Initial & Forward

DISPOSITION

Review & Respond

Prepare Response

For My Signature

For Your Signature

Let's Discuss

Set Up Meeting

Investigate & Report

Initial & Forward

Distribute

Concurrence

For Processing

Initial & Return

FROM:

Jim McDonald

DATE

6-5-90

PHONE

AFFIDAVIT OF PUBLICATION

THE LEDGER Lakeland, Polk County, Florida

Case No.....

STATE OF FLORIDA)
COUNTY OF POLK)

Before the undersigned authority personally appeared Stephen DeWitt, who on oath says that he is Controller of The Ledger, a daily newspaper published at Lakeland in Polk County, Florida; that the attached copy of advertisement, being a.....

Notice of Intent.....

in the matter of

ER Carpenter Co.....

in the

Court, was published in said newspaper in the issues of

May 15,

1990.....

Affiant further says that said The Ledger is a newspaper published at Lakeland, in said Polk County, Florida, and that the said newspaper has heretofore been continuously published in said Polk County, Florida, daily, and has been entered as second class matter at the post office in Lakeland, in said Polk 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 the said newspaper.

Signed..... *Stephen P. DeWitt*
Controller

Sworn to and subscribed before me this..... 17th.....

day of..... May..... A.D. 19..... 1990.....

Barbara Thegper
Notary Public

NOTARY PUBLIC, STATE OF FLORIDA.
MY COMMISSION EXPIRES: NOV. 11, 1990.
BONDED THRU NOTARY PUBLIC UNDERWRITERS.

My Commission Expires
R-88
Johnson Proj #3135.04

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

The Department of Environmental Regulation hereby gives notice of its intent to issue a permit to Carpenter Insulation Company, P. O. Box 34529, Richmond, VA 23234 to construct/modify/relocate a polystyrene manufacturing facility in Lakeland, Polk County, Florida. This facility will emit 127.5 tons of VOC per year. A determination of Best Available Control Technology (BACT) was not required. The Department is issuing this intent to issue for the reasons stated in the Technical Evaluation and Preliminary Determination.

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

The Petition shall contain the following information:

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

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

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

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

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

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

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

If a petition is filed, the administrative hearing process is designed to formulate agency action. Accordingly, the Department's final action may be different from the position taken by it in this Notice. Persons whose substantial interests will be affected by any decision of the Department with regard to the application have the right to petition to become a party to the proceeding. The petition must conform to the requirements specified above and be filed (received) within 14 days of publication of this notice in the Office of General Counsel at the above address of the Department. Failure to petition within the allowed time frame constitutes a waiver of any right such person has to request a hearing under Section 120.57, F.S., and to participate as a party to this proceeding. Any subsequent intervention will only be at the approval of the presiding officer upon motion filed pursuant to Rule 28.5.207, F.A.C.

The application is available for public inspection during business hours, 8:00 a.m. to 5:00 p.m., Monday through Friday, except legal holidays, at: Department of Environmental Regulation Bureau of Air Regulation 2600 Blair Stone Road Tallahassee, Florida 32399-2400 Department of Environmental Regulation Southwest District 4520 Oak Fair Boulevard Tampa, Florida 33610-7347

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

R-88 — 5-15; 1990

E. R. CARPENTER COMPANY, INC.

M. H. REINHART TECHNICAL CENTER
P. O. BOX 34526
RICHMOND, VIRGINIA 23234
TELEPHONE: (804) 233-0606
FAX: (804) 233-7741



May 18, 1990

Mr. Barry Andrews
State of Florida
Department of Environmental Regulation
2600 Blair Stone Rd
Tallahassee, FL 32399-2400

Dear Mr. Andrews,

I am writing in response to the draft permit that we received from your office on May 9, 1990. After reviewing the draft copy, we feel that there are several items that need to be clarified.

On page five of the Permit, Paragraph 1 of Specific Conditions, there is a chart that displays the allowable emission rates for each source location. These rates are based on average percent loss figures that are a result of extensive studies performed within the industry. Please find enclosed a copy of the study results and note that for each source location there is an average loss figure listed, as well as, an expected loss range.

Emission rates are variable and depend upon the manufacturer, size, pentane content, density required, and several other factors. Additionally, some beads are expanded a second time before they are molded. Consequently, it is difficult, if not impossible, to predict exact emission rates. Many studies have been done and the results of those studies were used in estimating emission amounts for this application. Also, manufacturing flexibility requirements dictate less stringent hourly and daily limits than annual limits. Since the DER needs measurable methods of control, we recommend that all emission rates be permitted and controlled by limiting the pentane content of the beads and the quantity of beads processed each hour as follows:

- 1. Allowable VOC (n-pentane) emissions shall be calculated and limited as follows:

	BEADS (LBS)		PENTANE EMISSIONS
Maximum/Hour	3,000	x .051	153 lbs/hr
Maximum/Day	32,000	x .051	1,632 lbs/day
Maximum /Year	5,000,000	x .051	127.5 Tons/yr

RECEIVED
MAY 21 1990
DER-BAQM

Beads processed shall be the average of beads through the first pass expander and the mold calculated as follows:

$$\text{beads(lbs)} = \frac{\text{lbs beads expanded (1st pass)} + \text{lbs bead molded}}{2}$$

Total VOC emissions from the entire facility, calculated as indicated above, shall not exceed 153 lbs/hr, 1632 lbs/day, 127.5 Tons/yr. These emission rates shall be verifiable based on bead usage on a 24 hour basis.

Another item in Paragraph 10, item B of Operating Parameters, that we would like to amend is the operating times for the expander and the mold. Instead of "Assumes emissions occur 16 hrs/day, 250 days/yr", we would like the permit to read "Assumes emissions occur 4160 hrs/yr". Basically, we are asking for 16 hrs/day, ~~260~~ days/yr. Also, the storage bag and block/billet storage area should read "365 days/year".

The values listed in 10C and D for the expanded lbs/hr, and the molded lbs/hr are listed as "shall not exceed" values when in fact they represent average amounts. Stated correctly, the expanded rate will average 2000 lbs/hr and shall not exceed 3000 lbs/hr, and the mold rate will average 2400 lbs/hr, and shall not to exceed 3000 lbs/hr. Even at these maximum rates, we would still be at approximately one fifth the AAC for eight hours and less than half of the AAC for 24 hours (based on results obtained using the ISCST dispersion model).

In the Specific Conditions section, on page 9 of 9, item number 18 should read "This permit modifies current permit AC 53-160500" not "This permit replaces current permit AC 53-160500."

Regarding item 3 in the Specific Conditions section on page 6 of 9, we feel that a visible emissions test is unnecessary (since we have no visible emissions other than steam) and we would like to delete this condition from our permit.

Finally, we would like to waive the test requirement (EPA Method 25A) that is listed in item 4 in the Specific Conditions section on page 6 of 9. We feel that the comprehensive emission studies conducted within the industry are representative of our operation and additional testing would only prove to be redundant and costly. We will demonstrate compliance with the VOC emission limitation by following the documentation and record keeping procedures as listed in item 4 and in our revised Paragraph 1 of the Specific Conditions.

Please contact me at (804) 233 0606 if you should have

any questions regarding our proposed amendments. Thank you
for your cooperation.

Sincerely,

A handwritten signature in cursive script that reads "David Crum". The signature is fluid and connected, with a long horizontal stroke at the end.

David Crum
Corporate Industrial Engineer

cc: J. Heron
B. Thomas, SW Dist
B. Andrews

Arco™ Pentane Loss Analysis (% Of Original Pentane)

	<u>% Lost During Expansion</u>	<u>% Lost During 24 Hrs. Storage of PrePuff</u>	<u>% Lost During Molding</u>	<u>% Lost 1st 24 Hours After Molding</u>	<u>% Lost 2nd 24 Hours After Molding</u>
Average	24%	19%	14%	15%	13%
Range	10-44%	5-37%	4-31%	5-30%	3-23%

Average % Pentane Left in Molded Product After 48Hours = 15%

P 052 482 252

RECEIPT FOR CERTIFIED MAIL

NO INSURANCE COVERAGE PROVIDED
NOT FOR INTERNATIONAL MAIL

(See Reverse)

Sent to Mr. D. R. Crum	
Street and No. P. O. Box 34526	
P.O., State and ZIP Code Richmond, VA 23234	
Postage	\$
Certified Fee	
Special Delivery Fee	
Restricted Delivery Fee	
Return Receipt showing to whom and Date Delivered	
Return Receipt showing to whom, Date, and Address of Delivery	
TOTAL Postage and Fees	\$
Postmark or Date Mailed: 5-4-90 Permit: AC 53-176858	

PS Form 3800, June 1985

<p>SENDER: Complete items 1 and 2 when additional services are desired, and complete items 3 and 4. Put your address in the "RETURN TO" Space on the reverse side. Failure to do this will prevent this card from being returned to you. The return receipt fee will provide you the name of the person delivered to and the date of delivery. For additional fees the following services are available. Consult postmaster for fees and check box(es) for additional service(s) requested.</p> <p>1. <input type="checkbox"/> Show to whom delivered, date, and addressee's address. (Extra charge) 2. <input type="checkbox"/> Restricted Delivery (Extra charge)</p>	
<p>3. Article Addressed to: Mr. D. R. Crum Corporate Industrial Engineer MH Reinhart Technical Center P. O. Box 34526 Richmond, VA 23234</p>	<p>4. Article Number P 052 482 252</p> <p>Type of Service: <input type="checkbox"/> Registered <input type="checkbox"/> Insured <input checked="" type="checkbox"/> Certified <input type="checkbox"/> COD <input type="checkbox"/> Express Mail <input type="checkbox"/> Return Receipt for Merchandise</p> <p>Always obtain signature of addressee or agent and DATE DELIVERED.</p>
<p>5. Signature — Address X</p>	<p>8. Addressee's Address (ONLY if requested and fee paid)</p>
<p>6. Signature — Agent X <i>Diane Smelser</i></p>	
<p>7. Date of Delivery MAY 10 1990</p>	



Florida Department of Environmental Regulation

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

Bob Martinez, Governor

Dale Twachtman, Secretary

John Shearer, Assistant Secretary

May 4, 1990

CERTIFIED MAIL-RETURN RECEIPT REQUESTED

Mr. D. R. Crum
Corporate Industrial Engineer
MH Reinhart Technical Center
P. O. Box 34526
Richmond, VA 23234

Dear Mr. Crum:

Attached is one copy of the Technical Evaluation and Preliminary Determination and proposed permit to construct/modify a polystyrene manufacturing facility at the new Carpenter Insulation Company's chemical complex in Lakeland, Polk County, Florida.

Please submit any written comments you wish to have considered concerning the Department's proposed action to me.

Sincerely,

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

CHF/TH/plm

Attachments

c: Bill Thomas, DER Tampa
Jerry Campbell, HCEPC Tampa
William R. Johnson, P.E.



BEFORE THE STATE OF FLORIDA
DEPARTMENT OF ENVIRONMENTAL REGULATION

In the Matter of
Application for Permit by:

MH Reinhart Technical Center
P. O. Box 34526
Richmond, VA 23234

DER File No. AC 53-176858

INTENT TO ISSUE

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

The applicant, Carpenter Insulation Company, applied on February 28, 1990, to the Department of Environmental Regulation for a permit to construct/modify a polystyrene manufacturing facility at the new Carpenter Insulation Company's chemical complex in Lakeland, Polk County, Florida.

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

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

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

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

The Petition shall contain the following information;

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

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

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

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

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

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

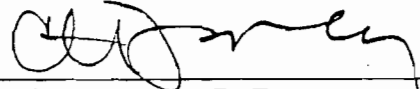
(g) A statement of the relief sought by petitioner, stating precisely the action petitioner wants the Department to take with respect to the Department's action or proposed action.

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

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

Executed in Tallahassee, Florida.

STATE OF FLORIDA DEPARTMENT
OF ENVIRONMENTAL REGULATION



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

Copies furnished to:

Bill Thomas, DER Tampa
Jerry Campbell, HCEPC Tampa
William R. Johnson, P.E.

CERTIFICATE OF SERVICE

The undersigned duly designated deputy clerk hereby certifies that this NOTICE OF INTENT TO ISSUE and all copies were mailed before the close of business on 5-4-90.

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

Kenneth J. Ober
Clerk

5-4-90
Date

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

The Department of Environmental Regulation hereby gives notice of its intent to issue a permit to Carpenter Insulation Company, P. O. Box 34529, Richmond, VA 23234 to construct/modify/relocate a polystyrene manufacturing facility in Lakeland, Polk County, Florida. This facility will emit 127.5 tons of VOC per year. A determination of Best Available Control Technology (BACT) was not required. The Department is issuing this Intent to Issue for the reasons stated in the Technical Evaluation and Preliminary Determination.

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

The Petition shall contain the following information:

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

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

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

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

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

Department of Environmental Regulation
Southwest District
4520 Oak Fair Boulevard
Tampa, Florida 33610-7347

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

Technical Evaluation
and
Preliminary Determination

Carpenter Insulation Company
Lakeland, Polk County, Florida

Polystyrene Manufacturing Facility
AC 53-176858

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

May 4, 1990

SYNOPSIS OF APPLICATION

I. NAME AND ADDRESS OF APPLICANT

Carpenter Insulation Co.
P. O. Box 34529
Richmond, VA 23234

II. REVIEWING AND PROCESS SCHEDULE

Date of Receipt of Application: February 28, 1990 at the Southwest District office in Tampa.

Application Completeness Date: February 28, 1990.

III. FACILITY INFORMATION

III.1 Facility Location

The new proposed polystyrene product manufacturing plant will be located at S. Frontage of I-4 and Kensinger Road, in Lakeland, Polk County, Florida. The UTM coordinates are 397,000 M north and 31,050 M east.

III.2 Facility and Source Identification Codes

Standard Industrial Classification Code (SIC): 2821
Plastic Materials and Synthetic Resins, Synthetic Rubber, Cellulosic and other Manmade Fibers, except Glass.

