

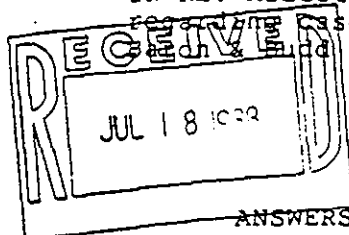
FILED

IN THE CIRCUIT COURT
FOR THE THIRD JUDICIAL CIRCUIT
MADISON COUNTY, ILLINOIS

JUL 14 1988

Rose

IN RE: Asbestos Litigation
Cases filed by



) Cause No. 86-
) th
) 86-L-1677
) Cause No. 86-L-2704
) through
) 86-L-2708
) (Lead Case: Greco)
) Cause No. 87-L-836
) (Lead Case: Abbott)

ANSWERS TO PLAINTIFF'S FIRST SET OF INTERROGATORIES
TO DEFENDANT NORTH AMERICAN REFRACTORIES COMPANY

COMES NOW defendant North American Refractories Company
("NARCO"), by and through its attorneys, Coburn, Croft &
Putzell, and pursuant to Illinois Supreme Court Rule 213(c),
Ill.Rev.Stat., ch. 110A, files its answers to Plaintiff's First
Set of Interrogatories to Defendant North American Refractories
Company, as modified by Court Order.

CORPORATE NAME

1. For each Interrogatory below, please state the name
and last known address of each person answering it, including
whether he is employed by Defendant.

ANSWER: Anthony Rosa
Director of Human Resources
North American Refractories Company
900 Hanna Building
East 14th and Euclid
Cleveland, Ohio 44115

2. Please state whether or not Defendant is a
corporation. If so, please state your correct corporate name,
the state of your incorporation, and the address of your
principal place of business.



ANSWER: Yes. North American Refractories Company; incorporated in Ohio; principal place of business is 900 Hanna Building, Cleveland, Ohio 44115.

3. Please describe Defendant's corporate history, including any mergers, consolidations, asset purchases, acquisitions or spinoffs.

ANSWER: No answer required by court order.

4. Please state whether or not the Defendant has purchased, assumed, or in any other manner acquired any of the assets and/or liabilities of any corporation or entity (such corporations or entities being limited to those engaged in the mining, selling, manufacturing, marketing or distribution of asbestos containing products.) If so, please state the following:

(a) The name of each such corporation or entity.

(b) Date of acquisition.

(c) The nature of the asbestos activity company as it relates to asbestos activity of the company.

ANSWER: No.

5. Has Defendant ever engaged in the mining, manufacturing, selling, marketing, or distribution of asbestos-containing products? If so, please state the following:

(a) The name of the company engaged in the activity (whether it is Defendant, Defendant's predecessor, or Defendant's subsidiary);

(b) As to each product mined, manufactured, sold, marketed, or distributed, please state the following:

1. The trade or brand name.
2. Its identification number (model, serial number, etc.)
3. The time period it was manufactured, mined, marketed, distributed or sold.
4. Its physical description including color, general composition, and form.
5. A detailed description of its intended use and purpose.
6. A detailed description of the type package in which it was sold, listing the dates of each type of package used, a physical description of the package, and a description of any printed material or trademarks that appeared thereon.
7. The percent of asbestos which it contained.
8. The percent of asbestos by asbestos type (amosite, crocidolite, chrysotile, tremolite, anthophyllite)

(c) The time period during which each of these products were on the market;

(d) A description of the physical composition of each product;

(f) How each of these asbestos-containing product can be distinguished from those of competitors.

(g) A description of the physical appearance of such product;

(h) A detailed description of the intended uses.

ANSWER: Yes.

(a) North American Refractories Company.

(b) See attached list marked Exhibit A.

(c) The castables and gunning mixes were a gray, granular mixture. The brick contained an off-white to gray 1/32" to 1/8" flexible mat encased in heavy steel. See sales catalogs provided in response to request for production for package descriptions. See also attached list marked Exhibit A.

(d) See attached list marked Exhibit A.

(f) Unknown. Defendant North American Refractories Company has no knowledge of the specific characteristics of the products of its competitors.

(g) See attached list marked Exhibit A.

(h) See Exhibit A.

INFO ABOUT SAFETY

6. Before placing Defendant's asbestos-containing products on the market, did Defendant make or cause to be made, any studies to determine whether your products would be hazardous to people? If so, please state the date of said studies, what studies were done, and the titles of each study.

ANSWER: This defendant had no reason to believe that there were potential hazards associated with its asbestos containing products because of their small percentage asbestos component and their use primarily in wet or encapsulated form. Therefore, it had no reason to believe such tests were required and none was done.

7. Did any person prior to 1970, file a claim against any Worker's Compensation carrier covering Defendant alleging that he or she contracted a disease as a result of exposure to asbestos? If so, please state the following:

(a) A list of each such claim by claimant's name, date filed and jurisdiction involved;

(b) A brief summary of the disposition of each such claim.

ANSWER: No.

EVER SELL ASBESTOS

8. Does Defendant or any of its subsidiary companies claim that any patent would cover any product listed above in answer to Interrogatory No. 5. If so, please state the following:

(a) The date of each patent;

(b) The date same was issued;

(c) The number of each patent application that is pending.

ANSWER: This defendant has no patents on the products listed in Exhibit A.

9. Have any of the products listed above in answer to Interrogatory No. 5 been altered in chemical composition since first being marketed? If so, please state the following:

- (a) The trade name of each such product;
- (b) The date each such product was altered;
- (c) The nature of the alteration;
- (d) The reason for the alteration.

ANSWER: Yes. The products listed in Exhibit A were altered periodically to improve their functioning. These products were not produced with asbestos after the dates indicated.

10. Have Defendant's asbestos containing products ever been marketed, distributed, and/or sold by any other company or business? If so, please state the following:

- (a) The name and address of each such company who may have distributed these products to locations listed on Exhibit 1;
- (b) The name and address of Defendant's distributors in Missouri since 1920.
- (c) The name and address of Defendant's distributors in Illinois since 1920.

(d) The date of each sale.

(e) The name of the person in each company with whom you primarily dealt.

(f) A list of all asbestos containing products that you sold to that location from 1945 to 1980;

(g) The amount of each asbestos product sold to that location during this period of time.

(h) Please identify all documents relating to this distributor for the particular location.

ANSWER: Christy Firebrick. Discovery is also continuing as to Christy Firebrick and to other possible distributors.

11. Did Defendant or any of Defendant's distributors, as listed in Interrogatory No. 10 have sales representatives who specifically called on those facilities listed in Exhibit 1 from 1945 to 1975? If your response is yes, as to each facility, please state the following:

(a) The name and last known address of each such representative and whether they are still employed by Defendant;

(b) The period of time they acted as your representative;

(c) Their general responsibility at this location;

(d) Whether that person is still alive.

ANSWER: Yes. (a) Thomas Robbins and Michael Gliebe, 5000 Cedar Plaza Parkway, Suite 104, St. Louis, Missouri 63128. Discovery is also continuing.

12. Did Defendant ever have any division or subsidiary engaged in the contract business of applying asbestos containing insulation? If so, please give the name of each subdivision, the full address of the home office and the date such subdivision or subsidiary was engaged in this contracting business.

ANSWER: No.

13. Did Defendant ever have any division or subsidiary engaged in the contract business of applying asbestos containing refractory? If so, please give the name of each subdivision, the full address of the home office and the date such subdivision or subsidiary was engaged in this contracting business.

ANSWER: No.

14. Please identify by location and product produced, each plant in which products listed in your answer to Interrogatory No. 5 have been manufactured and/or assembled and the dates said plants have been in operation.

ANSWER: See Exhibit A.

15. Has Defendant, at any time, entered into a "rebranding" (which is defined as repackaging, remarking or reidentifying) agreement with any other company, either as a buyer or a seller, concerning asbestos insulation or refractory materials? If so, please state:

(a) The name of the company manufacturing the asbestos products under such agreement;

(b) The trade name affixed to such products;

(c) The periods of time covered by each such agreement;

(d) The volume (in dollar amounts) of each such transaction;

(e) The purchaser of such products;

(f) Does Defendant currently have in possession any of the writings or contracts concerning such rebranding agreement?

ANSWER: Yes. See Exhibit A and documents produced as Exhibit F. This defendant has no other documents concerning this rebranding agreement.

INFO ABOUT DESIGN/TESTING

16. What is the name, address, and job title of each individual who participated in the design and preparation of manufacturing specifications for each such product listed above in answer to Interrogatory No. 5?

ANSWER: See Exhibit A.

17. As to each product listed in response to Interrogatory No. 5, please describe how each product was intended to be cut, shaped, scribed, mixed and applied on the job. (In answering this question, give particular reference as to whether or not the materials were to be sawed or cut on the job, blown into confined areas, mixed with water in a cement or paste.)

ANSWER: Castables products were mixed with water and applied to furnaces. The bricks were installed in furnaces as manufactured.

18. Based upon the material contents of your asbestos containing products, the method of manufacturing, and the method of application, please state which products listed in Interrogatory No. 5 intended to be applied by a worker without creating dust.

ANSWER: Yes, if the customers followed application instructions and safe work practices this defendant's asbestos-containing products could be safely installed or applied without health hazards.

19. Do any written memoranda, specifications, blueprints or other written materials of any kind or character now exist relating to the design and preparation of the products listed in answer to Interrogatory No. 5? If so, please:

- (a) List each such written material or document;
- (b) Identify the person or persons presently in possession of each such document;
- (c) State where each such document is located.

ANSWER: Yes.

- (a) Mix sheets.
- (b) Richard A. Landy.
- (c) State College, PA.

20. Prior to releasing the products listed in Interrogatory No. 5 to the public for sale, were any tests (animal or human test) conducted on same to determine potential health hazards involved in the use of asbestos containing materials contained therein? If so, please state:

(a) The name, address, and job classification of each individual who conducted such tests;

(b) The results of such test.

ANSWER: This defendant had no reason to believe that there were potential health hazards associated with its asbestos containing products because of their small percentage asbestos component and their use primarily in wet or encapsulated form. Therefore, it had no reason to believe such tests were required and none was done.

21. Does Defendant have or control any written memoranda, specifications, blueprints or other written materials of any kind or character relating to the testing of said products? If so, please:

(a) List each such written material or document;

(b) Identify each person who presently has possession of each such document.

(c) State where each such document is located.

ANSWER: Not applicable.

22. Were any design changes made as a result of such tests? If so, please state:

(a) The nature of the change made;

(b) The name, address, and job classification of each person in charge of making a change.

ANSWER: Not applicable.

23. After releasing the products listed in answer to Interrogatory No. 5 to the public, did Defendant conduct any tests (list animal and human tests) conducted thereon to determine potential health hazards involved in the use of materials contained therein. If so, please state:

(a) The name, address, and job classification of each person and/or agency conducting said tests;

(b) The results of said tests.

(c) The date of said tests.

ANSWER: This defendant had no reason to believe that there were any potential health hazards involved in the use of its asbestos-containing products based upon their characteristics, their intended use and safe work practices by the industrial customers and so no such tests were done. Also see answer to interrogatory 20.

24. Has Defendant ever conducted any studies concerning the effects of the inhalation of asbestos dust or fibers on one using or being exposed to any of the asbestos material manufactured, sold or distributed by you or your predecessor? If yes, please give dates and nature of such studies, names and addresses of persons conducting such studies, the purpose of such studies, and attach a copy of reports based upon such studies, and list to whom such reports were given and the date.

ANSWER: Because it had no reason to believe there were any potential health hazards from these products, no such studies were conducted. See also answers to interrogatories 20 and 23.

INFO ABOUT SAFETY/HEALTH

25. Please state whether or not Defendant ever conducted any tests in the field (where asbestos-containing products were applied, removed or used) to determine the nature and extent of asbestos fiber exposure to insulators, applicators, or fellow employees in the vicinity thereof? If so, please identify:

- (a) The date, place and nature of each and every test;
- (b) The particular asbestos-containing products to which each test applied;
- (c) The results of each test with particular reference to the number of asbestos fibers per cubic centimeter of air found at each site.

ANSWER: Because this defendant's small line of asbestos-containing products contained very small amounts of asbestos, used primarily in encapsulated or wet form and asbestos was removed from this defendant's general product line by 1980, this defendant did not believe there were potential health hazards associated with the use of its products and therefore no such tests or studies were done or felt to be necessary.

Moreover, this defendant was unaware of any duty or requirement to perform such tests or studies for its large industrial customers who were in a better position to provide a safe work place for their employees.

26. Please state whether or not Defendant ever obtained any knowledge concerning the allegation that asbestos could be hazardous to human health. If so, please state:

(a) When Defendant first became aware of the hazardous potential of asbestos dust and asbestos fibers.

(b) The manner in which the Defendant, Defendant's predecessor, or Defendant's subsidiary companies first obtained this knowledge and became aware of said hazards and from what source this information was obtained.

ANSWER: At this time defendant is aware of allegations that asbestos could be hazardous to human health depending upon the dose, duration, manner and length of exposure as well as the presence of other risk factors such as smoking tobacco. The information was learned from the news media and other

sources available to the general public including OSHA and NIOSH publications. This defendant is unable to specify precisely when it learned of these allegations, however, it has been gained gradually over the past several years.

27. Please state when Defendant first acquired knowledge concerning the claimed association between inhalation of asbestos fibers and the contraction of cancer including, but not limited to, mesothelioma and state the source of that information, including a description of all tests conducted relative to the possibility of such a relationship.

ANSWER: See answer to interrogatory 26.

28. Please state when Defendant first acquired knowledge concerning the claimed association between the inhalation of asbestos fibers and contraction of lung disease known as asbestosis and state the source of that information including a description of all tests conducted relative to the possibility of such a relationship.

ANSWER: See answer to interrogatory 26.

29. Please identify all physicians, industrial hygienists, and other employees (including their names and addresses) who were employed, retained or otherwise engaged by Defendant for research investigation or study concerning asbestos or asbestos-related diseases.

ANSWER: None except for the employees listed on Exhibit A as to this defendant's products.

30. As to each person who acted in a medical advisory capacity (as it relates in any way to asbestos) to Defendant, please list their name, the date individual acted in this capacity, and that person's current address and job title.

ANSWER: Interrogatory withdrawn.

31. Please state if any medical officer or industrial hygienist or medical consultant ever made at any time any recommendations and/or suggestions to Defendant pertaining to the risks or hazards to persons involved in the manufacture or use of asbestos products and, if so, please state when, by whom and to who such recommendations and/or suggestions were made and the substance of each recommendation.

ANSWER: In 1976 this defendant received notice from R. J. Wahl, Senior Environmental Health Engineer, and I. W. Sunderland, Safety Consultant, that this defendant should initiate a medical surveillance program of its employees. In response to environmental factors, Curtis Horton, industrial hygienist, initiated such a program.

32. Please state the scientific or medical periodicals to which Defendant, its medical department, industrial hygiene divisions or consulting physicians subscribed between 1945 and 1975.

35. Please state the year that Defendant was first advised of either threshold limit values or maximum allowable concentrations of both asbestos dust and total dust by the American Conference of Governmental Industrial Hygienists and state the name of the employee/official of the company receiving such advice.

ANSWER: This defendant was never specifically advised by the American Conference of Governmental Industrial Hygienists of threshold limit values or maximum allowable concentrations of asbestos dust or total dust.

36. Does Defendant maintain a library dealing with industrial hygiene, medicine, safety and engineering? If so, state:

- (a) The date each such library was established;
- (b) The location of each library;
- (c) The name(s) of the librarian(s) since 1930;
- (d) List all journals subscribed to by you concerning asbestos, industrial hygiene, medicine, safety, and/or engineering.
- (e) List all books and articles dealing with asbestos and asbestos-related diseases and the date acquired.

ANSWER: The Court reserved ruling on this defendant's objections to this interrogatory.

37. Did Defendant in the 1920's or 1930's commission, or participate in the arrangements with Metropolitan Life Insurance Company for studies at the Trudeau Foundation at Saranac Lake, New York, concerning the effect of inhalation or ingestion of asbestos fibers upon human and/or animal bodies.

ANSWER: No.

38. Does Defendant admit that a report of some of the studies of Trudeau Foundation at Saranac Lake, New York, entitled "Effects of the Inhalation of Asbestos Dust in the Lungs of Asbestos Workers" was published by A. J. Lanza, assistant medical director and J. published in the Public Health Report, vol. 50, no. 1, dated January 4, 1935?

ANSWER: This defendant has no specific knowledge of a report of studies of the Trudeau Foundation at Saranac Lake, New York.

39. When was Defendant first aware of the above mentioned Lanza report?

ANSWER: Not applicable.

40. Please state whether the Defendant at any time have been members of any "trade organization" or "trade association" composed of other manufacturers, miners, distributors and/or sellers of asbestos products and, if so, please identify the

name and address of each such association or organization, the dates of membership, and the names of any publications issued or written by such association or organization.

ANSWER: This defendant belongs to no trade organizations comprised solely of manufacturers, miners, distributors and/or sellers of asbestos products. It does belong to the following trade organizations:

The Refractories Institute	1951 - present
Industrial Health Foundation	1980 - present
Iron and Steel Institute	1970 - present

41. With respect to each trade organization or association listed in answer to Interrogatory No. 40, please state whether the minutes of the group's meetings and any correspondence between the members of such groups concerning the hazards of asbestos exposure are (A) in this defendant's possession; (B) in existence whether in this defendant's possession or not.

ANSWER: See attached documents from T. R. I. pertaining to asbestos as Exhibit B. This defendant has been unable to locate or has any knowledge of any applicable documents from the other two organizations.

42. Please identify by name the technical and trade association periodicals to which the Defendant subscribed, and state whether defendant had knowledge of any articles being printed, or withheld from printing, in said periodicals pertaining to the hazardous potential of asbestos. If so, please state the following:

- (a) The title of each such article;
- (b) The periodical in which each such article was published;
- (c) The date each such article was published;
- (d) A detailed explanation of the reason for withholding any such article for printing.
- (e) Produce documentation which refers, alludes or mentions articles which were withheld for publication.
(See Request for Production #18).

ANSWER: The Court reserved ruling on this defendant's objections to this interrogatory.

43. Please state whether, prior to 1975, the Defendant sponsored, or attended any meeting, seminar, conference, convention or legislative hearing where the subject of occupational health and exposure to asbestos was discussed and, if so, please state the date and place of such meeting and the name and address of any speakers or participants.

ANSWER: No.

WARNINGS/SALES PROMOTION

44. As to each product listed in response to Interrogatory No. 5, please state whether Defendant, at any time, published and/or distributed any brochures, pamphlets, packagings or other written materials of any kind or character that contain any warnings, cautions, caveats or directions concerning the possible health effects of the product on a person. If so, please state as to each product.

- (a) The wording of each such warning;
- (b) A description of each such printed material;
- (c) The method used to distribute the warning to persons who are likely to use the products;
- (d) The date each such warning was issued;
- (e) Whether any warning accompanied any of your asbestos-containing products' sales literature, handout or pamphlets;
- (f) Please attach a copy of the warning and date said warning was issued;
- (g) The name, address, and job classification of each person who presently has possession of the above-described documents;
- (h) The name or names and addresses of the company who provided, produced, or manufactured the boxes or containers on which the warning appeared and dates these boxes with the warnings appeared.

ANSWER: (a) - (g) Warnings were provided to this defendant by Eagle-Picher for its One-Cote Super "66" cement sold under a relabeling agreement by this defendant as Unicote and Stazon. These warnings were placed on the packaging for those products. This defendant has no records regarding the Eagle-Picher product warnings. However, this defendant believes that Eagle-Picher began placing warnings on the relabeled products in approximately 1964. Counsel for this

defendant has received records pertaining to Eagle-Picher product warnings in other litigation which are attached as Exhibit F.

Because this defendant was unaware of any potential health hazards involved with the use of the asbestos-containing products which it manufactured and sold, no such warning labels were provided. Moreover, its products were being sold to sophisticated buyers who had equal or greater knowledge regarding the safe use of its products. See also answer to interrogatory 20.

(h) No answer required by Court order.

45. Has sales material been prepared by Defendant or its agents for purposes of marketing or advertising the asbestos products listed in answer to Interrogatory No. 5? If so, please state:

(a) The name and address of each person or entity who prepared same;

(b) The name, address and job title of each person presently has possession of same;

(c) The date same was prepared;

(d) The media used to disseminate the sales material.

ANSWER: Yes. See sales catalogs provided in response to the request for production.

46. Has any written material of any kind or character been prepared by Defendant, Defendant's predecessor or any of Defendant's subsidiary companies or their agents indicating how the products listed in answer to Interrogatory No. 5 should be used or maintained by the ultimate consumer. If so, please state the following:

(a) The name, address and job classification of each person who prepared same:

(b) The name, address, and job classification of each person who presently has possession of same.

(c) The dates and manner in which said material was distributed to purchasers of the products in answer to Interrogatory No. 5.

ANSWER: General application instructions for NARCO products were available for its customers upon request. No special safety instructions were felt to be necessary given the small amounts of asbestos in its products mainly in encapsulated or wet form.

47. Was any written material of any kind prepared by Defendant and distributed to those entities listed in response to Interrogatory No. 11? If so, please state the following:

(a) Identify the written material by content and date.

(b) To whom was it delivered.

ANSWER: No answer required by Court order.

3 2-3 1-3 103 2 21 2/3 1 1

PLANTY'S
(21)
SPECIAL INSTRUCTIONS:

BEST. WITH PRICES INCLUDE TRIMMING
AND BOOM W/ADJACENT JOBS 811E.
CRIBBY FINESTOCK CO WILL PICK UP
A BIL. ADVICE WITH COPY TO
CRIBBY FINESTOCK WHEN THEY CAN
PICK UP, DELY ACCEPTED FROM. THEN IT
GIVE TO 4TH. NO BAT. DELY. IF
THINE AND ANY ENVOYAGES ADVISES MINI
CLOUD YOU CAN SUBSTITUTE ON EGY.