Source Classification Code (SCC): 3-01-018-17 Polystyrene

Air Pollutant Inventory System (APIS) number:

40TPA530192 01 Expander Stack No. 1
40TPA530192 02 Mold Stack No. 2
40TPA530192 03 Mold Stack No. 3
40TPA530192 04 Unconfined Emissions

III.3 Facility Category

Carpenter Insulation Co. will be classified as a major facility as a result of the proposed modification. The total volatile organic compounds (VOC) emissions for this facility shall not exceed 127.5 tons per year.

IV. PROJECT DESCRIPTION

The project involves the relocation (from 3130 Reynolds Road to S. Frontage of I-4 and Kensinger Road) and expansion of the polystyrene products plant. This modification will increase

the permitted VOC emissions for this facility from 57 tons per year to 127.5 tons per year. File records show the Department (Southwest District office) issued an after-the-fact construction permit No. AC 53-160500 for the existing facility on August 4, 1989.

V. PROCESS DESCRIPTION

Polystyrene beads arrive at the plant in cardboard boxes (gaylords) and are fed directly into the expander by vacuum. Steam is added to the process, swirling the beads about. Stationary bars run across the inside of the expander to keep the beads from fusing together. The steam expands the pentane causing the bead to swell or "blow up" in size. The bead that initially was the size of a grain of salt is now the size of a small ball bearing.

The beads now flow into the fluidized bed dryer. This is an inclined perforated plenum that allows air to flow up into the beads. This upward airflow gives the appearance that the beads are "boiling" or "bubbling".

From the fluidized bed dryer, the beads flow through an air lock and ductwork before it is blown into huge storage bags until molding.

At molding, beads flow from bag storage to the molder and are steamed and compressed into large blocks. The blocks are then removed and stored in the block storage area. The blocks of EPS are then run through various cutting operations, packaged, and shipped to the customer.

VI. RULE APPLICABILITY

The proposed project is subject to preconstruction review under the provisions of Chapter 403, Florida Statutes, and Florida Administrative Code (F.A.C.) Chapters 17-2 and 17-4.

This facility is located in an area, Polk County, classified as an attainment area for all criteria pollutants, F.A.C. Rule 17-2.420.

This project is exempt from the Prevention of Significant Deterioration (PSD) requirement, F.A.C. Rule 17-2.500, because the modification itself (70.5 tons VOC/yr) does not constitute a major facility. This facility's total permitted VOC emissions will not exceed 127.5 tons/yr. Any future emission increase or decrease within 5 years of this modification will be counted as part of the contemporaneous emission change for this facility (F.A.C. Rule 17-2.500(2)(e)3).

This facility shall be permitted under F.A.C. Rule 17-2.520, Sources Not Subject to Prevention of Significant Deterioration or Nonattainment Requirements.

The proposed source shall comply with F.A.C. Rule 17-2.210, Permits Required; F.A.C. Rule 17-2.620 (1) and (2), General Pollutant Emission Limiting Standard; applicable sections of F.A.C. Rule 17-2.700, Stationary Point Sources Emission Test Procedures; and F.A.C. Rule 17-2.610(2)(a) and (3), General Visible Emissions Standard.

VII. EMISSIONS SUMMARY

VII.1 Emission Limitations

The operation of the polystyrene products plant will produce emissions of volatile organic compounds (VOC) to the atmosphere. The allowable emissions for this facility shall not exceed the emission rates listed as follows:

Source Location	Allowable Emissions		
	lb/hr	lbs/day	tons/yr
Expander*	18.0	288	36.0
Bag Storage***	6.5	156	28.5
Molding**	10.5	168	21.0
Block Storage***	9.6	230	42.0
TOTAL	44.6	842.4	127.5

* Assumes emissions occur 16 hrs/day, 250 days/yr

** Assumes emissions occur 16 hrs/day, 250 days/yr

*** Assumes emissions occur 24 hrs/day, 365 days/yr

The permitted materials and utilization rates for n-pentane shall not exceed the values as follows:

- 5,000,000 lbs annual usage,
- 6% pentane by weight in raw materials,
- 0.9% n-pentane by weight in shipped products,
- a maximum of 2,000 lbs/hr of expandable polystyrene inputted to the expander as determined from the daily operating time,
- a maximum 2,400 lbs/hr of material (prepuff) transferred from the storage bags to the mold as determined from the daily operating time.

NET EMISSION CHANGES		
Year		Tons Per Year
1989	Existing Permitted Emissions	57
1990	Proposed Emissions	127.5
1990	Net Increase	70.5

VII.2 Air Toxics Evaluation

The operation of the polystyrene manufacturing plant will produce emissions of a volatile organic compound which may be toxic in high concentrations. This compound, n-pentane, is considered a Category B toxic. The emission rate of this chemical (n-pentane) shall not create ambient concentrations greater than the acceptable ambient concentrations (AAC) listed below. Determination of the acceptable ambient concentration for this chemical organic compound shall be made with Department approved dispersion model calculations or ambient monitoring (refer to the Department's air toxic guidelines).

Toxic Contaminant	Acceptable Ambient Concentrations	Avg. Time
n-pentane	8,570 ug/m ³	24 hrs
(CAS#109-66-0)	36,000 ug/m ³	8 hrs

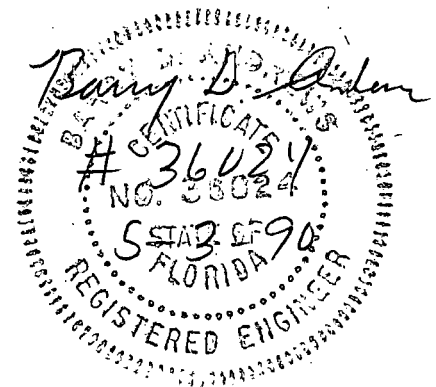
This polystyrene manufacturing facility shall meet both of the AAC stated above.

VII.3 Air Quality Review

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

VIII. CONCLUSION

Based on the information provided by Carpenter Insulation Co., the Department has reasonable assurance that the proposed facility, as described in this evaluation, and subject to the conditions proposed herein, will not cause or contribute to a violation of any air quality standard, PSD increment, or any other technical provision of Chapter 17-2 of the Florida Administrative Code.





Florida Department of Environmental Regulation

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

Bob Martinez, Governor

Dale Twachtmann, Secretary

John Shearer, Assistant Secretary

PERMITTEE:
Carpenter Insulation Company
P. O. Box 34529
Richmond, VA 23234

Permit Number: AC 53-176858
Expiration Date: April 30, 1991
County: Polk
Latitude/Longitude: 28°03'00"N
82°02'30"W

Project: Polystyrene Manufacturing
Facility

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

For the construction of a polystyrene products manufacturing facility. This facility receives expandable polystyrene which contains approximately 6% by weight of pentane and injects the polystyrene into an expander at a maximum rate of 2000 lbs/hr. Inside the expander, steam from a natural gas fired boiler with a maximum heat input of 6.3 MMBTU/hr is used to expand the polystyrene to approximately 1/8" diameter. The expanded polystyrene is then discharged through a fluidized bed to storage bags. After aging in the storage bags to stabilize the now called prepuff is transferred to a mold at a maximum rate of 2400 lbs/hr where steam from the same boiler is used to further expand the prepuff/beads and fuse them together into a block form. The blocks/billets are then transferred from the mold to a storage area for aging and stabilization. After aging and stabilization has taken place, the blocks are then cut into specific dimensions for shipment as insulation products. Pentane emissions are exhausted by the expander through 1 stack, the storage bags as unconfined emissions, the mold through 2 roof top vents, and the block/billet storage area as unconfined emissions.

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

Attachments are listed below:

1. D.E.R. Application Form 17-1.202(1) submitted on Feb. 28, 1990.

PERMITTEE:
Carpenter Insulation Co.

Permit Number: AC 53-176858
Expiration Date: April 30, 1991

GENERAL CONDITIONS:

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

PERMITTEE:
Carpenter Insulation Co.

Permit Number: AC 53-176858
Expiration Date: April 30, 1991

GENERAL CONDITIONS:

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

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

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

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

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

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

PERMITTEE:
Carpenter Insulation Co.

Permit Number: AC 53-176858
Expiration Date: April 30, 1991

GENERAL CONDITIONS:

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

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

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

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

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

13. The permittee shall comply with the following:

- a. Upon request, the permittee shall furnish all records and plans required under Department rules. During enforcement actions, the retention period for all records will be extended automatically unless otherwise stipulated by the Department.
- b. The permittee shall hold at the facility or other location designated by this permit records of all monitoring information (including all calibration and maintenance records and all original strip chart recordings for continuous monitoring instrumentation) required by the permit, copies of all reports required by this permit, and

PERMITTEE:
Carpenter Insulation Co.

Permit Number: AC 53-176858
Expiration Date: April 30, 1991

GENERAL CONDITIONS:

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

c. Records of monitoring information shall include:

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

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

SPECIFIC CONDITIONS:

Emission Limits

1. Allowable VOC (n-pentane) emissions shall not exceed the emission rates listed as follows:

Source Location	Allowable VOC Emissions		
	lb/hr	lbs/day	tons/yr
Expander	18.0	288	36.0
Bag Storage	6.5	156	28.5
Molding	10.5	168	21.0
Block Storage	9.6	230	42.0
TOTAL	44.6	842.4	127.5

Total VOC emissions from the entire facility shall not exceed 44.6 lbs/hr, 842.4 lbs/day, and 127.5 tons/yr. These emissions shall be verifiable on a daily (24-hr) basis.

PERMITTEE:
Carpenter Insulation Co.

Permit Number: AC 53-176858
Expiration Date: April 30, 1991

SPECIFIC CONDITIONS:

2. VOC (n-pentane) emissions shall not cause ambient air concentrations to exceed the following acceptable ambient concentrations (AAC):

<u>Toxic Contaminant</u>	<u>Acceptable Ambient Concentrations</u>	<u>Avg. Time</u>
n-pentane	8,570 ug/m ³	24 hrs
(CAS#109-66-0)	36,000 ug/m ³	8 hrs

3. Visible emissions from the expanded bead and billet storage areas shall not exceed 20% opacity.

Compliance Determination

4. Compliance with the VOC standard shall be determined by EPA Method 25A, Determination of Total Gaseous Organic Concentrations Using a Flame Ionization Analyzer, in accordance with 40 CFR, Appendix A (July 1, 1988) and F.A.C. Rule 17-2.700 or other methods approved by the Department. Concentration data and calculated mass emission rate will be reported to the Southwest District office. Additionally, compliance with the VOC emission limitations will be maintained based on the VOC inventory. At a minimum the daily records shall include the amount of expandable polystyrene to the expander, the amount of material (prepuff) to the mold, and the operating time of the expander and mold. From this information, VOC emission rates can be determined by the Department in the same manner as the emission values submitted with the application. Daily record keeping shall be kept and retained on file for at least 3 years.

5. Compliance with the visible emission (V.E.) standard shall be determined by Method 9, Visual Determination of the Opacity of Emissions from Stationary Sources, which is described in 40 CFR 60, Appendix A, July 1, 1988.

6. Test results will be the average of 3 valid runs. The source shall be operating between 90 and 100% of permitted capacity. The permittee shall notify the DER's Southwest District office in writing at least 15 days in advance of the compliance test. Compliance test results shall be submitted to the District no later than 45 days after the final run.

7. Compliance with the acceptable ambient concentrations shall be demonstrated based on calculations done by the P.E. engineer using actual operating conditions. Determination of the ambient concentration for this toxic compound (n-pentane) shall be made

PERMITTEE:
Carpenter Insulation Co.

Permit Number: AC 53-176858
Expiration Date: April 30, 1991

SPECIFIC CONDITIONS:

with Department approved dispersion model calculations or ambient monitoring.

8. When the Department, after investigation, has good reason (such as complaints, increased visible emissions, etc.), to believe that any applicable emission standard contained in F.A.C. Chapter 17-2, or in this permit is being violated, it may require the owner or operator of the source to conduct compliance tests which identify the nature and quantity of pollutant emissions from the source and to provide a report on the results of the tests to the Department.

9. If any spills, leaks, releases, etc., occur the DER Southwest District office shall be promptly notified.

Operating Parameters

10. The permitted materials and utilization rates are as stated in the application. These rates include but are not limited to:

- A. A maximum usage of 5 million lbs/yr of expandable polystyrene.
- B. A maximum operating time as follows:
 - 16 hrs/day and 250 days/yr for the expander,
 - 16 hrs/day and 250 days/yr for the mold, and
 - 24 hrs/day and 250 days/yr for the storage bags and block/billet storage area.
- C. A maximum of 2000 lbs/hr of expandable polystyrene inputted to the expander as determined from the daily operating time.
- D. A maximum of 2400 lbs/hr of material (prepuff) transferred from the storage bags to the mold as determined from the daily operating time.

Any other operating parameters established during compliance testing and/or inspection that will confirm the proper operation of this facility, shall be included in the operating permit.

Rule Requirements

11. This facility shall comply with all applicable provisions of Chapter 403, Florida Statutes, and Chapters 17-2 and 17-4, Florida Administrative Code.

PERMITTEE:
Carpenter Insulation Co.

Permit Number: AC 53-176858
Expiration Date: April 30, 1991

SPECIFIC CONDITIONS:

12. This permit does not preclude compliance with any applicable federal, state, or local permitting requirements and regulations (F.A.C. Rule 17-2.210(1)).

13. According to F.A.C. Rule 17-2.620(1)(a), no person shall store, pump, handle, process, load, unload, or use in any process or installation volatile organic compounds or organic solvents without applying known and existing vapor emission control devices or systems deemed necessary and ordered by the Department. Currently, there are no control strategies associated with this operation other than crew efficiency to minimize pollutant emissions. The following procedures shall be utilized to minimize pollutant emissions, but shall not be limited to:

- maintain tightly fitting covers, lids, etc., on all containers of VOC when they are not being handled, tapped, etc.;
- prevent excessive air turbulence across exposed VOCs;
- where possible and practical, procure/fabricate a tightly fitting cover for any open trough, basin, bath, etc., of VOC so that it can be covered when not in use;
- all fittings, valve lines, etc., shall be properly maintained; and,
- all VOC spills shall be attended to immediately and the waste properly disposed of, recycled, etc.