ROUTE VIA
SOLD TO
L. HENRYSON P.L.D.
CRIBBY FINESTOCK CO. 1500 S. 10TH ST.
MINN. 55404
HARRIS, HARRIS, INC.
33-09 9TH FLOOR
COLUMBIA, MO. 64101

DATE OF SHIPMENT 9/11/64
ORDER NO. 9/11/64
DATE ENTERED 9/11/64
CUST. ORDER NO. 9/11/64
CUST. REQ. NO. 9/11/64
CUST. ORDER DATED 9/11/64

TERMS: NET 30 DAYS
PRICES ARE F.O.B. OUR WORKS
INCLUDE CARLOAD LESS CARLOAD
FREIGHT TO ST. LOUIS, MO. 03.8

QUANTITY	BRAND	DESCRIPTION	OUR DWR. NO.	PRICE	UNIT	SUM	MIX NO.	RATE	% CTRN	EQUIV.	TOTAL EQUIV.
4,150	FACON 80	FRYING OIL		168.43	M	12.41		135.03			4150
330	80	FRYING OIL		168.43	M	12.41		135.03			635
140	80	FRYING OIL		168.43	M	12.41		135.03			140
10	80	FRYING OIL		168.43	M	12.41		135.03			10
92	80	FRYING OIL		168.43	M	12.41		135.03			92
42	80	FRYING OIL		168.43	M	12.41		135.03			42
102	80	FRYING OIL		168.43	M	12.41		135.03			102
83	80	FRYING OIL		168.43	M	12.41		135.03			83
1,500	MANUFACT H.T.	FRYING OIL		168.43	M	12.41		135.03			1500
1,700	MANUFACT H.T.	FRYING OIL		168.43	M	12.41		135.03			1700
200	MANUFACT H.T.	FRYING OIL		168.43	M	12.41		135.03			200



AMERICAN REFRACTORIES CO.

an **Eltra** company

HANNA BUILDING

CLEVELAND, OHIO 44115

DATE 5/30/77
PAGE 21

PLANT: Farber
SOLD TO:

CONSIGNEE TO:

DATE 5/30/77
SAME AS SOLD TO US

Christy Firebrick Company
3144 N. Broadway
St. Louis, MO 63147

ACF Industries, Inc.
Carter Carburetor Div.
3637 St. Louis Ave.
St. Louis, MO 63107
c.o. # see below

SHIPPING DATE	5.6 Weeks	(w/o 7/9 - w/o 7/10/77)	NE
210	5/24/78	EE-117-A	179 S S
Farber MO	N H Y	Orchard Bros	

Mark: Customer order #54143					
1.	11,300#	Marcoest E.S. Castable 100# Bags	11500#	223	21
2.	4,300#	Marcolita Insulating Castable 50# Bags	4500#	240	24
3.	2,200#	Marcotab - 100# Bags	2200#	700	70
4.	1,100#	Marphos 85 wet mortar 100# Drums	1100#	450	45
Mark: Customer order #54144					
5.	800#	Superchief T Mortar "55"	800#	395	39
6.	3,000#	Super Marcoest Castable 100# Bags	3000#	240	24
Partial deposit - Partial or mixed additional			2200#		

SPECIAL INSTRUCTIONS:

BILLING INSTRUCTIONS: ALLOW DEALER DISCOUNT ☐ NO ☐ YES BRICK 10% ☐ YES SPEC. 20%
☐ DISCOUNT DEDUCTION / OTHER PRICING CONCESSION:

EQUALIZATION ☐ -YES ☒ -NO

EXTRAORDINARY TERRITORY CREDIT: PRICE 100% - 12/3 - 11/3 - 10/3 - 9/3 - 8/3 - 7/3 - 6/3 - 5/3 - 4/3 - 3/3 - 2/3 - 1/3 - 0/3



NORTH AMERICAN REFRACTORIES CO.

DIVISION OF ELTRA CORPORATION
CLEVELAND, OHIO 44114

SALES C

PLANT	Monsieador & Hammond		BY T.W.X.	BY MAIL	X	
CUSTOMER NO.	ROUTE VIA	1. 2. 3. 4. 5. 6. 7. 8. 9. 10. 11. 12. 13. 14. 15. 16. 17. 18. 19. 20. 21. 22. 23. 24. 25. 26. 27. 28. 29. 30. 31. 32. 33. 34. 35. 36. 37. 38. 39. 40. 41. 42. 43. 44. 45. 46. 47. 48. 49. 50. 51. 52. 53. 54. 55. 56. 57. 58. 59. 60. 61. 62. 63. 64. 65. 66. 67. 68. 69. 70. 71. 72. 73. 74. 75. 76. 77. 78. 79. 80. 81. 82. 83. 84. 85. 86. 87. 88. 89. 90. 91. 92. 93. 94. 95. 96. 97. 98. 99. 100.	CODE	B/C	TERRITORY CREDIT	INVOICES
000	See Below	84A 84C	99	8-74	2A	

ASSIGNMENT

COMMITMENT

SAME AS SOLD TO UNLESS OTHERWISE SPEC.

Union Electric Company
1901 Gratiot AVE.
St. Louis, Mo. 63166North American Refractories Co.
Hammond, Indiana
For Receipt Via HARCO Truck to
Union Electric Company
Cahokia Plant, #1 Monsanto Av
Sauget, Ill. 62203
Attn: Mr. Ken Fitch

SHIPPING DATES:

ASAP - Promise 4-5 Wks.

DATE ENTERED	CUSTOMER ORDER NO.	CUST. REQ. NO.	CUSTOMER ORDER DATED	REQUESTED ROUTING	RELEASE
10-10-73	64602		10-4-73		
RELEASE NO.	TERMS	PRICES ARE F.O.B.	MINIMUM WEIGHT		
	NET 30 DAYS				
1					
2					
3	240000	HARCO Harnag C-13 Gun Mix	240000	132.	132.
4		in 1000 Bags (12 Pallets *)			
5					
6					
7					
8					
9					
10					
11		Charge for 4 partial pallets only			10.00
12					
13					
14	"A"	Sold to, attn: Accts Payable Dept.			
15		P.O. Box 146			
16		St. Louis, Mo. 63166			
17					
18					
19					
20					
21					
22					
23					

Use mess. pallet protection. *Pallet weight not to exceed 1000# per pallet. Show C/C# on all papers and packages. Include this material in next car when avail, going to the Hammond warehouse. Return Farb Harco truck will pick up at Hammond and deliver to customer on return trip back to Farber.

BILLING: Customer to be billed only for their portion of frt from Wm to Hammond and frt from Hammond to Destination Via Harco Tr. Any extra charges such as handling and warehousing don't a;

SC RAN DATE 10-10-73 TIME

SALES DEPARTMENT

NARCO

NORTH AMERICAN REFRACTORIES CO.

- Eltra ~~company~~
CLEVELAND, OHIO 44114

SALES

PLAN CURWENSVILLE

BY T W X TWX C9

BY MAIL

DATE	ROUTE	CODE	8 C	TERRITORY CREDIT	DATE
210	BUTLER	A S/C	79	5-74	3A S-

TO ORDER

COMMENTS

SAME AS SOLD TO UNLESS OTHERWISE SH

CHRISTY FIREBRICK CO.
3144 NORTH BROADWAY
ST. LOUIS, MO. 63147

SIMONDS ABRASIVE DIVISION
WALLACE-MURRAY CORP.
CO: 9090
1015 S. COLLEGE AVE
SALEM, ILL.

MARK: ATT: MR. D. GREENE

SHIPPING DATES: SEE BELOW

DATE ENTERED	CUSTOMER ORDER NO	CUST. REQ. NO	CUSTOMER ORDER DATED	REQUESTED ROUTING	RELE
4/2/74	9090		3/22/74		
RELEASE NO.	TERMS	PRICES ARE F. O. B.	MINIMUM WEIGHT		
	NET 30 DAYS	CURWENSVILLE, PA.	N Y	23.000T 441 + 6% S/C	
1					
2	10,000#	NARCOLITE IN 50# BAGS	10000#	222.	222.
3	48,000#	NARCOHEARTH 23 CASTABLE IN 100#BGS.	48000#	153.	153.
4					
5					
6					
7		1/2 OF EACH ITEM TO SHIP 5/1/74			
8		AND 6/1/74 TO ARRIVE BY 5/15/74			
9		AND 6/15/74.			
10					
11					
12					
13					
14					
15					
16					
17					
18					
19					
20					
21					
22					
23					

OTHER SPECIAL INSTRUCTIONS

TYPE "S" PROTECTION.

BILLING: DEALER DISCOUNT- DEDUCT 20% ON SPECS.
PARTIAL PALLET CHARGE WAIVED.

KBJ

4/2/74

SC

DATE

TIME

SALES DEPARTMENT



NORTH AMERICAN REFRACTORIES CO.

- Extra -

CLEVELAND, OHIO 44114

SALES C

PLANT Farber

BY T.W.X.

BY Ph: Vernon

CUSTOMER NO.	ROUTE VIA	DATE OF LADING	NOTICE OF SHIPMENT	CODE	B/C	TERRITORY CREDIT	REMARKS
210		Spec. 8		74	8-74	28	

SAME AS SOLD TO UNLESS OTHERWISE SPEC

Christy Firebrick Company
3144 North Broadway
St. Louis, Missouri 63147

Spartan Aluminum Products, Inc.
CO: 13670
Sparta, Illinois

SHIPPING DATES:

At Once, ship 3/6/74

DATE ENTERED	CUSTOMER ORDER NO.	CUST. REG. NO.	1. CUSTOMER ORDER DATED	REQUESTED ROUTING	RELEASE
3-4-74	59922-1			Orshala to St. Louis	
RELEASE NO.	TERMS	PRICES ARE P. O. B.	QUANTITY	MINIMUM WEIGHT	
	NET 10 DAYS				

QTY	DESCRIPTION	UNIT PRICE	TOTAL	BASE	TOTAL	PRICE
75	Narcal 70 9x2 1/2 x 2 1/2 Soaps	1.00 .50	75 32	850	-	850.00
25	9x4 1/2 x 2 1/2 #2 Arch	1.00 .85	25 21	850	-	850.00
60	Narcal 70D 9x4 1/2 x 1 1/2 #1 Split (Book Count)	1.00 .50	60 30	850	-	850.00
700	Narcal 352 9x4 1/2 x 1 1/2 Sts.	1.20	840	1735	-	2142.00
4	Farber 13x12x3 Sts.	6.40	26	300	75	3.36
1	Narco 68 30x12x3 Sts.	10.67	11	330EM	170	14.36
5000	Narphos 85 -100# Drums		5000	350		350.00
10000	Narcolite -50# Bags		10000	260		260.00
70000	Super NarcoCast -100# Bags		70000	200		200.00
		T/Tq	1037			

T/Act 966

Please show C/O# 13670 on all papers and packages.

Billing: Allow 10% on Brick, 20% on Specs.

SC CUM DATE 3-4-74 TIME

SALES DEPARTMENT

NORTH AMERICAN REFRACTORIES CO.
 DIVISION OF ELTRA CORPORATION
 CLEVELAND, OHIO 44114

SALES

PLANT MT. UNION		BY T.W.X.		BY MAIL MAIL	
CUSTOMER NO.	ROUTE VIA	BILL OF LADING	NOTICE OF SHIPMENT	CODE	B/C
360	CONSOLIDATE FRTWAYS	1S	S&C		15
TERRITORY CREDIT				INVOICES PRICED	
				G-39	
				25	

FRAZIER-SIMPLEX, INC.
 BOX 493
 WASHINGTON, PA. 15301

HILLSBORO GLASS COMPANY
 HILLSBORO, ILLINOIS.