14. No person shall cause, suffer, allow, or permit the discharge of air pollutants which cause or contribute to an objectionable odor pursuant to F.A.C. Rule 17-2.620(2). Objectionable odor is defined as any odor present in the outdoor atmosphere which by itself or in combination with other odors, is or may be harmful or injurious to human health or welfare, which unreasonably interferes with the comfortable use and enjoyment of life or property, or which creates a nuisance pursuant to F.A.C. Rule 17-2.100(135). Odor is defined as a sensation resulting from stimulation of the human olfactory organ pursuant to F.A.C. Rule 17-2.100(136).

15. Pursuant to F.A.C. 17-2.210(2) Air Operating Permits, the permittee will be required to submit annual reports on the actual operating rates and emissions from the facility. These reports shall include but are not limited to the following: density of chemical compound, utilization rates (lbs/yr), VOC emissions (tons/yr, lbs/day, and lbs/hr), hours of operation, etc. Annual reports shall be sent to the Department's Southwest District office.

PERMITTEE:
Carpenter Insulation Co.

Permit Number: AC 53-176858
Expiration Date: April 30, 1991

SPECIFIC CONDITIONS:

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

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

Other

18. This permit replaces current permit AC 53-160500.

19. Hazardous waste generated in connection with any of the sources at this facility must be disposed of in accordance with 40 CFR, Parts 260-271 and F.A.C. Chapter 17-730.

20. There shall be no discharges of liquid effluents, or contaminated runoff to surface or groundwater without prior approval from the Department's Southwest District office.

Issued this _____ day
of _____, 1990

STATE OF FLORIDA DEPARTMENT
OF ENVIRONMENTAL REGULATION

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

RECEIVED

E. R. CARPENTER COMPANY, INC.

M. H. REINHART TECHNICAL CENTER
P. O. BOX 34526
RICHMOND, VIRGINIA 23234
TELEPHONE: (804) 233-0606
FAX: (804) 233-7741

APR 23 1990



DER-BAQM CARPENTER

April 18, 1990

Ms. Theresa Heran
State of Florida
Department of Environmental Regulation
2600 Blairstone Rd
Tallahassee, FL 32399-2400

Dear Ms. Heran,

As you requested, I have enclosed a MSDS sheet for pentane, a pentane loss analysis conducted by ARCO, and a brief summary of the calculations and assumptions that I made when I increased the emission level from 115.5 to 127.5 tons.

The increase in the requested emission amount is attributed to the fact that initially we only accounted for the pentane that was emitted during the first 24 hours after molding. The revised number (127.5 tons), includes the additional pentane that is emitted during the second 24 hours after molding. Originally, the % Loss number shown for the Block Storage area was 15%, but by including this additional pentane emission, the % Loss figure is increased to 28%.

Please contact me at (804) 233 0606 if you should need any additional information. Thank you for your cooperation.

Sincerely,

David Crum
Corporate Industrial Engineer

EMISSION SUMMARY

4/18/90

Assumptions: 5,000,000 lbs annual usage
 6.0% pentane by weight in raw material
 0.9% n-pentane by weight in shipped product
 5,000,000(6.0% - 0.9%) = 255,000 lbs = 127.5 tons

Location	% Loss	Actual Emission		Potential Emission	
		Lbs/hr	Tons/yr	Lbs/hr	Tons/yr
Expander *	24.0%	18.0	36.0	18.0	36.0
Bag Storage ***	19.0%	6.5	28.5	6.5	28.5
Molding **	14.0%	10.5	21.0	10.5	21.0
Block Storage ***	28.0%	9.6	42.0	9.6	42.0
Total		44.6	127.5	44.6	127.5

* Assumes emissions occur 16 hours/day, 250 days/year.

** Assumes emissions occur 16 hours/day, 250 days/year.

*** Assumes emissions occur 24 hours/day, 365 days/year.

Block storage figure represents the amount of pentane emitted from the block storage area 48 hours after molding.

CALCULATIONS

<u>Location</u>	<u>% Loss</u>	<u>Actual Emissions</u>
Expander	24.0 %	.24(5,000,000)(.06)/250/16 = <u>18.0 Lbs/hr</u> 18.0(16)(250)/2000 = 36.0 Tons/yr
Bag Storage	19.0 %	.19(5,000,000)(.06)/365/24 = <u>6.5 Lbs/hr</u> 6.5(365)(24)/2000 = 28.5 Tons/yr
Molding	14.0 %	.14(5,000,000)(.06)/250/16 = <u>10.5 Lbs/hr</u> 10.5(16)(250)/2000 = 21.0 Tons/yr
Block Storage (48 hour)	28.0 %	.28(5,000,000)(.06)/365/24 = <u>9.6 Lbs/hr</u> 9.6(365)(24)/2000 = 30.0 Tons/yr

9.6

125

Arco™ Pentane Loss Analysis (% Of Original Pentane)

	<u>% Lost During Expansion</u>	<u>% Lost During 24 Hrs. Storage of PrePuff</u>	<u>% Lost During Molding</u>	<u>% Lost 1st 24 Hours After Molding</u>	<u>% Lost 2nd 24 Hours After Molding</u>
Average	24%	19%	14%	15%	13%
Range	10-44%	5-37%	4-31%	5-30%	3-23%

Average % Pentane Left in Molded Product After 48Hours = 15%

MATERIAL SAFETY DATA SHEET

Unocal Corporation
 1201 West 5th Street, P.O. Box 7600
 Los Angeles, California 90051

Product Name: PENTANE
 Product Code No: 11515
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MANUFACTURER UNOCAL CHEMICALS DIVISION - PETROCHEM. GROUP UNION OIL COMPANY OF CALIFORNIA 1345 NORTH MEACHAM ROAD SCHAUMBURG, ILLINOIS 60196 CONTACT FOR FURTHER INFORMATION: YOUR LOCAL SALES OFFICE (LAST PAGE)	Transportation Emergencies: CHEMTREC (800) 424-9300 Cont. U.S. (202) 483-7616 (Collect) from Alaska & Hawaii Health Emergencies: Call LOS ANGELES POISON INFORMATION CENTER (24 hrs) 1-(800)-356-3129
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PRODUCT IDENTIFICATION

PRODUCT NAME: PENTANE
 SYNONYMS: AMSCO SOLV 1515
 PCN UCD 11515
 PCN UCD 1515
 UCD 807
 GENERIC NAME: VOLATILE SOLVENT
 CHEMICAL FAMILY: HYDROCARBON
 DOT PROPER SHIPPING NAME: PENTANE
 ID NUMBER: UN1265
 DOT HAZARD CLASSIFICATION: FLAMMABLE LIQUID

SECTION I - COMPONENTS	PERCENT	EXPOSURE LIMIT	UNITS	AGENCY	TYPE
------------------------	---------	----------------	-------	--------	------

HAZARDOUS COMPONENTS					
PENTANE		600.000	ppm	ACGIH	TWA
CAS #: 109-66-0		750.000	ppm	ACGIH	STEL
		500.000	ppm	MSHA	TWA
		600.000	ppm	OSHA	TWA
		750.000	ppm	OSHA	STEL
		600.000	ppm	CAL OSHA	TWA

OTHER COMPONENTS
 --NONE--

THIS PRODUCT CONTAINS THE FOLLOWING CHEMICALS SUBJECT TO THE REPORTING REQUIREMENTS OF SARA 313 AND 40 CFR 372:

CAS NUMBER	WEIGHT %
--NONE--	

Product Name: PENTANE
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SECTION II - EMERGENCY AND FIRST AID PROCEDURES ***EMERGENCY***
Have physician call LOS ANGELES POISON
INFORMATION CENTER (24 hrs) (800) 356-3129

EYE CONTACT:

IF IRRITATION OR REDNESS DEVELOPS, MOVE VICTIM AWAY FROM EXPOSURE AND INTO FRESH AIR. FLUSH EYES WITH CLEAN WATER. IF SYMPTOMS PERSIST, SEEK MEDICAL ATTENTION.

SKIN CONTACT:

REMOVE CONTAMINATED SHOES AND CLOTHING AND CLEANSE AFFECTED AREA(S) THOROUGHLY BY WASHING WITH MILD SOAP AND WATER. IF IRRITATION OR REDNESS DEVELOPS AND PERSISTS, SEEK MEDICAL ATTENTION.

INHALATION (BREATHING):

IF RESPIRATORY SYMPTOMS DEVELOP, MOVE VICTIM AWAY FROM SOURCE OF EXPOSURE AND INTO FRESH AIR. IF SYMPTOMS PERSIST, SEEK MEDICAL ATTENTION. IF VICTIM IS NOT BREATHING, IMMEDIATELY BEGIN ARTIFICIAL RESPIRATION. IF BREATHING DIFFICULTIES DEVELOP, OXYGEN SHOULD BE ADMINISTERED BY QUALIFIED PERSONNEL. SEEK IMMEDIATE MEDICAL ATTENTION.

INGESTION (SWALLOWING):

ASPIRATION HAZARD: DO NOT INDUCE VOMITING OR GIVE ANYTHING BY MOUTH BECAUSE THIS MATERIAL CAN ENTER THE LUNGS AND CAUSE SEVERE LUNG DAMAGE. IF VICTIM IS DROWSY OR UNCONSCIOUS, PLACE ON THE LEFT SIDE WITH THE HEAD DOWN. IF POSSIBLE, DO NOT LEAVE VICTIM UNATTENDED. SEEK MEDICAL ATTENTION.

SECTION III - HEALTH HAZARDS/ROUTES OF ENTRY

EYE CONTACT:

THIS MATERIAL MAY CAUSE MILD EYE IRRITATION. DIRECT CONTACT WITH THE LIQUID OR EXPOSURE TO VAPORS OR MISTS MAY CAUSE STINGING, TEARING AND REDNESS.

SKIN CONTACT:

THIS MATERIAL MAY CAUSE MILD SKIN IRRITATION. PROLONGED OR REPEATED CONTACT MAY CAUSE REDNESS, BURNING, AND DRYING AND CRACKING OF THE SKIN. THERE IS INSUFFICIENT INFORMATION ON THIS MATERIAL TO PREDICT THE EFFECTS FROM SKIN ABSORPTION. PERSONS WITH PRE-EXISTING SKIN DISORDERS MAY BE MORE SUSCEPTIBLE TO THE EFFECTS OF THIS MATERIAL.

INHALATION (BREATHING):

WHILE THIS MATERIAL HAS A LOW DEGREE OF TOXICITY, BREATHING HIGH CONCENTRATIONS OF VAPORS OR MISTS MAY CAUSE IRRITATION OF THE NOSE AND THROAT AND SIGNS OF NERVOUS SYSTEM DEPRESSION (E.G., HEADACHE, DROWSINESS, DIZZINESS, LOSS OF COORDINATION, AND FATIGUE). RESPIRATORY SYMPTOMS ASSOCIATED WITH PRE-EXISTING LUNG DISORDERS (E.G., ASTHMA-LIKE CONDITIONS) MAY BE AGGRAVATED BY EXPOSURE TO THIS MATERIAL.

INGESTION (SWALLOWING):

WHILE THIS MATERIAL HAS A LOW DEGREE OF TOXICITY, INGESTION OF EXCESSIVE QUANTITIES MAY CAUSE IRRITATION OF THE DIGESTIVE TRACT AND SIGNS OF NERVOUS SYSTEM DEPRESSION (E.G., HEADACHE, DROWSINESS, DIZZINESS, LOSS OF COORDINATION, AND FATIGUE). ASPIRATION HAZARD - THIS MATERIAL CAN ENTER LUNGS DURING SWALLOWING OR VOMITING AND CAUSE LUNG INFLAMMATION AND DAMAGE.

COMMENTS:

THIS MATERIAL HAS NOT BEEN IDENTIFIED AS A CARCINOGEN BY NTP, IARC OR OSHA. REPORTS HAVE ASSOCIATED REPEATED AND PROLONGED OCCUPATIONAL OVEREXPOSURE TO SOLVENTS WITH PERMANENT BRAIN AND NERVOUS SYSTEM DAMAGE (SOMETIMES REFERRED TO AS SOLVENT OR PAINTERS' SYNDROME). INTENTIONAL MISUSE BY DELIBERATELY CONCENTRATING AND INHALING THIS PRODUCT MAY BE HARMFUL OR FATAL.

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SECTION IV - SPECIAL PROTECTION INFORMATION**VENTILATION:**

IF CURRENT VENTILATION PRACTICES ARE NOT ADEQUATE TO MAINTAIN AIRBORNE CONCENTRATIONS BELOW THE ESTABLISHED EXPOSURE LIMITS (SEE SECTION I), ADDITIONAL VENTILATION OR EXHAUST SYSTEMS MAY BE REQUIRED. WHERE EXPLOSIVE MIXTURES MAY BE PRESENT, ELECTRICAL SYSTEMS SAFE FOR SUCH LOCATIONS MUST BE USED.

RESPIRATORY PROTECTION:

IF AIRBORNE CONCENTRATIONS EXCEED ESTABLISHED EXPOSURE LIMITS (SEE SECTION I), USE A SUPPLIED AIR RESPIRATOR. DO NOT USE A CHEMICAL CARTRIDGE RESPIRATOR.

PROTECTIVE GLOVES:

THE USE OF GLOVES IMPERMEABLE TO THE SPECIFIC MATERIAL HANDLED IS ADVISED TO PREVENT SKIN CONTACT AND POSSIBLE IRRITATION.

EYE PROTECTION:

APPROVED EYE PROTECTION TO SAFEGUARD AGAINST POTENTIAL EYE CONTACT, IRRITATION OR INJURY IS RECOMMENDED.

OTHER PROTECTIVE EQUIPMENT:

IT IS SUGGESTED THAT A SOURCE OF CLEAN WATER BE AVAILABLE IN THE WORK AREA FOR FLUSHING EYES AND SKIN. IMPERVIOUS CLOTHING SHOULD BE WORN AS NEEDED.

SECTION V - REACTIVITY DATA**STABILITY:**

STABLE UNDER NORMAL CONDITIONS OF STORAGE AND HANDLING.

CONDITIONS TO AVOID (STABILITY):

AVOID ALL POSSIBLE SOURCES OF IGNITION (SEE SECTIONS VII AND VIII).

INCOMPATIBILITY (MATERIALS TO AVOID):

THIS PRODUCT IS INCOMPATIBLE WITH STRONG ACIDS OR BASES, OXIDIZING AGENTS AND SELECTED AMINES.

HAZARDOUS DECOMPOSITION PRODUCTS:

COMBUSTION MAY YIELD CARBON MONOXIDE AND/OR CARBON DIOXIDE. DO NOT BREATHE SMOKE OR FUMES. WEAR APPROPRIATE PROTECTIVE EQUIPMENT.

HAZARDOUS POLYMERIZATION:

WILL NOT OCCUR

POLYMERIZATION CONDITIONS TO AVOID:

NONE KNOWN

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SECTION VI - SPILL AND LEAK PROCEDURES ***HIGHWAY OR RAILWAY SPILLS***
Call CHEMTREC (800) 424-9300 Cont. U.S.
(Collect) (202) 483-7616 from Alaska & Hawaii

PRECAUTIONS IN CASE OF RELEASE OR SPILL:

EXTREMELY FLAMMABLE. KEEP ALL SOURCES OF IGNITION AND HOT METAL SURFACES AWAY FROM SPILL/RELEASE. STAY UPWIND AND AWAY FROM SPILL/RELEASE. ISOLATE HAZARD AREA AND LIMIT ENTRY TO EMERGENCY CREW. STOP SPILL/RELEASE IF IT CAN BE DONE WITHOUT RISK. WEAR APPROPRIATE PROTECTIVE EQUIPMENT INCLUDING RESPIRATORY PROTECTION AS CONDITIONS WARRANT (SEE SECTION IV). PREVENT SPILLED MATERIAL FROM ENTERING SEWERS, STORM DRAINS, OTHER UNAUTHORIZED TREATMENT DRAINAGE SYSTEMS AND NATURAL WATERWAYS. DIKE FAR AHEAD OF SPILL FOR LATER RECOVERY OR DISPOSAL. SPILLED MATERIAL MAY BE ABSORBED INTO AN APPROPRIATE ABSORBENT MATERIAL. NOTIFY FIRE AUTHORITIES AND APPROPRIATE FEDERAL, STATE AND LOCAL AGENCIES. IMMEDIATE CLEANUP OF ANY SPILL IS RECOMMENDED.

EPA REPORTABLE QUANTITY:

NONE

WASTE DISPOSAL METHOD:

DISPOSE OF PRODUCT IN ACCORDANCE WITH LOCAL, COUNTY, STATE, AND FEDERAL REGULATIONS.

SECTION VII - STORAGE AND SPECIAL PRECAUTIONS

HANDLING AND STORAGE PRECAUTIONS:

KEEP CONTAINER(S) TIGHTLY CLOSED. USE AND STORE THIS MATERIAL IN COOL, DRY, WELL VENTILATED AREAS AWAY FROM HEAT, DIRECT SUNLIGHT, HOT METAL SURFACES AND ALL SOURCES OF IGNITION. POST AREA "NO SMOKING OR OPEN FLAME." BOND AND GROUND ALL EQUIPMENT WHEN TRANSFERRING FROM ONE VESSEL TO ANOTHER. STORE ONLY IN APPROVED CONTAINERS. KEEP AWAY FROM INCOMPATIBLE MATERIALS (SEE SECTION V). PROTECT CONTAINER(S) AGAINST PHYSICAL DAMAGE. THE USE OF EXPLOSION-PROOF EQUIPMENT IS RECOMMENDED AND MAY BE REQUIRED (SEE APPROPRIATE FIRE CODES). DO NOT ENTER CONFINED SPACES SUCH AS TANKS OR PITS WITHOUT FOLLOWING PROPER ENTRY PROCEDURES SUCH AS ASTM D-4276. OUTDOOR OR DETACHED STORAGE IS PREFERRED. INDOOR STORAGE SHOULD MEET OSHA STANDARDS AND APPROPRIATE FIRE CODES. THE USE OF RESPIRATORY PROTECTION IS ADVISED WHEN CONCENTRATIONS EXCEED THE ESTABLISHED EXPOSURE LIMITS (SEE SECTIONS I AND IV). WASH THOROUGHLY AFTER HANDLING. DO NOT WEAR CONTAMINATED CLOTHING OR SHOES. USE GOOD PERSONAL HYGIENE PRACTICE. "EMPTY" CONTAINERS RETAIN RESIDUE (LIQUID AND/OR VAPOR) AND CAN BE DANGEROUS. DO NOT PRESSURIZE, CUT, WELD, BRAZE, SOLDER, DRILL, GRIND OR EXPOSE SUCH CONTAINERS TO HEAT, FLAME, SPARKS OR OTHER SOURCES OF IGNITION; THEY MAY EXPLODE AND CAUSE INJURY OR DEATH. "EMPTY" DRUMS SHOULD BE COMPLETELY DRAINED, PROPERLY BUNGED AND PROMPTLY SHIPPED TO THE SUPPLIER OR A DRUM RECONDITIONER. ALL OTHER CONTAINERS SHOULD BE DISPOSED OF IN AN ENVIRONMENTALLY SAFE MANNER AND IN ACCORDANCE WITH GOVERNMENTAL REGULATIONS. BEFORE WORKING ON OR IN TANKS WHICH CONTAIN OR HAVE CONTAINED THIS PRODUCT, REFER TO OCCUPATIONAL SAFETY AND HEALTH ADMINISTRATION REGULATIONS, ANSI Z49.1, AND OTHER GOVERNMENTAL AND INDUSTRIAL REFERENCES PERTAINING TO CLEANING, REPAIRING, WELDING, OR OTHER CONTEMPLATED OPERATIONS.

SECTION VIII - FIRE AND EXPLOSION HAZARD DATA

NFPA HAZARD CLASS	HEALTH HAZARD:	1	HAZARD RANKING	
	FLAMMABILITY:	4	0 = LEAST	FLASH POINT
	REACTIVITY:	0	1 = SLIGHT	<0 F (TCC)
	OTHER:		2 = MODERATE	
			3 = HIGH	
		4 = EXTREME		
		* = CHRONIC HEALTH EFFECTS		

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SECTION VIII - FIRE AND EXPLOSION HAZARD DATA

HMIS HEALTH HAZARD: 1
HAZARD FLAMMABILITY: 4
CLASS REACTIVITY: 0
PPE:

LOWER EXPLOSIVE LIMIT (% VOL.)

1.4

UPPER EXPLOSIVE LIMIT (% VOL.)

7.6

EXTINGUISHING MEDIA:

DRY CHEMICAL, CARBON DIOXIDE, HALON, FOAM OR WATER SPRAY IS RECOMMENDED. WATER MAY BE INEFFECTIVE.

UNUSUAL FIRE & EXPLOSION HAZARDS:

THIS MATERIAL IS EXTREMELY FLAMMABLE AND MAY BE IGNITED BY HEAT, SPARKS, FLAME OR OTHER SOURCES OF IGNITION (e.g. STATIC ELECTRICITY, PILOT LIGHTS, MECHANICAL/ELECTRICAL EQUIPMENT). VAPORS MAY TRAVEL CONSIDERABLE DISTANCES TO A SOURCE OF IGNITION WHERE THEY MAY IGNITE, FLASHBACK OR EXPLODE. VAPOR/AIR EXPLOSION HAZARD INDOORS/OUTDOORS OR IN SEWERS. VAPORS ARE HEAVIER THAN AIR AND MAY ACCUMULATE IN LOW AREAS. IF CONTAINER IS NOT PROPERLY COOLED, IT MAY EXPLODE IN THE HEAT OF A FIRE.

SPECIAL FIRE FIGHTING PROCEDURES:

WEAR APPROPRIATE PROTECTIVE EQUIPMENT INCLUDING RESPIRATORY PROTECTION AS CONDITIONS WARRANT (SEE SECTION IV). STOP SPILL/RELEASE IF IT CAN BE DONE WITHOUT RISK. MOVE UNDAMAGED CONTAINERS FROM FIRE AREA IF IT CAN BE DONE WITHOUT RISK. WATER SPRAY MAY BE USEFUL IN MINIMIZING OR DISPERSING VAPORS AND COOLING EQUIPMENT EXPOSED TO HEAT AND FLAME. AVOID SPREADING BURNING LIQUID WITH WATER USED FOR COOLING PURPOSES.

SECTION IX - PHYSICAL DATA

***UNLESS OTHERWISE NOTED, VALUES ARE AT
20 C/68 F AND 760 mm Hg/1 atm.

<u>APPROX BOILING POINT</u>	(AIR = 1) <u>VAPOR DENSITY</u>	(N-BUTYL ACETATE = 1) <u>EVAPORATION RATE</u>	<u>% VOLATILE</u>
95-102 F	2.5	>10.0	100

<u>% SOLUBILITY IN WATER</u>	<u>VAPOR PRESSURE (mm Hg)</u>
<5	439

<u>SPECIFIC GRAVITY</u>	<u>APPROX. BULK DENSITY (lb/gal)</u>
0.633 (60 F/60 F)	5.27 (60 F)

APPEARANCE

CLEAR, LITTLE IF ANY COLOR, LIQUID

ODOR

CHARACTERISTIC

SECTION X - PRECAUTIONARY WARNING

DANGER! EXTREMELY FLAMMABLE. ASPIRATION HAZARD IF SWALLOWED. CAN ENTER LUNGS AND CAUSE DAMAGE. KEEP AWAY FROM HEAT, SPARKS, FLAME OR OTHER SOURCES OF IGNITION (E.G., STATIC ELECTRICITY, PILOT LIGHTS OR MECHANICAL/ELECTRICAL EQUIPMENT). DO NOT TASTE OR SWALLOW. FIRST AID: DANGER - ASPIRATION HAZARD. IF SWALLOWED DO NOT INDUCE VOMITING. CALL A PHYSICIAN. IN CASE OF CONTACT, FLUSH EYES OR SKIN WITH PLENTY OF WATER.

Product Name: PENTANE
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SECTION XI - DOCUMENTARY INFORMATION

ISSUE DATE: 12/01/89 PRODUCT CODE NO. 11515
PREV. DATE: 03/21/89 PREV. PROD. CODE NO. 11515
MSDS NO: N/A PREV. MSDS NO: N/A

DISCLAIMER OF EXPRESSED AND IMPLIED WARRANTIES

The information in this document is believed to be correct as of the date issued. HOWEVER, NO WARRANTY OF MERCHANTABILITY, FITNESS FOR ANY PARTICULAR PURPOSE, OR ANY OTHER WARRANTY IS EXPRESSED OR IS TO BE IMPLIED REGARDING THE ACCURACY OR COMPLETENESS OF THIS INFORMATION, THE RESULTS TO BE OBTAINED FROM THE USE OF THIS INFORMATION OR THE PRODUCT, THE SAFETY OF THIS PRODUCT, OR THE HAZARDS RELATED TO ITS USE. This information and product are furnished on the condition that the person receiving them shall make his own determination as to the suitability of the product for his particular purpose and on the condition that he assume the risk of his use thereof.

FOR FURTHER INFORMATION, CONTACT YOUR LOCAL SALES OFFICE

ATLANTA	(404) 934-0343 (800) 633-2362	LOS ANGELES	(714) 228-4700
BALTIMORE (Outside MD)	(301) 355-2737 (800) 638-7676	MIAMI (FL Only) (FL Only)	(305) 634-2411 (800) 621-3841 (800) 282-0537
BIRMINGHAM (Outside AL) (Inside AL)	(205) 995-9776 (800) 328-1611 (800) 328-1610	NASHVILLE (TN Only)	(615) 320-5474 (800) 325-7685
CHARLOTTE (NC Only) (SC, GA, VA)	(704) 588-2633 (800) 532-6103 (800) 438-2968	NY/NJ (NY Only)	(201) 574-9890 (800) 526-4376
CHICAGO	(312) 257-9300	PHILADELPHIA CONSHOHOCKEN	(215) 753-1903 (215) 828-1010
CINCINNATI	(513) 422-0176	NEW ENGLAND	(401) 438-7240 (800) 523-0725
CLEVELAND	(216) 425-4600	SAN FRANCISCO/ OAKLAND AREA	(415) 562-1976
DALLAS/FT.WRTH	(214) 298-8233	TWIN CITIES	(612) 227-8020
DETROIT	(313) 772-0870	WICHITA	(316) 838-3335
HOUSTON	(713) 643-3517		
KANSAS CITY	(816) 231-7600		

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DER - Tallahassee Processing Engineer

David Cren on 3-30-90 by telephone w/ Jim McDonald requested emission summary values be factored up to correspond with 15% value on Pentane Loss Analysis sheet.

Therefore, changes would be as attached (115 tons/yr \rightarrow 127.5 tons/yr.) and maximum allowed in permit is 127.5 tons/yr.

Since this application is the relocation and modification of AC53-160500 fee of \$1000 was based on change or increase of emissions. $127.5 \text{ tons/yr.} - 57.0 \text{ tons/yr.} = \underline{70.5 \text{ tons/yr.}}$

Suggest permit be written similar to AC53-160500 as attached with reference to 17-2.520 included in Specific Condition No. 2.

Jim McDonald

4-4-90

Suncor 552-7612 ext 421

CARPENTER INSULATION COMPANY

5016 MONUMENT AVENUE
P. O. BOX 27205
RICHMOND, VIRGINIA 23261
804 / 359-0800



CARPENTER

April 14, 1989

Mr. James McDonald
Florida Department of Environmental Regulation
4520 Oak Fair Boulevard
Tampa, Florida 33610-7347

RE: Polk County - AP
AC 53-160500

Per our discussions on April 12, attached are the following:

- 1) Pentane Loss Analysis (ARCO)
- 2) Incremental Pentane Emissions (BASF)
- 3) Data taken from our plant in Conyers, GA. (Testing done by BASF).

If you have further questions please call me at (804) 359-0800,
Ext. 348.

Thank you for your continued assistance.