SHIPPING DATES: **DELIVERY REQUIRED JANUARY 1, 1972. SHIP ACCORDINGLY.**

DATE ENTERED	CUSTOMER ORDER NO.	CUST. REQ. NO.	CUSTOMER ORDER DATED	REQUESTED ROUTING	RELEASE
8/9/71	9667-F		8/6/71	BEST WAY - COLLECT	
RELEASE NO.	TERMS	PRICES ARE F.O.B.	INCL. FREIGHT	PPD	COL
	NET 30 DAYS	MT. UNION, PA			X

QTY	DESCRIPTION	UNIT	PRICE	TOTAL	BASE	NET
1	50# MARCO STAZ-ON		50#	206.		206.00
2						
3						
4						
5						
6						
7						
8						
9						
10						
11						
12						
13						
14						
15						
16						
17						
18						
19						
20						
21						
22						
23						

SHOW ORDER NUMBER 0998 ON SHIPMENT AND ALL RELATIVE PAPERS.
 FRAZIER-SIMPLEX, INC. TO BE SHOWN AS SHIPPER, USING THEIR SHIPPING PAPERS.

S.C. **WBJ** DATE **8/9/71** TIME



NORTH AMERICAN REFRACTORIES CO.

Eltra

CLEVELAND, OHIO 44114

SALES C

PLANT FARMER PAGE #1 OF #2

BY TRUCK TUX CB BY MAIL

CUSTOMER NO.	ROUTE VIA	QUANTITY	NOTICE OF ORDER	CODE	B/C	TERRITORY CREDIT	ORDER DATED
344	ICG-PC	SEE PAGE 2 OF ORDER				A-21 2/3 L-63 1/3	PAGE 2

SOLD TO:

CONSIGNEE TO

SAME AS SOLD TO UNLESS OTHERWISE SPEC

FOSTER WHEELER CORP.
110 SO. ORANGE AVE.
LIVINGSTON, N. J. 07039

PUBLIC SERVICE OF INDIANA, INC
GIBSON GENERATING STA. - UNIT
MOUNT CARMEL, ILLINOIS

SHIPPING DATES: SEE SPEC. INSTRUCTIONS

DATE ENTERED	CUSTOMER ORDER NO.	CUST. REQ. NO.	CUSTOMER ORDER DATED	REQUESTED ROUTING	RELEASE
1/15/74	N-30693-7-32-1169 CHANGE #1 (PARTIAL)				
RELEASE NO.	TERMS	PRICES ARE P. O. B.	QUANTITY	MINIMUM WEIGHT	
	NET 30 DAYS	FARMER, MO.	N Y N	60M 8.9INT 90M 8.12NT	
QUANTITY	ITEM	DESCRIPTION	UNIT	PRICE	TOTAL
178,000#	29	NARCOCAST E.S. CASTABLE 100# BAGS.		178,000# 144.	115.2
15,000#	4	NARCOCAST E.S. FINE (TROWEL), IN 100# BAGS		15,000# 144.	115.2
16,000#	5	SUPERCHIEF 22 MORTAR, IN 200# DRUMS		16,000# 212.	16.0
48,000#	6	NARCOCAST CASTABLE, 100# BAGS		48,000# 144.	115.2
24,000#	8	NARCOTAB CASTABLE, 100# BAGS		24,000# 485.	386.0
10,000#	9	NARCOCRETE INSUL. CASTABLE, IN 100# BAGS		10,000# 209.	167.2
500#	10	AEROCASL-L INSUL. CASTABLE, IN 50# BAGS		500# 136.	136.0
175	11	NARCAL 50 15X12X2" TILE	3.56	623 460 90	37.1
20,000#	26	NARCAL 85P PLASTIC, IN 100# CARTONS		20,000# 268.	214.4

ITEM 26 WILL BE SHIPPED SEPARATELY VIA TRUCK. SHIPPING INSTRUCTIONS WILL BE GIVEN AT TIME OF THE RELEASE

PALLETIZE--"C" AND "S" PROT. NO CHARGE FOR PARTIAL PALLETS.

MARK SHIPMENT: F.V. P.O. NO. N-30693-7-32-1169 CHANGE #1

CUSTOMER'S ORDER NO. 2047-90

CUSTOMER'S CONTRACT NO. H-2600

ESTIMATED WEIGHT, EXCLUSIVE OF ITEM 26, 297,273#. MATERIAL IS TO BE SHIPPED IN THREE 90,000# CARS. SHIP CAR #1 SO THAT IT WILL ARRIVE AT JOB SITE ON OR BEFORE FEB. 1 AND IS TO CONTAIN ITEMS 4, 5, 6, 9 & 10, BAL. WITH NARCOCAST E.S. BALANCE OF THE ORDER IS TO BE HELD FOR TRAILER

REFERENCE (CONTINUE ON PAGE 72)

SALES DEPARTMENT

467 on April 17, 1974, the entire process consuming about 29 months.*

b. Fourteen Carcinogens

On July 6, 1972, OSHA requested information concerning fifteen substances (37 FR 13235). A package of fourteen (14) emergency temporary standards regulating occupational exposures to a like number of carcinogens was published on May 3, 1973 (38 FR 10929), contested in part in *Dry Color Manufacturers' Assn. v. Brennan* and vacated on October 4, 1973 by the Third Circuit Court of Appeals at 486 F.2d 98; an advisory committee was appointed and began its meetings on June 25, 1973, the proposed permanent standard was published on July 18, 1973 (38 FR 18800) and amended on August 16, 1973 (38 FR 22141), a hearing was held in September 1973 and the final standard published on January 29, 1974 (39 FR 3756), contested in *Synthetic Organic Chemical Manufacturers Assn. (SOCMA) v. Brennan I* (EJ) on January 29, 1974 and *SOCMA v. Brennan II* (MOCA) on February 4, 1975. In *SOCMA v. Brennan I*, the Third Circuit affirmed in part in 503 F.2d 1155 on August 26, 1974, *cert. den.* on March 17, 1975 in 420 U.S. 973. A petition for rehearing was denied on October 6, 1975. In *SOCMA v. Brennan II*, the Third Circuit affirmed in 506 F.2d 385 on December 17, 1974. A petition for certiorari was filed on March 20, 1975 and denied by the Supreme Court on October 6, 1975 *sub nom. Oil, Chemical and Atomic Workers v. Dunlop* in 423 U.S. 830. The entire process consumed about 40 months.

c. Vinyl chloride

A fact-finding hearing concerning vinyl chloride was announced on January 30, 1974 (39 FR 3874) and held on February 15, 1974. An emergency temporary standard regulating occupational exposure to vinyl chloride was published on April 5, 1974 (39 FR 12341) and not judicially contested, a proposed permanent standard was published on May 10, 1974 (39 FR 16896), the permanent standard published on October 4, 1974 (39 FR 35892), contested in *The Society of the Plastics Industry v. OSHA* on October 1, 1974, and affirmed in 509 F.2d 1301 on January 21, 1975, *cert. den. sub nom. Firestone Plastics Co. v. U.S. Department of Labor* in 421 U.S. 992, on May 27, 1975, the entire process consuming 15 months.

*The cancer-causing properties of asbestos were recognized as early as 1930. OSHA's asbestos standard.

d. Coke oven emissions

An advisory committee concerning occupational exposures to coke oven emissions was appointed on August 12, 1974, and held twenty-eight days of meetings during which testimony was presented by numerous experts and parties and over 200 exhibits received, the proposed permanent standard was published on July 24, 1975 (40 FR 40849), promulgated on October 22, 1975 (41 FR 46742), contested in *American Iron and Steel Institute v. OSHA* on October 23, 1976, and affirmed in 577 F.2d 825 on March 28, 1978, petition for *certiorari* pending in the United States Supreme Court, the entire process consuming 66 months so far.

e. Arsenic

An advance notice of proposed rulemaking concerning occupational exposures to inorganic arsenic was published on June 11, 1974 (39 FR 20494), a fact-finding hearing was announced on August 30, 1974 (39 FR 31644), held on September 20, 1974, a proposed standard was published on January 21, 1975 (40 FR 3392), a final permanent standard published on May 5, 1978 (43 FR 19584), contested in *ASARCO v. OSHA* on May 5, 1978 and judicial review is pending in the Ninth Circuit Court of Appeals and decision has been deferred pending the result of the Supreme Court decision in the case of the contested standard regulating occupational exposures to benzene, *infra*. The entire ongoing process has therefore consumed 67 months.

f. Benzene

An emergency temporary standard regulating occupational exposures to benzene was published on May 3, 1977 (42 FR 22518), stayed in *API v. OSHA* by the Fifth Circuit Court of Appeals on May 20, 1977, a proposed permanent standard was published on May 27, 1977 (42 FR 27482), published in final form on February 10, 1978 (43 FR 5918), contested in *American Petroleum Institute v. OSHA* on February 2, 1978, and vacated in 581 F.2d 493 on October 5, 1978, *certiorari* granted in *Marshall v. API* 440 U.S. 906 on February 21, 1979 by the United States Supreme Court, the entire process, so far, consuming 31 months.

g. Acrylonitrile

On June 29, 1977 (42 FR 33043), and July 5, 1977 (42 FR 34326), OSHA requested public comments concerning occupational exposure to vinyl cyanide or acrylonitrile. An emergency temporary standard regulating occupational exposure to acrylonitrile was published on January 17, 1978 (43 FR 2385).

contested on January 17, 1978, the stay was denied in *Vistron v. OSHA* on March 28, 1978 in the Sixth Circuit, a permanent standard was proposed on January 17, 1978, (43 FR 45782), hearings held in March and April 1978 and the final standard issued on October 3, 1978 (43 FR 45762). That final standard was not judicially contested, although the entire process consumed 16 months even after the Manufacturing Chemists Association and Dow Chemical Co. on the one hand and E. I. du Pont de Nemours & Co. Inc. on the other hand informed OSHA that such substance was a potential carcinogen based on both animal and human evidence in March and May of 1977 respectively.

h. Beryllium

In the case of a standard regulating occupational exposures to beryllium, the proposed standard was published on October 17, 1975 (40 FR 4814). Hearings were held during August and September 1977. A final standard is pending with the process to date having consumed at least 51 months.

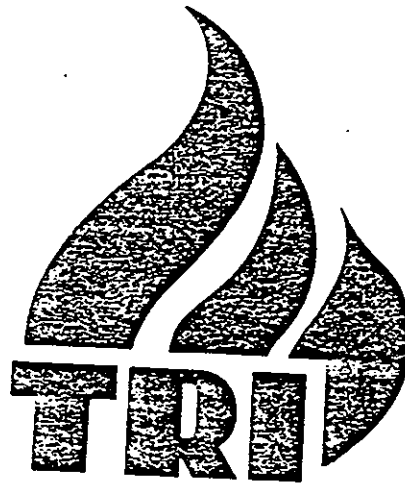
In sum, OSHA believes that the length of time consumed in official regulatory and judicial processes will be shortened after the promulgation of this Part for the following reasons: the periodic announcement of regulatory priorities and advance notice of identification and classification criteria will enable all participants in the regulatory process, including OSHA staff, to act with greater efficiency and certainty in framing the truly critical issues in any rulemaking and locating the required technical and scientific expertise early in the proceeding. This should shorten and sharpen the rulemakings. Also the reviewing courts will be presented with rulemaking records of improved coherence, relevance and reduced size, aiding their deliberations.