Sincerely,
CARPENTER INSULATION COMPANY

Roger A. Charlet

Best Available Copy

BASF Corporation
Chemicals Division

BASF

April 25, 1988

Roger Charlet
E. R. Carpenter Company
5016 Monument Avenue
P.O. Box 27205
Richmond, Virginia 23261

Dear Roger:

Attached are the results of the pentane analyses as reported to me by Barb Visinski of our QA lab.

If you have any questions or need further analytical support for your study, please do not hesitate to call.

Very truly yours,



Thomas G. Kalaman
Manager
Styropor® Marketing

TGK:bv
enclosures

Interoffice

BASF

Date April 18, 1988
 To T.G. Kalaman
 From/Location B.L. Visinski
 Subject E.R. Carpenter Pentane Emission Survey
 Copies J.J. Finnerty
 J.C. Knutsen

The following results were obtained from the E.R. Carpenter pentane emission survey conducted on 4/11/88:

BF 322, JB8R32C47, Boxes 31/32

Sample Number	Description	% Pentane	Avg	Δ
7, 10	Fresh Beads " "	5.91 5.95	5.93	
8, 11	Prepuff @ Expander (0.91 pcf) " "	4.96 5.22	5.09	- .54
9, 12	Prepuff @ Drier Outlet (0.90 pcf) " " " "	24.1% 5.38 3.61	4.50	- .59
17, 18	Prepuff from Stg Bag (0.95 pcf) " " " " (0.97 pcf)	3.84 3.76	3.80	- .70
19, 20	Molded Part (2 hrs. age, 0.98 pcf) " " (1 hr, age, 0.96 pcf)	3.13 3.45	3.29	- .51
23, 24	Molded Part (24 hrs. age, 0.98 pcf) " " (24 hrs. age, 0.96 pcf)	19.6% 2.24 2.18	2.21	- 1.55
27, 28	Molded Part (43 hrs. age, 0.98 pcf) " " (43 hrs. age, 0.96 pcf)	2.09 2.18	2.13	- .06
				3.20
			Total	

APR 21 1988

BF 322, JB8R32C47, Boxes 47/35

SAMPLE NUMBER	DESCRIPTION	% PENTANE		
		AVG	Δ	% Δ
1, 4	Fresh Beads " "	6.80 6.01	6.41	
2, 5	Prepuff @ Expander (0.92 pcf) " " (0.94 pcf)	5.31 5.09	5.20	-1.21 -18.8
3, 6	Prepuff @ Drier Outlet (0.90 pcf) " " " (0.91 pcf)	5.33	5.33	+1.13 VOID +2.0
13, 14	Prepuff from Stg Bag (0.94 pcf) " " " " (0.95 pcf)	3.60 1.91	2.75	-2.58 -40.0
15, 16	Molded Part (fresh) " " (fresh, 0.97 pcf)	3.09 3.22	3.15	+0.40 VOID +5.2
21, 22	Molded Part (29 hrs. age) " " (29 hrs. age, 0.97 pcf)	2.15 2.24	2.20	-0.95 -14.8
25, 26	Molded Part (48 hrs. age) " " (48 hrs. age, 0.97 pcf)	2.11 2.36	2.24	+1.04 +1.6
		TOTAL	4.17	-65.0

*Sample Preparation Error in Lab

Bawl

B.L. Visinski

Summary - AVG.

EXPANSION / DRIER $[24.1\% + 18.8\%] \div 2 = 21.5\%$

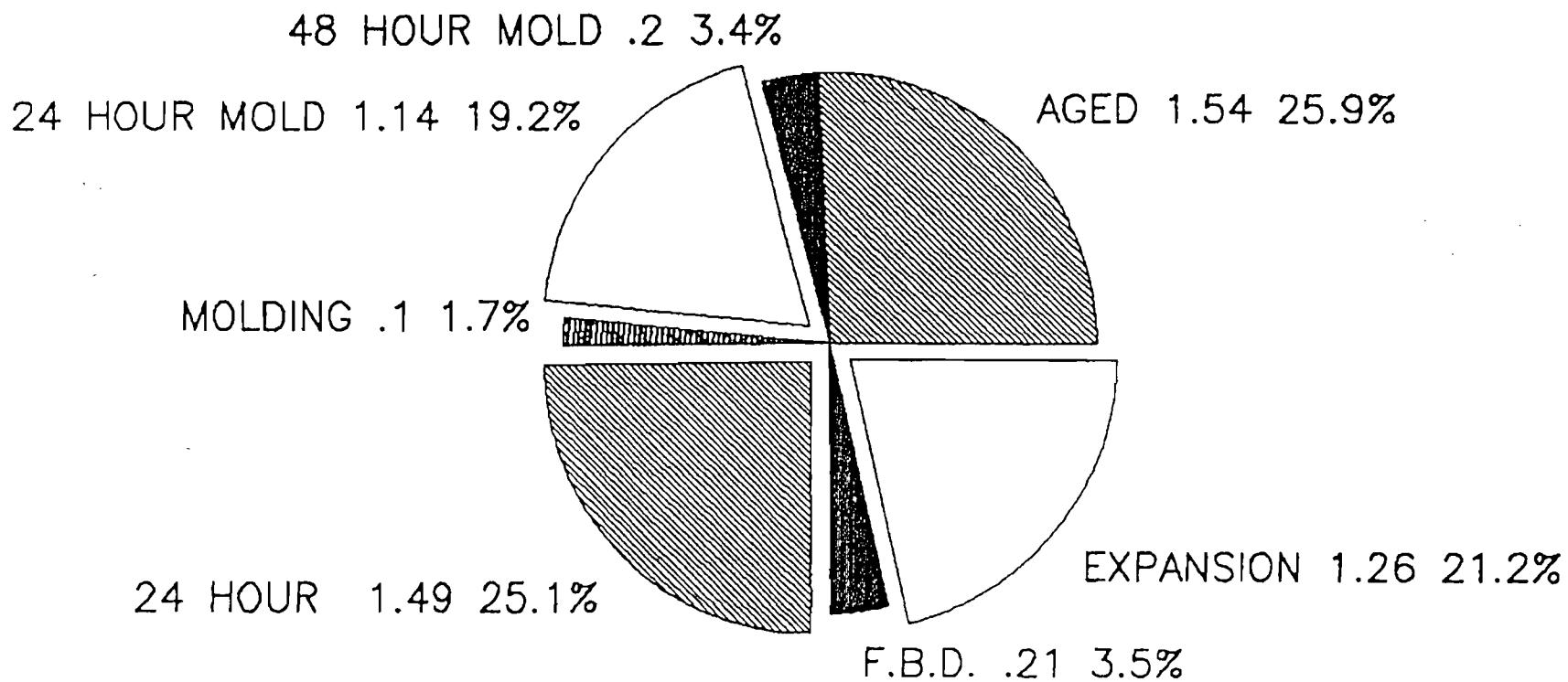
BAG STORAGE $[11.8\% + 40.2\%] \div 2 = 26\%$

MOLD $[8.6\% + \text{VOID}] \div 1 = 8.6\%$

BULK STORAGE $[14.2\% + 19.6\%] = 16.9\%$

BASF

INCREMENTAL PENTANE EMISSIONS DENSITY 0.90 TO 0.95 PCF (15KG/CM)



PENTANE RELEASE

Handwritten calculation:
25.9
21.2
25.1
1.7
19.2

93.1

Pentane Loss Analysis (% Of Original Pentane)

ARCO

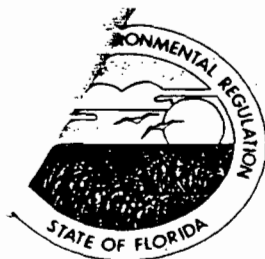
		% Lost During Expansion	% Lost During 24 Hrs. Storage of Prepuff	% Lost During Molding	% Lost 1st 24 Hours After Molding	% Lost 2nd 24 Hours After Molding
Average	ARCO	24%	19%	14%	15%	13%
	BASF	21%	25%	2%	19%	3%
Range		10 - 44%	5 - 37%	4 - 31%	5 - 30%	3 - 23%

Average % Pentane Left in Molded Product After 48 Hours = 15%

- ① how many experiments (30 different plants)
- ② what other conditions was product exposed to that was different
 - a) silica press
 - b) feed rate
 - c) storage temperature/humidity
 - d) discharge height
 - e) type mold
 - f) density
 - g) raw bread age
- ③ Test methods (3) procedures
- ④

25
21
19
3
70

AVE. 85%



Florida Department of Environmental Regulation

Southwest District • 4520 Oak Fair Boulevard • Tampa, Florida 33610-7347 • 813-623-5566

Bob Martinez, Governor

Dale Twachtman, Secretary

John Shearer, Assistant Secretary

Dr. Richard Garrity, Deputy Assistant Secretary

APPLICANT:

Carpenter Insulation Company
Post Office Box 27205
Richmond, VA 23261

PERMIT/CERTIFICATION

Permit No. AC53-160500
County: Polk
Expiration Date: 05/31/90
Project: Polystyrene Products
Manufacturing Facility

This permit is issued under the provisions of Chapter 403, Florida Statutes, and Florida Administrative Code Rules 17-2 & 17-4. The above named permittee is hereby authorized to perform the work or operate the facility shown on the 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 after-the-fact construction of a polystyrene products manufacturing facility. The facility receives expandable polystyrene which contains approximately 6% by weight of pentane and injects the polystyrene into an expander at a maximum rate of 1100 lbs./hour. Inside the expander, steam from a natural gas fired boiler with a maximum heat input of 6.3 MMBTU/hour is used to expand the polystyrene to approximately 1/8" diameter. The expanded polystyrene is then discharged through a fluidized bed to storage bags. After aging in the storage bags to stabilize the now called prepuff is transferred to a mold at a maximum rate of 1000 lbs./hour where steam from the same boiler is used to further expand the prepuff/beads and fuse them together into a block form. The blocks/billets are then transferred from the mold to a storage area for aging and stabilization. After aging and stabilization has taken place, the blocks are then cut to specific dimensions for shipment as insulation products. Pentane emissions are exhausted by the expander through 1 stack, the storage bags as unconfined emissions, the mold through 2 roof top vents, and the block/billet storage area as unconfined emissions.

PERMITTEE:
Carpenter Insulation Company

PERMIT NO: AC53-160500
PROJECT: Polystyrene Products
Manufacturing Facility

Location: 3130 Reynolds Road, Lakeland

UTM: 17-412.5E 3098.4N NEDS No.: 0192 Point No. 01

Replaces Permit No.: N/A

SPECIFIC CONDITIONS:

- 1989
1. A part of this permit is the attached 15 General Conditions.
 2. Pursuant to Subsection 17-2.620(1), F.A.C., this facility is limited to the following:
 - A. A maximum usage of 2.5 million lbs./year of expandable polystyrene.
 - B. A total maximum VOC (pentane) emission rate of 57.0 tons/year and 368 lbs./day.
 - C. A maximum operating time of 9 hours/day and 250 days/year for the expander, 10 hours/day and 250 days/year for the mold, plus 24 hours/day and 365 days/year for the storage bags and block/billet storage area.
 - D. A maximum of 1100 lbs./hour of expandable polystyrene inputted to the expander as determined from the daily operating time.
 - E. A maximum of 1000 lbs./hour of material (prepuff) transferred from the storage bags to the mold as determined from the daily operating time.
 3. No objectionable odors will be allowed, as per Subsection 17-2.620(2), F.A.C.
 4. In order to document compliance with the limitations of Specific Condition No. 2, daily recordkeeping shall be kept and retained on file for at least 3 years. At a minimum the daily records shall include the amount of expandable polystyrene to the expander, the amount of material (prepuff) to the mold, and the operating time of the expander and mold. From this information, VOC emission rates can be determined by the Department in the same manner as the emission values submitted with the application.

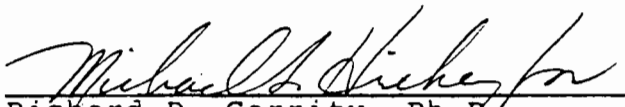
PERMITTEE:
Carpenter Insulation Company

PERMIT NO: AC53-160500
PROJECT: Polystyrene Products
Manufacturing Facility

5. Within 90 days of the issuance of this permit or at least 60 days prior to the expiration date of this permit, submit a Certificate of Completion of Construction DER Form 17-1.202(3) to this office in conjunction with 1 calendar month's of records as required by Specific Condition No. 4.

Issued this 4th day of August
1987

STATE OF FLORIDA DEPARTMENT OF
ENVIRONMENTAL REGULATION


Richard D. Garrity, Ph.D.
Deputy Assistant Secretary

APPLICATION TRACKING SYSTEM

03/02/90

APPL NO:175858

APPL RECVD:02/28/90 TYPE CODE:AC SUBCODE:10 LAST UPDATE:03/01/90

DER OFFICE RECVD:TPA DER OFFICE TRANSFER TO: APPLICATION COMPLETE:00/00/00

DER PROCESSOR: [REDACTED]

APPL STATUS:AC DATE:02/28/90 (ACTIVE/DENIED/WITHDRAWN/EXEMPT/ISSUED/GENERAL)

RELIEF: (SSAC/EXEMPTIONS/VARIANCE)

(Y/N) N MANUAL TRACKING DISTRICT:40 COUNTY:53
(Y/N) DNR REVIEW REQD? LAT/LONG:25.02.00/82.02.30
(Y/N) PUBLIC NOTICE REQD? BASIN-SEGMENT:
(Y/N) N GOV BODY LOCAL APPROVAL REQD? COE #:
(Y/N) Y LETTER OF INTENT REQD? (I/ISSUE D/DENY) ALTA:-----

PROJECT SOURCE NAME:3 STACKS MANUFACTURING PLANT
STREET:S. FRONTAGE I-4 & KENSINGER RD CITY:LAKELAND

STATE:FL ZIP: PHONE:-----

APPLICATION NAME:CARPENTER INSULATION COMPANY

STREET:P.O. BOX 34526 CITY:RICHMOND

STATE:VA ZIP:23234 PHONE:804-359-0800

AGENT NAME:CHASTAIN-SKILLMAN, INC.