Other administrative problems faced by OSHA in promulgating regulations in this area on a case-by-case basis are expected to be mitigated by these regulations. OSHA had stated that the present system unreasonably takes the time of scientific experts who were asked to present statements concerning identical issues in various proceedings. For example, Dr. Rall (Director, NIEHS) testified:

"... I think the discussion of the issues can and should continue forever. Mr. Hanson [of Dow Chemical Co.] Which forum, sir?"

Dr. Rall: In scientific forums. Sometimes the regulatory agency has to say—and I think it is perfectly proper—that we need the current state of knowledge and evaluate on the basis of it. The point really is that the

Paul Rosman
Training materials.



**A GUIDE TO THE
HAZARD COMMUNICATION STANDARD**

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By

THE REFRACTORIES INSTITU

301 Fifth Avenue, Suite 1517
Pittsburgh, PA 15222

(412) 281-6787

REFRACTORIES MANUFACTURING:
COMMON CHEMICALS LIST

The following list of chemicals has been compiled by The Refractories Institute's Toxic Substances Committee from those sources* specified by the OSHA Hazard Communication Standard for establishing that chemicals are hazardous or carcinogenic. It is intended as a reference list of those substances commonly used in refractories manufacturing facilities that appear in those source materials and require an MSDS under the OSHA Standard.

This list is not to be considered comprehensive or current.

CHEMICAL NAME	SOURCE* DOCUMENT			
	OSHA Z-Table	TLV List	IARC Carcinogen	IATP Carcinogen
Acetic acid	x	x		
Acetone	x	x		
Acetylsalicylic acid (Asprin)		x		
Alumina (alpha Alumina)		x		
Aluminum (Metal and oxides)	x	x		
Aluminum (soluble salts)		x		
Ammonia	x	x		
Asbestos		x	x	x
Asphalt (petroleum) fumes		x		
Benzene		x	x	x
Benzo (a) pyrene		x		x
Borates		x		
Borates, tetra, sodium salts--anhydrous		x		
Boron oxide	x	x		
Butane		x		
Calcium carbonate/ marble		x		
Calcium cyanamide		x		
Calcium hydroxide		x		
Calcium oxide	x	x		
Calcium silicate		x		
Carbofuran		x		
Carbon black	x	x		
Carbon monoxide	x	x		
Chromate		x		
Chromate as Cr, Chromite ore processing		x		x

50 LBS. NET WT.



NARCO LITE
LIGHT WEIGHT

NORTH AMERICAN REFRATORIES CO.
CLEVELAND, OH.
U. S. A.

EXHIBIT

C

June 2, 1964

Mr. J. A. Stott
North American Refractories Company
National City East 6th Building
Cleveland 14, Ohio

Dear Joe:

At a recent meeting of the Board of Directors of the National Insulation Manufacturers Association, it was brought out that one of the major insulation manufacturers was planning to add a cautionary note to containers where the products involved included asbestos as a constituent.

I am attaching a copy of that portion of the minutes of this meeting which gives the details of this step.

We are planning to use this same cautionary note, having it printed on the bags when our present stocks run out. The Eagle-Picher products involved are: Super "66" Cement, One-Cote Cement, "33" Cement and "43" Cement. Your corresponding products are: Stas-On and Unicote.

At your convenience, would you let us know if you wish similar action taken with respect to the cements which we are manufacturing under your label.

Sincerely,

THE EAGLE-PICHER COMPANY

John P. Harrington
John P. Harrington
General Sales Manager
Industrial Insulation

JPH/sa

Att.

cc: Mr. E. F. Munn
✓ Mr. A. L. Jones

"EXHIBIT A"



NORTH AMERICAN REFRACTORIES CO.
NATIONAL CITY EAST 614 BUILDING • CLEVELAND, OHIO 44114

June 10, 1964

The Eagle-Picher Company
Insulation Division
American Building
Cincinnati, Ohio 45201

Attention: Mr. John P. Harrington
General Sales Manager
Industrial Insulation

Dear Mr. Harrington:

We acknowledge and thank you for your letter dated June 2, informing us of the action taken at a recent meeting of the Board of Directors of the National Insulation Manufacturers Association, concerning adding a cautionary note to containers where products involved include asbestos as a constituent.

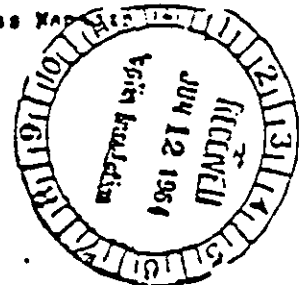
It is noted that your company is planning to use this same cautionary note, having it printed on the bags when your present stocks are depleted. Accordingly, the Management of our company is desirous of having this same cautionary note appear on our corresponding products; namely, STAF OR and UNICOT. So far as our products are concerned, this may be accomplished either by having the note printed on the bags or applied by the use of a sticker label.

It is with deep regret that we inform you of the death of Joseph A. Stott on April 30, 1964, after a two month illness.

Very truly yours

NORTH AMERICAN REFRACTORIES CO.

James A. Miller
Assistant to Sales Manager



"EXHIBIT C"

JOHN F. HAMILTON

FILE	6-19
DATE	6-20
TIME	1:17
RETURN TO A. L. JONES	

June 20, 1964

File

J.F. Hamilton
Cleveland Office

Subject: Re: American Refractories
"Caution" Labels

We note Mr. Miller's letter of June 1961 in answer to your inquiry of June 2nd. He indicated approval of the note being printed on the bags or applied by the use of a sticker label. You are aware that the label idea will be a little expensive, up to half the cost of the bag, due mainly to the amount of time to affix the label.

For your information, our supply of printed Standard Cement bags would last 9 months at the rate of usage in the first six months this year. On the Unilox bag, we have 4,900 on hand and have had no usage during the first six months of this year. Actually, we have used only 700 bags in the last 311 years. We still have the original supply purchased in 1950. Maybe this product needs a little promotion to get it back into circulation.

We await your comments.

A. L. Jones

ALJ/TJ

cc: W.F. McCarthy
W.F. Dunn
L.T. Montant

"EXHIBIT D"

Mr. Alton L. Jones
JOPLIN INSULATION PLANT

Dear Alton:

You have probably already seen the letter from Mr. Miller of North American Refractories Company to John Harrington asking that the Caution notice be applied to the products we make for Narco. Lou Montant informs me that the product designations that you will want to be covered by this Caution notice are:

Narco Star-On - *pta*

Narco Unicote - *pta*

Star, H, 1/2

9mc

5000 on hand, now

Will you please proceed accordingly, Alton?

Bill

W. F. McCarthy

WTMc/gg

cc-Mr. H. F. Nunn
Mr. J. P. Harrington
Mr. L. T. Montant

"EXHIBIT E"

SC	RELEASED TO PLANT	BRICK TEE						SPECIALITY TERRITORY CREDIT					
								← CODE →					
								← % →					

[illegible]



NORTH AMERICAN REFRACTORIES CO.

Eltra

CLEVELAND, OHIO 44114

SALES OR

PLANT WOMELSDORF

BY T.W.X. LD

BY MAIL

CUSTOMER NO.	ROUTE VIA	BILL OF LADING	NOTICE OF SHIPMENT	CODE	B/C	TERRITORY CREDIT	INVOICES
399	BUTLER	S	S		03	S-74	AS C-93

COMMENTS

UNCONFIRMED

SAME AS SOLD TO UNLESS OTHERWISE SPEC

GRANITE CITY STEEL CO.
GENERAL OFFICES
GRANITE CITY, ILL. 60040

SAME
STEEL WORKS STOREROOM
GRANITE CITY, ILL.

SHIPPING DATES: SHIP TO ARRIVE NO LATER THAN 4/22/77- SHIP ASAP

DATE ENTERED	CUSTOMER ORDER NO.	CUST REG. NO.	CUSTOMER ORDER DATED	REQUESTED ROUTING	RELEASE	
4/13/77	30-31862					
RELEASE NO.	TERMS	PRICES ARE F. O. B.	PRICE	FREIGHT RATE	DATE	MINIMUM WEIGHT
	NET 30 DAYS X	WOMELSDORF PENNA	PPD COL N Y N	31.40NT	4/13/77	44M
QUANTITY ORDERED	DESCRIPTION	SIZE	OUR QTY	EQUIV. PRICE	TOTAL EQUIV.	PRICE
2000	HARCOGUN PD-345A					239.00
	PALLET DEPOSIT					3.50

SPECIAL INSTRUCTIONS

Allow Dealer Discount - No ☒
Yes - Brick 10% ☐
Yes - Special 20% ☐
Yes - Other ☐
Discount Deducted
Other Pricing Concession

Equalization - Yes ☐
No ☒
Site

SPECIAL INSTRUCTIONS

SHIP FULL PALLETS.

FUTURE ORDERS WILL BE AT HIGHER
PRICE PER RCC.

S.C. T13

PRICE & TERRITORY CREDIT

CK BY

DATE

4/13/77

SALES DEPARTMENT

NORTH AMERICAN REFRACTORIES CO.
 Eltra
 CLEVELAND, OHIO 44114

SALES ORDER

PLANT	WOMELSDORF			BY T.W.X. PC		BY MAIL	
CUSTOMER NO.	ROUTE VIA	BILL OF LADING	NOTICE OF SHIPMENT	CODE	B/C	TERRITORY CREDIT	INVOICE PRICED
399	CONRAIL-TRRA DELY	S	S		03	S-74	AS S-6

SOLD TO

CONSIGNEE TO

NAME AS SOLD TO UNLESS OTHERWISE SPECIFIED

GRANITE CITY STEEL CO.
 GENERAL OFFICES
 GRANITE CITY, ILL 60040

GRANITE CITY STEEL CO.
 STEEL WORKS STOREROOM
 GRANITE CITY, ILL

SHIPPING DATES: SHIP WITH S-677

DATE ENTERED	CUSTOMER ORDER NO.	CUST. REQ. NO.	CUSTOMER ORDER DATED	REQUESTED ROUTING	RELEASE C
3/14/77	30-29515		3/3/77		
RELEASE NO.	TERMS	PRICES ARE F.O.B.	PPD COL	PERMIT DATE	DATE
	NET 30 DAYS	WOMELSDORF	W Y H	27.88	3/14/77
	X	PENNA		24.47	3/14/77

QUANTITY	DESCRIPTION	UNIT	PRICE	TOTAL
18000	MARCOGUN PD-345A (6 PALLETS)		239	239.00
	PALLET DEPOSIT			3.50

BRILLIANT INSTRUCTIONS	
Allow Dealers Discount - No ☒	Equalization - Yes ☐
Yes - Brick 10% ☐	No ☒
Yes - Special 20% ☐	Site ☐
Yes - Other ☐	
Discount Deducted ☐	
Other Pricing Concession ☐	
PRICE & TERRITORY CREDIT	
S.C. TLB	CK BY DATE 3/14/77