STREET:P.O. BOX 5710 CITY:LAKELAND

STATE:FL ZIP:33807 PHONE:813-646-1402

FEE #1 DATE PAID:02/28/90 AMOUNT PAID:01000 RECEIPT NUMBER:00151732

Table with columns for event type (B-H, I-N), date, and status. Includes rows for 'DATE APPLICANT INFORMED OF NEED FOR PUBLIC NOTICE', 'DATE DER SENT DNR APPLICATION', etc. A stamp '00/00/00' is visible over the 'I DATE' row.

COMMENTS:

STATE OF FLORIDA
DEPARTMENT OF ENVIRONMENTAL REGULATION

Nº 151732

RECEIPT FOR APPLICATION FEES AND MISCELLANEOUS REVENUE

Received from E.R. Carpenter Co., Inc. Date 2/28/90

Address PO Box 31526/Richmond, VA 23231 Dollars \$ 1,000.⁰⁰

Applicant Name & Address same

Source of Revenue 3 stacks

Revenue Code 001031 Application Number AC53-176858

CR # 645179

By Stacy Middaugh



A water-white tough synthetic resin made by polymerization of styrene, soluble in aromatic and chlorinated hydrocarbon solvents used for injection molding, extrusion or casting for electrical insulation, fabric lamination, and molding of plastic objects.

ROUTING AND TRANSMITTAL SLIP

ACTION NO

ACTION DUE DATE

1. TO: (NAME, OFFICE, LOCATION)

Syed

Initial

Date

2.

Initial

Date

3.

Initial

Date

4.

Initial

Date

REMARKS:

2e: VOC method.

*What method is more appropriate for this source. 25 or 18?? Should I request just test method initially and inventory thereafter?
OSAP
Let me know*

Thanks,

FROM:

Teresa

DATE *4-23-90*

PHONE

ROUTING AND TRANSMITTAL SLIP

ACTION NO

ACTION DUE DATE

1. TO: (NAME, OFFICE, LOCATION)

Teresa

Initial

Date

2.

Initial

Date

3.

Initial

Date

4.

Initial

Date

REMARKS:

Is there a method specified in the Construction permit # AC 53-160500 issued 8/4/89? If not, then method 25A would suffice for this source, as they are dealing with a simple hydrocarbon. Do you have any idea on the emission concentration of n-pentane?

INFORMATION

Review & Return

Review & File

Initial & Forward

DISPOSITION

Review & Respond

Prepare Response

For My Signature

For Your Signature

Let's Discuss

Set Up Meeting

Investigate & Report

Initial & Forward

Distribute

Concurrence

For Processing

Initial & Return

FROM:

Syed

DATE *4-24*

PHONE

ROUTING AND TRANSMITTAL SLIP	ACTION NO	
	ACTION DUE DATE	
1. TO: (NAME, OFFICE, LOCATION)	Initial	
<i>Teresa</i>	Date	
2.	Initial	
	Date	
3.	Initial	
	Date	
4.	Initial	
	Date	

REMARKS:

The TLV for pentane is 1,800 mg/m³. Anything with a TLV > 1000 mg/m³ is considered Category B.

For 24 hr AAC $\frac{TLV}{210} = 8,570 \mu\text{g}/\text{m}^3$

For 8 hr AAC $\frac{TLV}{50} = 36,000 \mu\text{g}/\text{m}^3$

wee should meet both levels.

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

FROM: *John Blum*

DATE: *4/16*

PHONE:

ROUTING AND TRANSMITTAL SLIP	ACTION NO	
	ACTION DUE DATE	
1. TO: (NAME, OFFICE, LOCATION)	Initial	
<i>Pam</i>	Date	
2.	Initial	
	Date	
3.	Initial	
	Date	
4.	Initial	
	Date	

REMARKS:

look on p. 22 of SEC Book

Pat & Please What is the correct SEC code for the polystyrene manufacturing facility? *miscellaneous industrial process*

~~3-99-999-99?~~

3-01-018-17 *brophy*

How many APIS numbers for this facility? It has 3 emission points. Could you give me the #s?

40 TPA 53019201 - expander stack
 02 - mold stack
 03 - mold stack
 (call Jim McDonald)

04 fugitive emissions catch all *2, 3, 4*

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

FROM: *Thomson, Teresa H.*

DATE: *4/18/90*

PHONE:

ROUTING AND TRANSMITTAL SLIP

ACTION NO

ACTION DUE DATE

RECEIVED
 APR 06 1990
 DER-BAQM

1. TO: (NAME, OFFICE, LOCATION)

Mr. Jim Pennington, P.E.

2.

DER Tallahassee

3.

Twin Towers

4.

Bureau of Air Regulation

REMARKS:

Attached is the Carpenter Insulation Company application we discussed. If the processing engineer has any questions please have them call me.

Received April 11, 90 Teresa

INFORMATION

- Review & Return
- Review & File
- Initial & Forward

DISPOSITION

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

FROM:

Jim McDonald

DATE

4-4-90

PHONE

552-7612 Ext 421

ROUTING AND TRANSMITTAL SLIP

ACTION NO

ACTION DUE DATE

1. TO: (NAME, OFFICE, LOCATION)

John Glenn

2.

3.

4.

ASAP

day 43

REMARKS:

Re: Please check the AAC for this application. The compound is n-pentane or pentane. I did not find any number for how toxic it is? please give more data. Thanks

FROM:

Teresa

DATE

4/11/90

PHONE

8-144

INFORMATION

- Review & Return
- Review & File
- Initial & Forward

DISPOSITION

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

A-253-176858

D.E.R.

STATE OF FLORIDA
DEPARTMENT OF ENVIRONMENTAL REGULATION

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

SOUTHWEST DISTRICT
TAMPA



FEB 28 1990

BOB GRAHAM
GOVERNOR
VICTORIA J. TSCHINKEL
SECRETARY

SOUTHWEST DISTRICT
TAMPA

APPLICATION TO OPERATE/CONSTRUCT AIR POLLUTION SOURCES

SOURCE TYPE: Manufacturing Plant [] New¹ [x] Existing¹
APPLICATION TYPE: [] Construction [] Operation [x] Modification
COMPANY NAME: Carpenter Insulation Company COUNTY: Polk
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) 3 stacks
SOURCE LOCATION: Street S. Frontage of I-4 and Kensinger Road City Lakeland
UTM: East 397,000 M North 31,050 M
Latitude 28° 02' 00" N Longitude 82° 02' 30" W
APPLICANT NAME AND TITLE: D.R. Crum, Corporate Industrial Engineer 804-233-0606
APPLICANT ADDRESS: MH Reinhart Technical Center, P.O. Box 34526, Richmond, VA 23234

SECTION I: STATEMENTS BY APPLICANT AND ENGINEER

A. APPLICANT

I am the undersigned owner or authorized representative* of Carpenter Insulation Co.

I certify that the statements made in this application for a Operation 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: Harold E Costley
HAROLD E. COSTLEY - Vice President,
Name and Title (Please Type) Engineering
Date: 2/7/90 Telephone No. (804) 359-0800

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 ~~examined~~/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

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 William R. Johnson

William R. Johnson, P.E.
Name (Please Type)

Chastain-Skillman, Inc.
Company Name (Please Type)

P.O. Box 5710, Lakeland, Florida 33807-5710
Mailing Address (Please Type)

Florida Registration No. 37112 Date: 1-25-90 Telephone No. (813) 646-1402

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.

Modify the operation of an expanded Polystyrene Products Manufacturing Plant by relocating the operation to a new site and increasing the operating hours.

Project will remain in full compliance.

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

Start of Construction _____ Completion of Construction _____

- 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.)

N/A

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

Permit: AC53-160500 Issued: 8-4-89 Expiration: 5-31-90 for

Polystyrene Products Manufacturing Plant

E. Requested permitted equipment operating time: hrs/day 16 ; days/wk 5 ; wks/yr 50 ;
if power plant, hrs/yr _____ ; if seasonal, describe: No seasonal variation
4,000 hrs/yr

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

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

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

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

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

Description	Contaminants		Utilization Rate - lbs/hr	Relate to Flow Diagram
	Type	% wt		
Expandable Polystyrene Foam	Pentane Gas	6%	2,400	1, 2, 3
	2.			
	<i>n-pentane $CH_3(CH_2)_3CH_3$</i>			<i>Colorless, flammable,</i>
	<i>water-insoluble hydrocarbon liquid, freezing at $-130^\circ C$, boiling</i>			<i>at $36^\circ C$, soluble in hydrocarbons and ethers, used as a</i>
	<i>chemical intermediate, solvent and anesthetic</i>			

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

1. Total Process Input Rate (lbs/hr): Expander 2000 #/hr, Mold 2400 #/hr

2. Product Weight (lbs/hr): Expander 1982.0 #/hr, Mold 2389.5 #/hr

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

Name of Contaminant	Emission ¹		Allowed Emission Rate per Rule 17-2	Allowable ³ Emission lbs/hr	Potential ⁴ Emission		Relate to Flow Diagram
	Maximum lbs/hr	Actual T/yr			lbs/yr	T/yr	
Pentane							
Expander	18.0	36.0	17-2.620(1)		18.0	36.0	1
Bag Storage	6.5	28.5	17-2.620(1)		6.5	28.5	Fugitive
Vac. Pump Exh.	5.3	10.5	17-2.620(1)		5.3	10.5	2
Steam Exh.	5.3	10.5	17-2.620(1)		5.3	10.5	3
Block Storage	6.8	30.0	17-2.620(1)		6.8	30.0	Fugitive
TOTAL	41.9	115.5			41.9	115.5	

¹See Section V, Item 2.

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

³Calculated from operating rate and applicable standard.

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

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)
None				

E. Fuels

Type (Be Specific)	Consumption*		Maximum Heat Input (MMBTU/hr)
	avg/hr	max./hr	
Natural Gas	0.0038	.0063	6.3

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

Fuel Analysis:

Percent Sulfur: N/A Percent Ash: Negligible
 Density: N/A lbs/gal Typical Percent Nitrogen: 5.1%
 Heat Capacity: 1000 BTU/cu ft ~~BTU/lb~~ BTU/gal
 Other Fuel Contaminants (which may cause air pollution): None

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

Annual Average 0% N/A Maximum

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

 None

H. Emission Stack Geometry and Flow Characteristics (Provide data for each stack):
 See Attached Table III H in simulated form (all 3 stacks identical as follows):
 Stack Height: 31 ft. Stack Diameter: 44" x 44" ft.
 Gas Flow Rate: 19,300 ACFM _____ DSCFM Gas Exit Temperature: 120° °F
 Water Vapor Content: approximately 90% RH % Velocity: 7.1 M/S ⁴⁰⁰ ₁₁₈ FPS

SECTION IV: INCINERATOR INFORMATION

None

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

Description of Waste _____

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

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

Manufacturer _____

Date Constructed _____ Model No. _____

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

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

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

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

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

Brief description of operating characteristics of control devices: _____

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

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

SECTION V: SUPPLEMENTAL REQUIREMENTS

Please provide the following supplements where required for this application.

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

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

SECTION VI: BEST AVAILABLE CONTROL TECHNOLOGY

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

Yes No

Contaminant	Rate or Concentration
_____	_____
_____	_____
_____	_____
_____	_____

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

Contaminant	Rate or Concentration

10. Stack Parameters

a. Height:

ft.

b. Diameter:

ft.

c. Flow Rate:

ACFM

d. Temperature:

°F.

e. Velocity:

FPS

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

1.

a. Control Device:

b. Operating Principles:

c. Efficiency:¹

d. Capital Cost:

e. Useful Life:

f. Operating Cost:

g. Energy ²

h. Maintenance Cost:

i. Availability of construction materials and process chemicals:

j. Applicability to manufacturing processes:

k. Ability to construct with control device, install in available space, and operate within proposed levels:

2.

a. Control Device:

b. Operating Principles:

c. Efficiency:¹

d. Capital Cost:

e. Useful Life:

f. Operating Cost:

g. Energy:²

h. Maintenance Cost:

i. Availability of construction materials and process chemicals:

¹Explain method of determining efficiency.

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

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

3.

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

4.

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

F. Describe the control technology selected:

- 1. Control Device:
- 2. Efficiency:¹
- 3. Capital Cost:
- 4. Useful Life:
- 5. Operating Cost:
- 6. Energy:²
- 7. Maintenance Cost:
- 8. Manufacturer:
- 9. Other locations where employed on similar processes:
- a. (1) Company:
- (2) Mailing Address:
- (3) City:
- (4) State:

¹ Explain method of determining efficiency.
 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

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

Contaminant	Rate or Concentration

(8) Process Rate:¹

10. Reason for selection and description of systems:

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

SECTION VII - PREVENTION OF SIGNIFICANT DETERIORATION

4. Company Monitored Data

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

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

Other data recorded _____

Attach all data or statistical summaries to this application.

Specify bubbler (B) or continuous (C).

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

3. 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.

STATE OF FLORIDA

2/8/90

DEPARTMENT OF ENVIRONMENTAL REGULATION

APPLICATION TO OPERATE/CONSTRUCT AIR POLLUTION SOURCES

- 1. SOURCE TYPE: Manufacturing Plant Existing
- 2. APPLICATION TYPE: Modification
- 3. COMPANY NAME: Carpenter Insulation Company COUNTY: Polk
- 4. IDENTIFY THE SPECIFIC EMISSION POINT SOURCE(S) ADDRESSED IN THIS APPLICATION:
There are three emission point sources: One stack at the expander and two stacks at the mold. Also present is (1) 6 million BTU/HR natural gas boiler that is exempt from permitting requirements pursuant to 17-2.210
- 5. SOURCE LOCATION: STREET: S. Frontage of I-4 & Kensinger Rd CITY: Lakeland
UTM: EAST 397000 M NORTH 31050 M
LATITUDE 28 02 00 N LONGITUDE 82 02 30 W
- 6. APPLICANT NAME AND TITLE: D. R. Crum Corporate Industrial Engineer
- 7. APPLICANT ADDRESS: M. H. Reinhart Technical Center
P. O. Box 34526
Richmond, VA 23234

SECTION I: STATEMENTS BY APPLICANT AND ENGINEER

A. APPLICANT

I am the undersigned owner or authorized representative of E. R. Carpenter Company.

I certify that the statements made in this application for a modification 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.

* Letter of authorization attached.

SIGNED:

(Name and title)

DATE:

TELEPHONE:

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 judgement, that 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:

Name

Company Name

Mailing Address

FLORIDA REGISTRATION NO.

DATE

TELEPHONE NUMBER

IF ANY QUESTIONS

DAVID CRUM

(804) 233-0606

ENGINEER FOR
CARPENTER INSULAT.

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 sheets if necessary.

Construct a factory to produce expanded polystyrene foam products. Polystyrene beads arrive at the plant in cardboard boxes (gaylords) and are fed directly into the expander by vacuum. Steam is added to the process, swirling the beads about. Stationary bars run across the inside of the expander to keep the beads from fusing together. The steam expands the pentane causing the bead to swell or "blow up" in size. The bead that initially was the size of a grain of salt is now the size of a small ball bearing.

The beads now flow into the fluidized bed dryer. This is an inclined perforated plenum that allows air to flow up into the beads. This upward airflow gives the appearance that that the beads are "boiling" or "bubbling".

From the fluidized bed dryer, the beads flow through an air lock and ductwork before it is blown into huge storage bags until molding.

At molding, beads flow from bag storage to the molder and are steamed and compressed into large blocks. The blocks are then removed and stored in the block storage area. The blocks of EPS are then run through various cutting operations, packaged, and shipped to the customer.

This project will result in full compliance.

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

N/A

C. Costs of pollution control system(s).

N/A

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

PERMIT: AC53-160500

ISSUE DATE: 8/4/89

PROJECT: Polystyrene Products Manufacturing

EXPIRATION DATE: 5/31/90

E. Requested permitted equipment operating time:

POLYSTYRENE FOAM: 16 hours/day: 5 days/wk: 50 wks/yr: 4000 hrs/yr

F. If this is a new source or major modification, answer the following questions.

- 1. Is this source in a nonattainment area for a particular pollutant? No
- 2. Does best available control technology (BACT) apply to this source? No
- 3. Does the State "Prevention of Significant Deterioration" (PSD) requirement apply to this source? 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
- 6. Do "Reasonably Available Control Technology" (RACT) requirements apply to this source? No

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

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

DESCRIPTION	CONTAMINANTS TYPE WT%	UTILIZATION RATE - LBS/HR	RELATED TO FLOW DIAGRAM (STACK NO.)
<u>POLYSTYRENE FOAM</u> Pentane	Gas 6.0%	2,400	1,2,3

2. Process Rate, if applicable:

PRODUCT	PROCESS INPUT LBS/HR	PRODUCT WEIGHT LBS/HR
<u>POLYSTYRENE FOAM</u> Expander	2,000	1982.0
Mold	2,400	2389.5

C. Airborne Contaminants Emitted:

NAME OF CONTAMINANT	EMISSION		POTENTIAL EMISSION		RELATED TO FLOW DIAGRAM (STACK NO.)
	MAX LBS/HR	ACTUAL T/YR	MAX LBS/HR	ACTUAL T/YR	
POLYSTYRENE FOAM					
Pentane Expander	18.0	36.0	18.0	36.0	1
Bag Storage	6.5	28.5	6.5	28.5	Fugitive
Vacuum Pump Exhaust	5.3	10.5	5.3	10.5	2
Steam Exhaust	5.3	10.5	5.3	10.5	3
Block Storage	<u>6.8</u>	<u>30.0</u>	<u>6.8</u>	<u>30.0</u>	Fugitive
Total	41.9	115.5	41.9	115.5	

D. Control Devices:

None

E. Fuels:

TYPE	COMPOSITION		MAXIMUM HEAT INPUT (MMBTU/HR)
	AVG/HR (MMCF/HR)	MAX/HR (MMCF/HR)	
NATURAL GAS	0.0038	0.0063	6.3

Fuel Analysis:

Percent Sulfur: N/A
Density: N/A

Percent Ash: Negligible
Typical % Nitrogen: 5.1%

Other Fuel Contaminants(which may cause air pollution): None

Heat Capacity: 1000 BTU/cubic ft

F. If applicable, indicate the percent of fuel used for space heating: 0%

G. Indicate liquid or solid wastes generated and method of disposal: None

H.

ARTICLE	STACK NO.	STACK HEIGHT	STACK DIAMETER	ACFM	TEMP (F)	VEL (M/S)	WATER VAPOR
POLYSTYRENE FOAM	1	31'	44x44	19,300	120	7.1	~90% RH
	2	31'	44x44	19,300	120	7.1	~90% RH
	3	31'	44x44	19,300	120	7.1	~90% RH

SECTION IV: INCINERATOR INFORMATION: None

SECTION V: SUPPLEMENTAL INFORMATION:

1. Total process input rate and product weight -- show derivation.

See Section III, B., and the attached process flow diagram. The emission estimates were based on information provided by raw material suppliers. (See attachments)

2. To a construction application, attach basis of emission estimate and attach proposed methods to show proof of compliance with applicable standards. Information provided when applying for an operation permit from a construction permit shall be indicative of the time at which the test was made.

N/A

3. Attach basis for potential discharge.

Potential discharge = Actual discharge.

4. With construction permit application, include design details for all air pollution control systems.

N/A

5. With construction permit application, attach derivation of control device efficiency.

N/A

6. Flow diagrams - See attachments.

7. Points of airborne emission - See attachments.

8. Location of manufacturing processes - See attachments.

EMISSION SUMMARY

2/8/90

- Assumptions:
- 5,000,000 lbs annual usage
 - 6.0% pentane by weight in raw material
 - 1.4% n-pentane by weight in shipped product
 - 5,000,000(6.0% - 1.4%) = 230,000 lbs = 115 tons

Location	% Loss	Actual Emission		Potential Emission	
		Lbs/hr	Tons/yr	Lbs/hr	Tons/yr
Expander *	24.0%	18.0	36.0	18.0	36.0
Bag Storage ***	19.0%	6.5	28.5	6.5	28.5
Molding **	14.0%	10.5	21.0	10.5	21.0
Block Storage ***	20.0%	6.8	30.0	6.8	30.0
Total		41.9	115.5	41.9	115.5

- * Assumes emissions occur 16 hours/day, 250 days/year.
- ** Assumes emissions occur 16 hours/day, 250 days/year.
- *** Assumes emissions occur 24 hours/day, 365 days/year.

$36 \text{ Tm} \times \frac{2000 \text{ lb}}{1 \text{ Tm}} \times \frac{16 \text{ hr}}{\text{day}} \times 250 \frac{\text{days}}{\text{yr}}$

CALCULATIONS

$\frac{16 \text{ hr}}{\text{day}} \times 250 \frac{\text{day}}{\text{yr}} = 4000 \frac{\text{hr}}{\text{yr}}$

Location	% Loss	Actual Emissions
Expander	24.0 %	$.24(5,000,000)(.06)/250/16 = 18.0 \text{ Lbs/hr}$ $18.0(16)(250)/2000 = 36.0 \text{ Tons/yr}$
Bag Storage	19.0 %	$.19(5,000,000)(.06)/365/24 = 6.5 \text{ Lbs/hr}$ $6.5(365)(24)/2000 = 28.5 \text{ Tons/yr}$
Molding	14.0 %	$.14(5,000,000)(.06)/250/16 = 10.5 \text{ Lbs/hr}$ $10.5(16)(250)/2000 = 21.0 \text{ Tons/yr}$
Block Storage	20.0 %	$.20(5,000,000)(.06)/365/24 = 6.8 \text{ Lbs/hr}$ $6.8(365)(24)/2000 = 30.0 \text{ Tons/yr}$

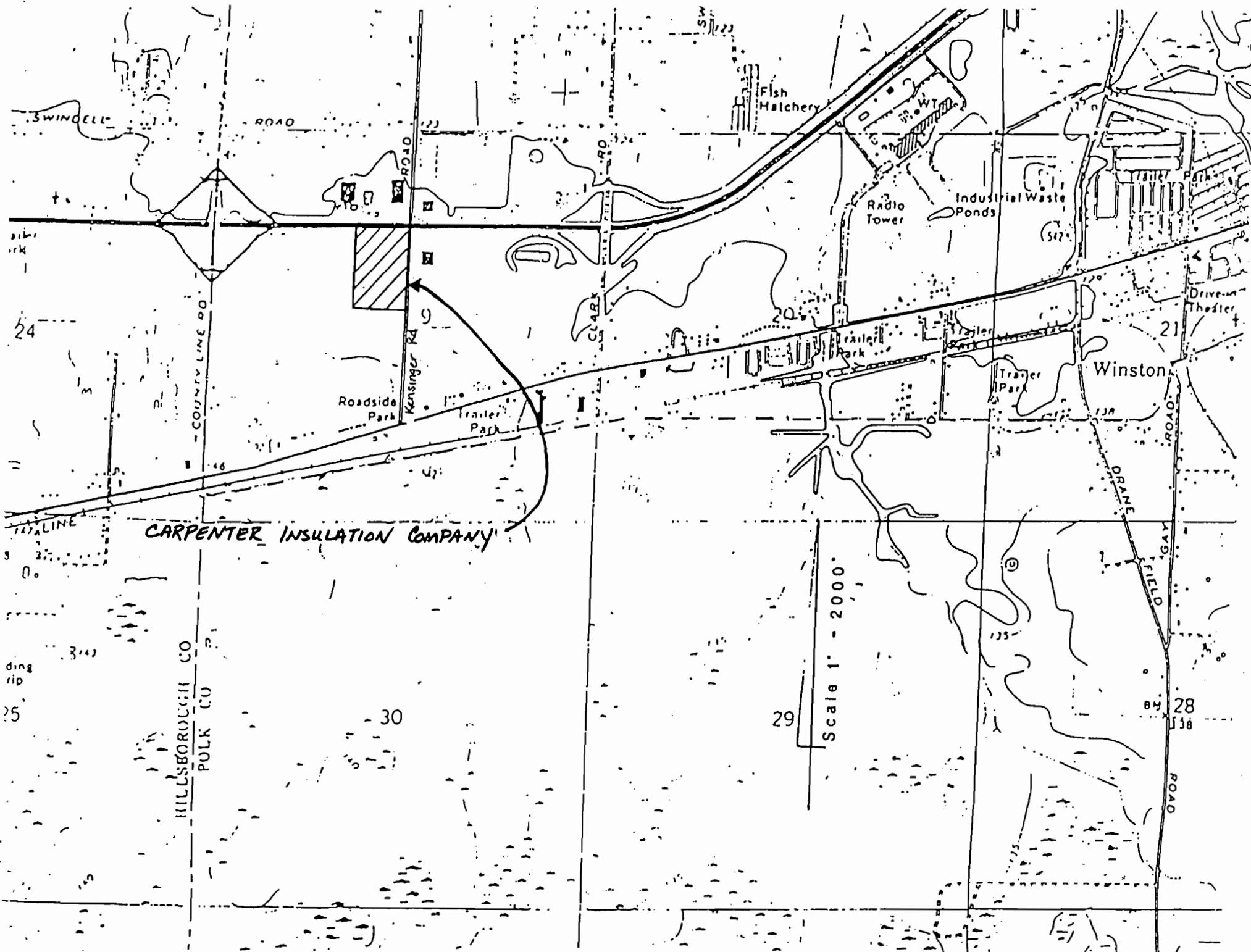
$\frac{24 \times 5,000,000 \times .06}{250 \times 16} = 18 \text{ Lbs/hr}$

$\frac{19 \times 5,000,000 \times .06}{365 \times 24} = 6.5 \text{ Lbs/hr}$

$\frac{14 \times 5,000,000 \times .06}{250 \times 16} = 10.5 \text{ Lbs/hr}$

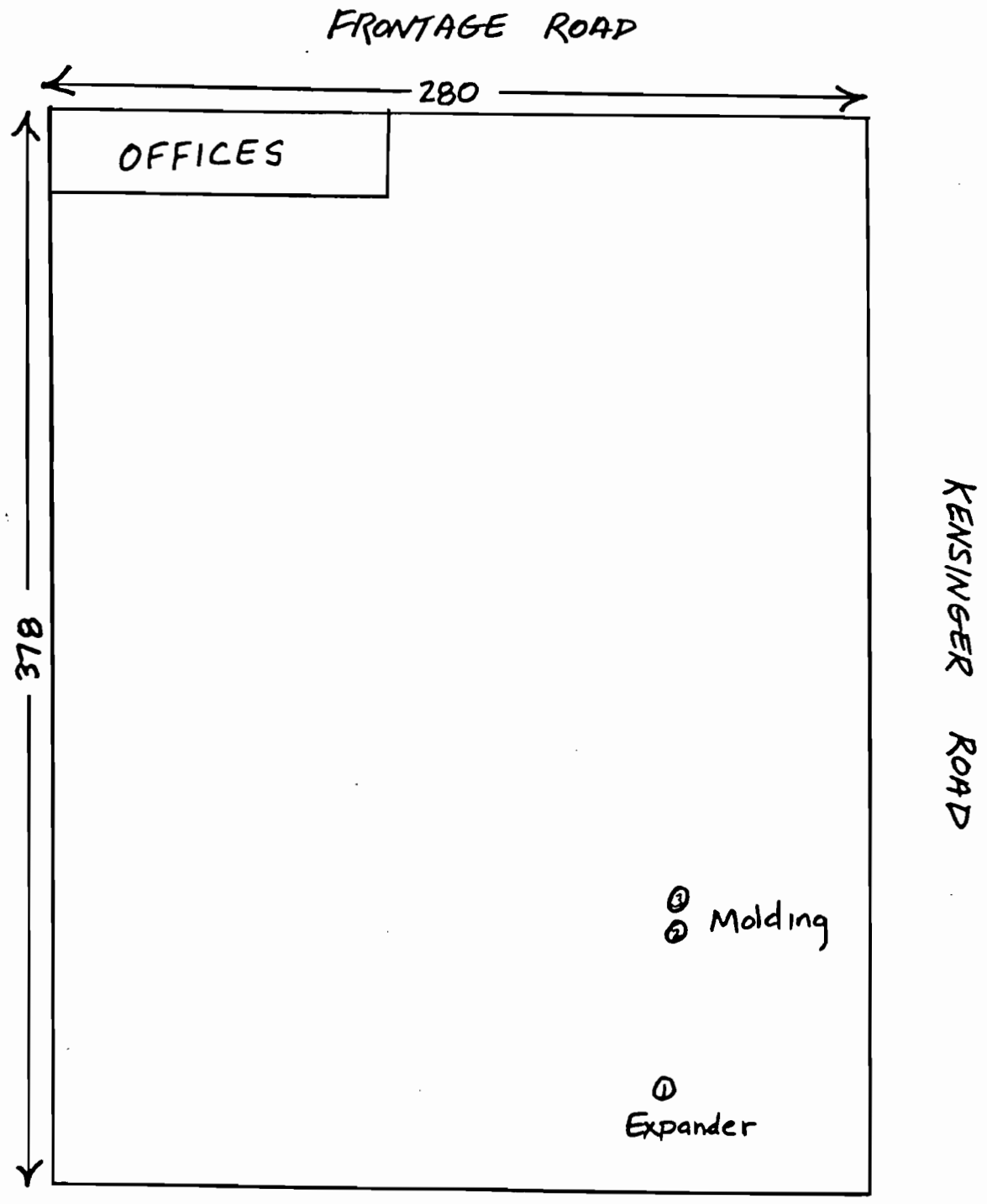
$\frac{20 \times 5,000,000 \times .06}{365 \times 24} = 6.8 \text{ Lbs/hr}$