SPECIAL INSTRUCTIONS

PLANT		WOMELSDORF		BY T.W.X.		PC		BY MAIL	
CUSTOMER NO.	ROUTE VIA	BILL OF LADING	NOTICE OF SHIPMENT	CODE	B/C	TERRITORY CREDIT		INVOICES PRICED	
359	BUTLER	S	S		03	S-74		45	S-

GRANITE CITY STEEL GENERAL OFFICES GRANITE CITY, ILL 60040		GRANITE CITY STEEL CO. STEEL WORKS STORE ROOM GRANITE CITY, ILL	
--	--	---	--

SHIPPING DATES: ASAP	
DATE ENTERED	CUSTOMER ORDER NO.
10-21-76	30-22474

RELEASE NO.	TERMS	PRICES ARE F.O.B.	DDP COL	FREIGHT RATE	DATE	MINIMUM WEIGHT
	NET 30 DAYS	WOMELSDORF				
	X	PERHA.	N N Y	31.40	10-21-76	440

QUANTITY	NAME	DESCRIPTION	SIZE	UNIT	CLASS	TOTAL	PRICE
24000	PD-345-A	(8 PALLETS)					239.00
		PALLET CHARGE DEPOSIT					3.50

BILLING INSTRUCTIONS: Allow Dealers Discount - No ☒ Yes - Brick 10% ☐ Yes - Special 20% ☐ Yes - Other ☐ Discount Deducted ☐ Other Pricing Concession ☐		SPECIAL INSTRUCTIONS: Equalization - Yes ☐ No ☒ Site ☐	
PRICE & TERRITORY CREDIT CF 22		SHOW CUSTOMER ORDER NO. ON ALL PAPERS AND PALLETS PRICE PER TGR PLS COMBINE THIS SHIPMENT WITH S-639. GRANITE CITY TO BE CHARGE FOR ONLY 7 PLTS DUE TO 1 BORROWE PLT FROM CHIC AREA.	
DATE 10-21-76			

1st
NARCO

AMERICAN REFRACTORIES CO.
in Eltra company
CLEVELAND, OHIO 44114

SALES OR

17/-5-

PLANT WOMELSDORF		BY T.W.X. 13		BY MAIL			
CUSTOMER NO.	ROUTE VIA	BILL OF LADING	NOTICE OF SHIPMENT	CODE	B/C	TERRITORY CREDIT	INVOICES
309	RUTLER	S	S		03	S-74	AS S

GRANITE CITY STEEL COMPANY
GENERAL OFFICES
GRANITE CITY, ILLINOIS 60640

GRANITE CITY STEEL COMPANY
STEEL WORKS STORE ROOM
GRANITE CITY, ILLINOIS

SHIPPING DATES: ON OR BEFORE APRIL 21, 1976

DATE ENTERED	CUSTOMER ORDER NO.	CUST. REG. NO.	CUSTOMER ORDER DATED	REQUESTED ROUTING	RELEASE		
4/19/76	30-11647						
RELEASE NO.	TERMS	PRICES ARE F.O.B.	NET 30 DAYS	WOMELSDORF PENNA	PREIGHT RATE	DATE	MINIMUM WEIGHT
	Y				29.40	4/15/76	44M
1	NARCO GUN PD-345X IN 100# BAGS 17/L						225.00
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Allow Dealers Discount - NO ☒		Equalization - Yes ☐	
Yes - Brick 10% ☐		No ☒	
Yes - Special 20% ☐		Site ☐	
Yes - Other ☐			
Discount Deducted Other Pricing Concession.		☒ PRICE PER QUOTE PER R.A.L.	
PRICE & TERRITORY CREDIT			
CASH		DATE 4/19/76	

SIDE UNLOADING.

SALES DEPARTMENT

NORTH AMERICAN REFRACTORIES CO.

DIVISION OF ELTRA CORPORATION
CLEVELAND, OHIO 44114

SALES C

PLANT FAREER

BY T. W. N. CS

BY MAIL

CUSTOMER NO	ROUTE VIA	BILL OF LADING	NOTICE OF SHIPMENT	CODE	S/C	TERRITORY CREDIT	HYG. CCL PRICES
399	OLIVER	S	S		10	S-74	45

SAME AS SOLD TO UNLESS OTHERWISE SPEC

GRANITE CITY STEEL CO.
GENERAL OFFICES
GRANITE CITY, ILL. 60040

GRANITE CITY STEEL CO.
STEEL WORKS STOREROOM
GRANITE CITY, ILL.

SHIPPING DATES: AS SOON AS AVAIL.

DATE ENTERED	CUSTOMER ORDER NO.	CUST. REQ. NO.	CUSTOMER ORDER DATED	REQUESTED ROUTING	RELEASE
9/15/72	52128				
RELEASE NO.	TERMS	PRICES ARE P. O. B.	MINIMUM WEIGHT		
	NET 30 DAYS	FABER, MO	20M 6.00NT 30M 5.00NT		
			N N Y		
QUANTITY	DESCRIPTION	UNIT	PRICE	TOTAL	REMARKS
22,000	NARCOCAST 60 CAST. IN 100 BAGS			22000	183.
850	AEROGUN IN 25 BAGS			850	210.
300	STAZ-ON IN 50 BAGS			300	220.
182	NARCO 68 PR-10 ANCHORS H-3500	1.75		319	290.
364	BENT-TONY ANCHORS TYPE 310				90
67	NC-9 WALL ANCHORS 310				1.0

TYPE "S" PROTECTION.

BILLING: LESS 7-1/2% ON NARCOCAST 60 + Narco 69.

S C. RAU DATE 9/15/72 TIME

SALES DEPARTMENT



NORTH AMERICAN REFRACTORIES CO.

Eltra
CLEVELAND, OHIO 44114

SALES

PLANT	WOMELSDORF	BY T.W.X.	PC	BY MAIL			
CUSTOMER	ROUTE V.I.A.	BILL OF LADING	NOTICE OF SHIPMENT	CODE	B/C	TERRITORY CREDIT	MOCKES
000	WILL FOLLOW	S	S		21	L-67	2S

ASSOCIATION

CONSIGNEE/TO

SAME AS SOLD TO UNLESS OTHERWISE

COMMONWEALTH EDISON COMPANY
PO BOX 158
PEKIN, ILLINOIS 61554SAME
#3 POWERTON
PEKIN, ILLINOIS

SHIPPING DATES: PRODUCE WEEK OF 9-13 FOR DELIVERY BY 9-20

DATE ENTERED	CUSTOMER ORDER NO.	CUST REQ. NO.	CUSTOMER ORDER DATED	REQUESTED ROUTING	REL	
9-1-76	WILL ADVISE					
RELEASE NO.	TERMS	PRICES ARE F.O.B.	PRICES ARE	FREIGHT RATE	DATE	MINIMUM W
	NET 30 DAYS	WOMELSDORF	PPG COL			
	X	PENNA.	N Y N			
QUANTITY ORDERED	NAME	DESCRIPTION	SIZE	OUR	EQUIV	TOTAL
116000	CM-18	IN 100	BAGS	1	11600	245 - 24

Allow Dealers Discount - No ☒ Yes - Brick 10% ☐ Yes - Special 20% ☐ Yes - Other ☐ Discount Deducted Other Pricing Concession	Equalization - Yes ☐ No ☒ Site ☐	WILL CONFIRM ORDER 9-13. TYPE "S" PALLET PROTECTION. SHOW C/O NUMBER ON ALL PAPERS AND PALLETS. CREDIT APPROVED.
DATE 9-7-76		

SALES DEPARTMENT

DIVISION ~~100~~ PLANT

SPECIAL INSTRUCTIONS,

• 1967 • 1968 • 1969

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THE RICHMOND PATENT OFFICE

COSTA, ILL.

C. A. G. T. T. I.

COPIES OF THE SERVICE RECORDS

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THE GREEN LANE

DATE OF SHIPMENT

ORDER NO.	DATE ENTERED	CUST. ORDER NO.	CUST. REQ. NO.	CUST. ORDER DATED
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COPIES ARE ☒ INCLUDE ☐ LESS

M. OUR WORKS: ☒ CARLOAD ☐ FREIGHT TO: ☐

SAYO OF LIN 10WZ

QUANTITY	BRAND	DESCRIPTION	YOUR PRICE	UNIT PRICE
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NORTH AMERICAN REFRACTORIES CO.

Eltra
CLEVELAND, OHIO 44114

SALES ORDER

PLANT	Farber	BY T.W.K.	BY MAIL	X			
CUSTOMER NO.	ROUTE VIA	TYPE OF ORDER	OFFICE OF PURCHASE	CODE	D/C	TERRITORY-CREDIT	INVOICES
210		Spec.	3		79	S-74	29
							VP-106

RECEIVED

CONFIRMED

SAME AS SOLD TO UNLESS OTHERWISE SPECIFIED

Christy Firebrick Company
3144 North Broadway
St. Louis, Mo. 63147

SAME

SHIPPING DATES: As Soon As Possible

DATE ENTERED	CUSTOMER ORDER NO.	CUST. REG. NO.	CUSTOMER ORDER DATED	REQUESTED ROUTING	RELEASE
3-24-75	53424		3/21/75		
RELEASE NO.	TERMS	PRICES ARE F.O.B.	QUANTITY	MINIMUM WEIGHT	
	NET 30 DAYS				
		Farber, Mo.			
1					
2					
3	3,5000	Harcoast -1000 Bags (1 plt)	35000	180	180
4					
5	3,5000	Harcoast 30 -1000 Bags (1 plt)	35000	275	275
6					
7	4,0000	Harcolite - 500 Bags (2 plts)	40000	260	260
8					
9	3,5000	Shur-Ram -1000 Ctns. (1 plt)	35000	180	180
10					
11					
12	24,5000	Harcoast H.S. -1000 Bags (7 plts)	245000	145	145
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Shrink wrap. Include Order C-4167 with this order.



NORTH AMERICAN REFRACTORIES CO.

an Eltra company
CLEVELAND, OHIO 44114

SALES

PLANT	Farber	BY TRUCK	BY MAIL	Y
ROUTE VIA	210	Onscheln	Spec	S
CODE	79	S-74	2	S

Christy Firebrick Company
3144 North Broadway
St. Louis, Mo. 63147

Same

SHIPPING DATES:

DATE ENTERED	CUSTOMER ORDER NO.	CUST. REQ. NO.	CUSTOMER ORDER DATED	REQUESTED ROUTING	REL
12-3-73	11-736		11-22-73		
RELEASE NO.	TERMS	PRICES ARE F. O. B.	MINIMUM WEIGHT		
	NET 30 DAYS				
1	Farber				
2	304	9 x 6-3/4 x 24 Strts. (1 plt)	1.50	456	215. 20 .38
3	3,000	Narcolite Castable -50# Bags (2 Plts)		3000	209. 209.
4	1,600	Narcoset Mortar -200# Drums (1 Plt)		1600	194. 194.
5	2,400	Narcoset Mortar -100# Drums (1 Plt)		2400	199. 199.
6	6,000	Super Narcocast - 100# Bags (2 Plts)		6000	156. 156.
7	1,600	Superchief T Mortar -200# Drums (1 Plt)		1600	212. 212.
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Use shrink wrap pallet protection. Show C/O# on all papers and packages.

Billing: Allow dist. discount of 10% on Brick and 20% on Spec.

DATE 12-3-73



NORTH AMERICAN REFRACTORIES CO.

DIVISION OF ELTRA CORPORATION
CLEVELAND, OHIO 44114

SALES

PLANT

BY T. H. K.

BY MAIL

CUSTOMER	ROUTE VIA	FROM	TO	CODE	S/C	TERRITORY CREDIT	DATE
210	UNSCHELM	UNSCHELM	UNSCHELM	UNSCHELM	UNSCHELM	UNSCHELM	UNSCHELM

SALES

COMMENTS

SAME AS SOLD TO UNLESS OTHERWISE ST

CHRISTY FIREBRICK CO.
3144 NORTH BROADWAY
ST. LOUIS, MO. 63147

MISSOURI WITH SHAPING CO.
9970 PAGE 1700.
ST LOUIS, MO. WITH S/S FOR FILL
UNLOADING AT SOLD TO ADDRESS

SHIPPING DATES: THURSDAY, MARCH 22 1973 - SURE

DATE ENTERED	CUSTOMER ORDER NO.	CUST REC NO.	CUSTOMER ORDER DATES	REQUESTED ROUTING	REL
3/22/73	31217-B CHANGE #2				
RELEASE NO.	TERMS	PRICES ARE P. O. S.	MINIMUM WEIGHT		
L/REC.	NET 30 DAYS DISC.	FARMER NO.			

QUANTITY	DESCRIPTION	UNIT	PRICE	TOTAL	REMARKS
1	TO BE LOADED FIRST FOR LAST UNLOADING:				
2	OUR ORDER C-8404, CHRISTY 31217-B,				
3	CHANGE #1 CONSISTING OF:				
4	16,000# MARCOLITE IN 50# BAGS				
5	500# MARCOSET 55 IN 100# DRUMS				
6					
7	TO BE LOADED LAST FOR FIRST UNLOADING				
8	AT CHRISTY FIREBRICK:				
9	3,000# MARCOCAST 30 IN 100# BAGS		30000	205.	205.
10	3,000# MARCOTAS CASTABLE IN 100# BAGS		30000	465.	465.
11	1,600# MARCOSET 55 IN 200# DRUMS		16000	185.	185.
12	2,400# MARCOSET 55 IN 100# DRUMS		24000	190.	190.
13	3,000# ALSET DRY IN 100# BAGS		30000	175.	175.
14	3,000# MARCU 505 PLASTIC IN 100# CARTS.		30000	180.	180.
15	3,000# SHUR-RAM #214 IN 100# CARTONS.		30000	110.	110.
16	1,368# FARMER 9X4 1/2X2 1/2 STS.		1.00	1368	215.
17					
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PLS. CONTACT CHRISTY ON DATE OF SHIPT SO THEY CAN PREPARE FOR DELV.
SHIP 500# MARCOSET FOR MO. RETAIL LOOSE. PALLETIZE ONE OF EACH. VIT
TYPES "C" & "S" PRUF.
MARK 2/L: "SEND FREIGHT BILL FOR PAYMENT TO: CHRISTY FIREBRICK CO.
3144 N. BROADWAY ST. LOUIS, MO."

BILLING: LESS 154 ON CARD 15 ON CARD. CASH 17.00

DATE 3/22/73

SALES DEPARTMENT

NORTH AMERICAN REFRACTORIES CO.

DIVISION OF ELTRA CORPORATION
CLEVELAND, OHIO 44114

24-33

W L A N T

• **• • • • •**

B Y T W X.

BT MARL

DATE	ROUTE VIA	TYPE OF TRUCK	NOTES OF TRUCK	CODE	S. C.	TERRITORY CRED.	REMARKS
11	ONSD-TEL.	TRUCK	0		1	0 15	10 0

—SOUND OFF—

CONTACT: 01203 621000

SAME AS SUB TO JAMES C. HANSEN

CHRISTY FIREARM CO.
3144 NORTH BROADWAY
ST. LOUIS, MO. 63147

MISSOURI METAL SHAPING CO.
9970 PASE BLVD.
ST. LOUIS, MO.
NAME: JIMMY WAGNER

SHIPPING DATES: 1700 - 2 HOLD FOR RELEASE: APPROX. 10 - 14 DAYS

DATE ENTERED	CUSTOMER ORDER NO	CUST. REC. NO.	CUSTOMER ORDER DATED	REQUESTED ROUTING	REL.
2/21/73	JL1175				

RELEASE NO.	TERMS	PRICES ARE F. O. B.	MINIMUM WEIGHT		
L/REG. DISC.	NET 30 DAYS	FURNER, MO.	N	N	Y

QUANTITY	DESCRIPTION	UNIT	TOTAL	BASE	PRICE
11,400	PARCOLITE INSULATING CASTABLE		354378	200.	200.
500	IN 50# BAGS		500#	100.	100.
	PARCOSET 55 IN 100# DRUMS				

NOTE: DO NOT PALLETIZE VARIOSET WINTER.
ENTER THIS ORDER INTO THE PRODUCTION SCHEDULE BUT DO NOT SHIP UNTIL
ADVISED.

ILLINOIS LISS 100

100-44288-121/13

S-1 - DEPARTMENT



NORTH AMERICAN REFRACTORIES CO.

DIVISION OF ELTRA CORPORATION
CLEVELAND, OHIO 44114

SALE

PLANT	FARBER	BY T.W.X.	BY MAIL	MAIL
CUSTOMER NO.	ROUTE VIA	BILL OF LADING	NOTICE OF SHIPMENT	CODE
210	OSCHELN	SPED.	15	70
TERRITORY CREDIT		8-7		
N.Y.C. DE. PAID		LS		

EXCISE TAX

EXCISE TAX

SAME AS SOLD TO UNLESS OTHERWISE

CHRISTY FLENNICK CO.
3124 NORTH BROADWAY
ST. LOUIS, MO. 63147

DATE

SHIPPING DATES: SEPTEMBER 2, 1971

DATE ENTERED	CUSTOMER ORDER NO.	CUST. REQ. NO.	CUSTOMER ORDER DATED	REQUESTED ROUTING
9/10/71	DI-143			
RELEASE NO.	TERMS	PRICES ARE F.O.B.	MINIMUM WEIGHT	
LESS	NET 30 DAYS REG. DISC.	FARBER, MO		

QTY	DESCRIPTION	UNIT	PRICE	TOTAL	QTY	DESCRIPTION	UNIT	PRICE	TOTAL
3000#	AEROCAST L CASTABLE IN 50# BAGS			3000#	122.			122	
3000#	NALCOLITE CASTABLE IN 50# BAGS			3000#	190.			190	
3000#	ALSET IN 100# BAGS			3000#	165.			165	
200#	NARCOSPAR PLASTIC IN 100# CANTONS			200#	115.			115	
2	FARBER 20X9X2-1/2 TILE CUT FROM								
	24X9X2-1/2 TILE		5.33	11	192.	115		3	
60	NARCO 68 9X9X2-1/2 STS.		2.00	120	275#	55			
30	DO 18X4-1/2X2-1/2 STS.		2.00	60	DO	75		1	
12	DO 2X2-1/2X2-1/4 SOAPS		1.00	12	275.			275.	
			T/EG.	2043					
	COMBINATION PALLET EXTRA @ 5.00								

CONF. ORDER DO NOT SUP.
TYPE "C" AND "S" PROTECTION.

BILLING: LESS 10% ON AEROCAST L ; 15% ON NALCOLITE 25% ON ALSET.

SC CLM DATE 9/10/71 TIME

SALES DEPARTMENT

48. Does Defendant contend that asbestos containing product can be manufactured so as to eliminate all potential health hazards to workers installing same? If so, please state the following:

(a) The date that Defendant first determined that another product could be used in place of asbestos;

(b) The chemical of the substitute;

(c) Whether the substitute is suitable for the purpose for which they are to be used;

(d) Whether Defendant used the substitute for asbestos to 1971.

(e) Whether Defendant ever used the substitute for asbestos for high or low heat insulation.

ANSWER: Interrogatory withdrawn.

KNOWLEDGE OF PREVIOUS INJURIES

49. Did Defendant receive written notice prior to 1968 that any person was claiming injury as a result of using asbestos products manufactured and/or sold by Defendant? If so, please state:

(a) The name and address of each claimant;

(b) The date of notice of each claim;

(c) A description of the claim;

(d) The type of injuries allegedly sustained;

(e) The name and address of each attorney representing the individuals making such claims;

- (f) The style and court number of each such claim;
- (g) The resolution of each claim;

ANSWER: No.

50. Has Defendant obtained statement from any witnesses including the Plaintiff? If so, please:

- (a) List each witness who has given a statement and the name, address, and job title of each person having custody of any such statement.

ANSWER: This defendant has no statements at the present time except for the depositions of plaintiffs which plaintiffs' counsel already have in their possession.

OUR PLAINTIFFS

51. As to each Plaintiff, do you contend that any Plaintiff improperly used your products? If so, please set out in detail as to each Plaintiff in what respect the product was improperly used.

ANSWER: The Court reserved ruling on this defendant's objections to this interrogatory.

52. As to each facility listed on Exhibit 1, and as to each Plaintiff, please state whether Defendant contends that there was any substance other than asbestos, including but not limited to, those items listed in Interrogatory No. 51 or Interrogatory No. 52 of Defendant's Master Set of

Interrogatories to Plaintiff, which contributed or caused Plaintiff's injuries. If your answer is yes, please state the following:

(a) The facts upon which you rely.

(b) The identify of the sources upon which you rely which substantiate these facts.

ANSWER: Unknown at the present time. This defendant reserves the right to supplement its answer to this interrogatory after completion of discovery in each plaintiff's case.

RESPIRATORS

53. Would any respirator, mask or other breathing devices prevent inhalation of the asbestos dust and fibers contained in the products listed in answer to Interrogatory 5? If so, state:

(a) When the respirator was sold;

(b) A detailed description of such respirator or other breathing devices, including name of manufacturer and model number;

(c) The basis of your claim that such respirators or other breathing devices will prevent the inhalation of such dust and fibers.

(d) Identify any tests performed regarding the efficaciousness of such respirators and other breathing device in preventing the inhalation of asbestos cost and fibers including date, title, author and number.

(e) Produce all documentation which mentions, alludes or refers to tests performed on breathing devices which prevented the inhalation of asbestos dust and/or fibers.

ANSWER: This defendant's products were not sold with respirators as it was felt that the large industrial concerns to whom it sold its products were in a better position to evaluate the workers respiratory needs, if any.

(a)-(e) Not applicable.

LEGAL

54. Does Defendant expect to call expert witnesses at the trial of this case? If so, please state the following:

- (a) Their identity, last known address;
- (b) The subject matter on which the expert is expected to testify;
- (c) The expert's specific conclusion and specific opinions and the specific basis therefore;
- (d) The expert's qualifications to render the opinions set forth above.

ANSWER: No answer required by Court order.

55. For each expert witness who has testified for Defendant in other asbestos cases (both by deposition and trial testimony), please state:

- (a) The person's name and last known address;
- (b) The style of the case, its cause number, and its jurisdiction;

(c) Whether that person was an employee of Defendant at the time and whether that person remains an employee.

ANSWER: Interrogatory withdrawn.