$14\% \times 5,000,000 \text{ lb} \times 0.06\% = 420,000 \text{ lbs}$
 $\frac{420,000 \text{ lbs}}{365 \text{ days} \times 24 \text{ hr}} = 47.4 \text{ Lbs/hr}$



Stack #

- ① Expander
- ② Vacuum Pump Exhaust
- ③ Steam Exhaust



Height = 25 feet

Prod shall not exceed — $\frac{1}{2}$, $\frac{1}{10}$ + $\frac{1}{100}$ ✓

VOC emissions shall not exceed 153 $\frac{1}{2}$, $\frac{1}{10}$, TSP ✓

The permit shall monitor air so that shows the
kg, day + MONTHLY PROD,

Compliance shall be determined by a math. balance
using the prod and VOC analysis of the raw mat'l. +
prod.

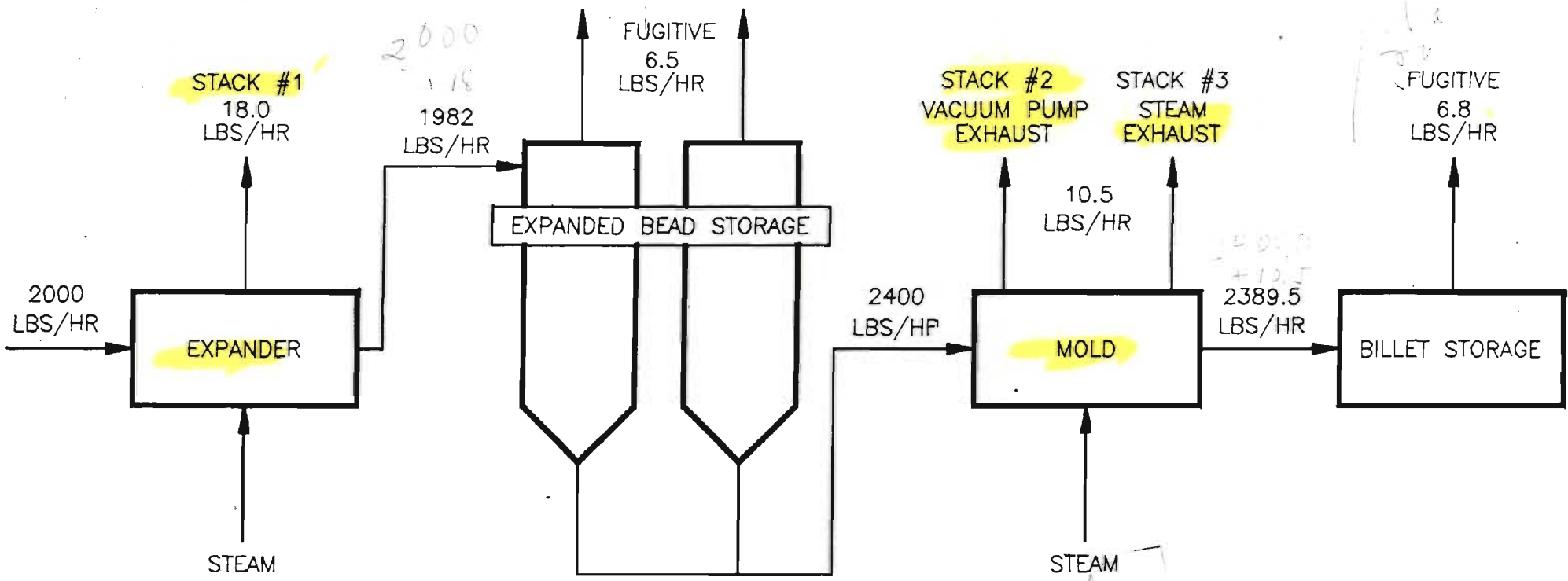
Analysis shall be done ?

VOC emissions shall be calc. on a monthly basis +
Report Dist office annually.

NOTES:

1.

ENGR. CHANGE NO.	REV	CHANGE	BY	DATE



$$\begin{array}{r} 1482 \\ 18 \\ \hline 1500 \end{array}$$


$$\begin{array}{r} 2400 \\ 10.5 \\ \hline 2400.0 \end{array}$$

$$\begin{array}{r} 2389.5 \\ 10.5 \\ \hline 2400.0 \end{array}$$

25 ft

TOLERANCES	
X.XX EQUALS ±0.015	
X.XXX EQUALS ±0.007	
ANG ±1° FRACT ±1/32	
DRAWN: <i>DBB</i>	02/09/90
CHKD: <i>BRC</i>	02/09/90
APPVD: <i>BS</i>	02/09/90

CARPENTER INSULATION CO.
EXPANDED POLYSTYRENE
PROCESS @ LAKE LAND, FL.

 E. R. CARPENTER CO., INC. 2400 JEFFERSON DAVIS HIGHWAY P. O. BOX 34526 RICHMOND, VA. 23234			
SCALE:	SIZE	DRAWING NO.	REV
NONE	A	20002-005	A

$\frac{0.9}{6.0} \sim \frac{15}{100}$

EMISSION SUMMARY

2/8/90

- Assumptions:
- 5,000,000 lbs annual usage
 - 6.0% pentane by weight in raw material
 - 1.4% n-pentane by weight in shipped product
 - 5,000,000(6.0% - 1.4%) = 230,000 lbs = 115 tons
 - $(6.0\% - 0.9\%) = 255,000 \text{ lbs} = 127.5 \text{ tons}$

15%

$24 \times 16 \text{ hr} / \text{day} \times 250 \text{ days} / \text{yr}$

Location	% Loss	Actual Emission		Potential Emission	
		Lbs/hr	Tons/yr	Lbs/hr	Tons/yr
Expander *	24.0%	18.0	36.0	18.0	36.0
Bag Storage ***	19.0%	6.5	28.5	6.5	28.5
Molding **	14.0%	10.5	21.0	10.5	21.0
Block Storage ***	20.0%	6.8	30.0	6.8	30.0
Total		41.9	115.5	41.9	115.5

46.2 127.5

Expander *
Molding **
Block Storage ***

- * Assumes emissions occur 16 hours/day, 250 days/year.
- ** Assumes emissions occur 16 hours/day, 250 days/year.
- *** Assumes emissions occur 24 hours/day, 365 days/year.

855.7 lbs/day
 $\frac{24(255,000)}{250 \text{ days} \times 16 \text{ hr/day}}$

CALCULATIONS

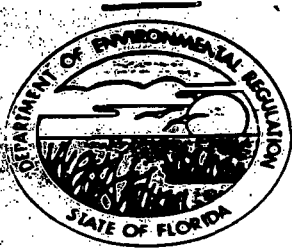
4.5

Location	% Loss	Actual Emissions	Lbs/hr	Tons/yr
Expander	24.0 %	$24(5,000,000)(.06)/250/16 = 18.0 \text{ Lbs/hr}$	18.0	36.0
		$18.0(16)(250)/2000 = 36.0 \text{ Tons/yr}$		36.0
Bag Storage	19.0 %	$.19(5,000,000)(.06)/365/24 = 6.5 \text{ Lbs/hr}$	6.5	28.5
		$6.5(365)(24)/2000 = 28.5 \text{ Tons/yr}$		28.5
Molding	14.0 %	$.14(5,000,000)(.06)/250/16 = 10.5 \text{ Lbs/hr}$	10.5	21.0
		$10.5(16)(250)/2000 = 21.0 \text{ Tons/yr}$		21.0
Block Storage	20.0 %	$.20(5,000,000)(.06)/365/24 = 6.8 \text{ Lbs/hr}$	6.8	30.0
		$6.8(365)(24)/2000 = 30.0 \text{ Tons/yr}$		30.0
			<u>46.2</u>	<u>127.5</u>

$\frac{19}{24} \times \frac{250}{365} \times \frac{24}{16} = 1.5$

85
15

288
154
168
230
842.4



Florida Department of Environmental Regulation

Southwest District • 4520 Oak Fair Boulevard • Tampa, Florida 33610-7347 • 813-623-5561

Bob Martinez, Governor

Dale Twachtmann, Secretary

John Shearer, Assistant Secretary
Dr. Richard Garrity, Deputy Assistant Secretary

December 12, 1989

Mr. Frank H. Hurst
Senior Vice President
Carpenter Insulation Company
Post Office Box 27205
Richmond, VA 23261

Dear Mr. Hurst:

RE: Polk County - AP
AC53-160500

On November 13, 1989, we received from Mr. Al Leathers of your company a request to amend permit AC53-160500 for the polystyrene products manufacturing facility on Reynolds Road in Lakeland. Specifically, the request was to amend Specific Condition No. 2 by increasing the allowable operating times. Since the increase in operating times will not cause actual emissions to increase, Specific Condition No. 2 is amended as follows:

From:

2. Pursuant to Subsection 17-2.620(1), F.A.C., this facility is limited to the following:

- A. A maximum usage of ^{5.0}2.5 million lbs./year of expandable polystyrene.
- B. A total maximum VOC (pentane) emission rate of ^{127.5}~~57.0~~ tons/year and ^{355.1}~~368~~ lbs./day.
- C. A maximum operating time of ¹⁶9 hours/day and 250 days/year for the expander, ¹⁶16 hours/day and 250 days/year for the mold, plus 24 hours/day and 365 days/year for the storage bags and block/billet storage area.
- D. A maximum of ²⁰⁰⁰~~1100~~ lbs./hour of expandable polystyrene inputted to the expander as determined from the daily operating time.
- E. A maximum of ²⁴⁰⁰~~1000~~ lbs./hour of material (prepuff) transferred from the storage bags to the mold as determined from the daily operating time.

pentane
- background history
different direction
no 2 operational data
is this the only facility
in any other name at plant

?

?

Frank H. Hurst
Richmond, VA

Page Two

TO:

2. Pursuant to Subsection 17-2.620(1), F.A.C., this facility is limited to the following:

- A. A maximum usage of 2.5 million lbs./year of expandable polystyrene.
- B. A total maximum VOC (pentane) emission rate of 57.0 tons/year and 368 lbs./day, based on a monthly average.
- C. A maximum operating time of 16 hours/day and 260 days/year for the expander, 16 hours/day and 260 days/year for the mold, plus 24 hours/day and 365 days/year for the storage bags and block/billet storage area.
- D. A maximum of 1100 lbs./hour of expandable polystyrene inputted to the expander as determined from the daily operating time.
- E. A maximum of 1000 lbs./hour of material (prepuff) transferred from the storage bags to the mold as determined from the daily operating time.

Persons whose substantial interests are affected by this permit amendment have a right, pursuant to Section 120.57, Florida Statutes, to petition for an administrative determination (hearing) on it. The petition must conform to the requirements of Chapters 17-103 and 28-5.201, F.A.C., and must be filed (received) in the Department's Office of General Counsel, 2600 Blair Stone Road, Tallahassee, Florida 32399, within fourteen (14) days of receipt of this notice. Failure to file a petition within the fourteen (14) days constitutes a waiver of any right such person has to an administrative determination (hearing) pursuant to Section 120.57, Florida Statutes. This permit is final and effective on the date filed with the Clerk of the Department unless a petition is filed in accordance with this paragraph or unless a request for extension of time in which to file a petition is filed within the time specified for filing a petition and conforms to Rule 17-103.070, F.A.C. Upon timely filing of a petition or a request for an extension of time, this permit will not be effective until further Order of the Department.

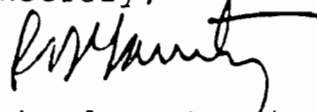
When the Order (Permit) is final, any party to the Order has the right to seek judicial review of the Order pursuant to Section 120.68, Florida Statutes, by the filing of a Notice of Appeal pursuant to rule 9.110, Florida Rules of Appellate Procedure, with the Clerk of the Department in the Office of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

Frank H. Hurst
Richmond, VA

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A copy of this letter must be attached to and becomes a part of permit number AC53-160500. If you have any questions, please call Mr. Jim Mc Donald of my staff at (813) 623-5561, extension 421.

Sincerely,



Richard D. Garrity, Ph.D.
Deputy Assistant Secretary
Southwest District

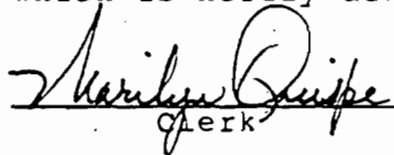
RDG/jms

cc: Al Leathers

CERTIFICATE OF SERVICE

This is to certify that this NOTICE OF PERMIT and all copies were mailed before the close of business on DEC 15 1989 to the listed persons.

FILING AND ACKNOWLEDGEMENT
FILED, on this date,
pursuant to Subsection
120.52(10), Florida
Statutes, with the designated
Department Clerk, receipt of
which is hereby acknowledged.

 DEC 15 1989
Clerk Date