56. Please identify each expert witness who is not retained or employed for that purpose who is an employee of Defendant and will render an opinion within his expertise at the time of trial.

(a) Please identify each document which will be offered into evidence by the expert witness.

ANSWER: Richard A. Landy.
Technical Drive
State College, Pennsylvania

57. Does Defendant admit that service of process was properly had on you in this case? If not, please state why.

ANSWER: This defendant has been properly served in all cases in which it has filed an answer.

58. Does Defendant have policies of insurance that might cover the claims that have been made by plaintiff herein?

(a) If so, please list the name of each insurance carrier who may have coverage, the amount of such coverage, and the dates of each such policy.

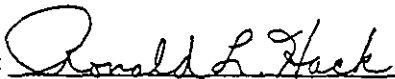
ANSWER: Discovery is continuing.

59. Please state the name and address of each person who has knowledge of relevant facts regarding claims and defenses of this lawsuit.

ANSWER: As of this time, this defendant has not determined who has knowledge of relevant facts in each of the plaintiffs' cases, but discovery is continuing.

Respectfully submitted,

COBURN, CROFT & PUTZELL

By: 
Kenneth R. Heineman
Ellen E. Bonacorsi
Ronald L. Hack
One Mercantile Center
Suite 2900
St. Louis, Missouri 63101
314-621-8575

Attorneys for Defendant
North American Refractories
Company

AFFIDAVIT

Being first duly sworn on his oath deposes and says that he is Director of Human Resources and is duly authorized to act for and on behalf of North American Refractories Company herein; that the foregoing answers of Defendant North American Refractories Company to Plaintiffs' interrogatories have been prepared by attorneys for North American Refractories Company based on information obtained from documents and employees of North American Refractories Company; that he has read the foregoing interrogatories and answers thereto and such answers are true and correct to the best of his knowledge, information and belief.

Anthony F. Rosa
Anthony F. Rosa

Subscribed and sworn before me
this 11 day of July, 1988.

Judith M. Henderson (Seal)
Notary Public
My Commission expires 5/16/92



THE REFRACTORIES INSTITUTE • SUITE 1517 • 301 FIFTH AVE • PITTSBURGH, PA 15222 • 412

September 15, 1986

To the Members of the Safety & Health Committee:

SUBJECT:

OSHA ASBESTOS STANDARD

OSHA announced its Standard for Occupational Exposure to Asbestos, Tremolite, Anthophyllite and Actinolite (51 FR 22612), June 17, 1986. R. T. Vanderbilt Company subsequently filed suit regarding the standard, which resulted in OSHA granting a temporary nine month stay of those portions of the standard which apply to non-asbestiform tremolite, anthophyllite and actinolite. A copy of OSHA's July 18, 1986 letter to counsel for R. T. Vanderbilt Company is enclosed for your information and action.

OSHA is to announce a reopening of the rulemaking and will request comments regarding regulation of non-asbestiform tremolite, anthophyllite and actinolite.

Now is the time to formulate your comments and recommendations, prior to OSHA's announcement. Safety and Health Committee members are encouraged to send comments to TRI by OCTOBER 31, 1986. This will be an item on the next Safety and Health Committee Meeting agenda.

Sincerely yours,

Charles G. Marvin
Vice President

fs

encl.

cc: TRI Counsel
Committee Coordinator
Hazardous Substances Committee



U.S. Department of Labor

Assistant Secretary for
Occupational Safety and Health
Washington, D.C. 20210

JUL 18 1986

Dennis M. Race
Akin, Gump, Strauss,
Haver & Feld
1333 New Hampshire Ave., N.W.
Suite 400
Washington, D.C. 20036

Dear Mr. Race:

This is in response to your July 14, 1986 letter on behalf of R. T. Vanderbilt Co. in which you request that OSHA reconsider your request for a stay of the provisions of the revised standards promulgated June 17, 1986 governing occupational exposure to asbestos, tremolite, anthophyllite and actinolite, to the extent the standards regulate occupational exposure to non-asbestiform tremolite, anthophyllite and actinolite (51 Fed. Reg. 22612 et. seq.). The revised standards, which amend OSHA's 1972 asbestos standard, 29 CFR 1910.1001 (1985), are scheduled to take effect July 21, 1986.

For the reasons indicated below, I am granting a temporary stay of 9 months (until April 21, 1987) of the effective date of the revised standards insofar as they apply to occupational exposure to non-asbestiform tremolite, anthophyllite and actinolite. This stay is granted for the purpose of reopening the record and instituting supplemental rule-making limited to the issue of whether non-asbestiform tremolite, anthophyllite and actinolite should continue to be regulated in the same standards and to the same extent as asbestos, or should be treated in some other way. This stay applies only to the application of the revised standards to non-asbestiform tremolite, anthophyllite and actinolite. In all other respects, the revised standards will take effect as previously scheduled.

It should be noted that during the pendency of the stay, the provisions of the 1972 standard governing occupational exposure to asbestos (29 CFR 1910.1001 (1985)) will remain in effect with respect to regulation of non-asbestiform tremolite, anthophyllite and actinolite. (See 51 Fed. Reg. at 22732).

OSHA is granting this temporary stay in part to enable the Agency to review a July 17, 1986 letter from the Director of the National Institute for Occupational Safety and Health (NIOSH) and certain related NIOSH staff memoranda which have recently been brought to its attention, as well as submissions by the R.T. Vanderbilt Co. and various trade associations concerning the appropriateness of regulating non-asbestiform tremolite, anthophyllite and actinolite in the revised asbestos standards.

OSHA believes, as stated in our July 9, 1986 letter, that it provided adequate notice to the public that its recent asbestos rulemaking would address whether the Agency should amend the 1972 definition of asbestos, and the proper scope of the revised standards with respect to the three non-asbestiform minerals. However, OSHA acknowledges that letters and petitions from rulemaking participants and non-participants have been received since the revised standards' June 17, 1986 issuance, which contain additional comment, assertions, and information which the rulemaking record may not fully reflect, and which request an opportunity to submit further information on these questions. To assure that these submissions are fully considered by OSHA, to allow public comment on these additional submissions, and to invite additional comment and evidence on all issues relevant to regulation of non-asbestiform tremolite, anthophyllite and actinolite, OSHA will shortly by Federal Register notice reopen the rulemaking record on the limited issue of whether non-asbestiform tremolite, anthophyllite and actinolite should continue to be regulated as presenting the same health risk as asbestos, or should be treated in some other way.

Sincerely,


John A. Pendergrass
Assistant Secretary of Labor



THE REFRACTORIES INSTITUTE

1102 ONE OLIVER PLAZA

PITTSBURGH, PA. 15222

412-281-6787

OFFICE OF THE
PRESIDENT

May 1, 1978

To the Members of the Environmental Protection Committee:

R. E. Besalke, Chairman
R. B. Arthur
R. B. Crawford
G. J. Fink
R. F. Grady
R. H. Giffin
Paul Klauss
L. H. Lamar
C. E. Lindsay
S. C. Porter
J. R. Wohler

A. P. Green Refractories Company
North State Pyrophyllite
Harbison-Walker Refractories
Basic Refractories
Martin Marietta Chemicals
North American Refractories
General Refractories Company
Babcock & Wilcox Company
Kaiser Refractories
Globe Refractories
Freeport Brick Company

Subject: Suspected Carcinogens

Attached is the list of chemical substances classified by NIOSH as suspected carcinogens which some refractory producers use in their laboratory and/or manufacturing operation. This is the list I referred to in my remarks at the committee meeting on April 18th. You may recall that this list was used by the Safety and Health and Toxic Substances Committees for preliminary indications of how extensive a problem the industry might have if the proposed OSHA regulations were issued as proposed. At your request, we will use it in a similar fashion in anticipation of new programs from the EPA.

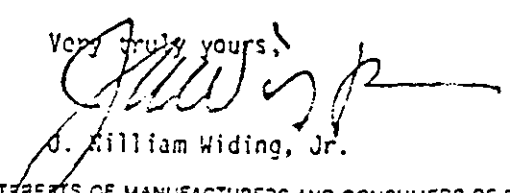
Would you please review this list and determine to the best of your current knowledge:

1. Which, if any, of these substances are currently being discharged from your plants and the method of discharge (air, water, etc.);
2. Are there any other suspected toxic substances and/or suspected carcinogens being discharged? If so, which ones and how?

The information you report will be held in strict confidence and used only for the purpose of compiling a master list for reference purposes. No other action by committee members is required at this time.

Please report back whether or not you have any chemicals to add to this list so I can be sure everyone has completed the review. It is obvious from the list that a very broad range of chemical substances is involved. If you are in doubt about whether a chemical substance being discharged is considered carcinogenic or not, report it anyway, and I will check it against the NIOSH master list of suspects to see whether it belongs on our final list.

Very truly yours,


J. William Widing, Jr.

A NATIONAL ASSOCIATION TO PROMOTE THE INTERESTS OF MANUFACTURERS AND CONSUMERS OF REFRACTORY PRODUCTS

LISTED IN NIOSH PUBLICATION 77 - 149
REPORTED BY SOME REFRACTORIES PRODUCERS

CSH NO	PRIME NAME OF COMPOUND (with alternates mentioned)	RANK CODE	COMMENTS
52500	Acetic Acid, (Ethylenedinitrilo) Tetra-, Trisodium Salt Syn: EDTA Trisodium Salt	0000	Status: Currently tested by NCI for carcinogenicity by standard bioassay protocol as of April 1976
52500	Acetic Acid, Lead (2+) Salt	4111	Toxic Effects: Carcinogenic
7000	Acetic Acid, Nitritoltri- Trisodium Salt, Monohydrate	----	Status: Currently tested by NCI for carcinogenicity by standard Bioassay Protocol as of April 1976
31500	Acetone	0000	Status: Undergoing NCI testing 4/76
93500	Anthracene (coal tar pitch component)	4112	Toxic Effects: Carcinogenic, Neoplastic
36750	Arsenious Acid, Monosodium Salt	0000	Review: Carcinogenic determination: human suspected
64750	Asbestos	4103	Toxic Effects: Carcinogenic Review: Carcinogenic determination-human positive.
14000	Benzene	7222	Toxic Effects: Carcinogenic, Neoplastic Review: Carcinogenic determination: human suspected
64750	Benzene, Nitro	0000	
1000	2-Biphenylol, Sodium Salt Syn: Dowicide	----	
45500	Boric Acid Syn: Orthoboric Acid	3101	Toxic Effects: Neoplastic
64750	2-Butanone Syn: Ethyl Methyl Ketone; Ketone, Ethyl Methyl; Ethyl Ketone, Methyl	0000	
66500	Carbon Disulfide	0000	Status: Undergoing NCI testing 4/76
49000	Carbon Tetrachloride	4313	Toxic Effects: Carcinogenic, Neoplastic

see: TQJ5000

157000 Cellulose, Carboxymethyl Ether 0000

Status: Undergoing NCI testing 4/76

159500 Cellulose, Carboxymethyl Ether, Sodium Salt 4101

Toxic Effects: Neoplastic

Syn: Carboxymethylcellulose, sodium salt; sodium carboxymethyl cellulose

Chromate of soda

See: GB29550

128500 Chromic acid, Chromium (3+) salt (3:2) ----

IARC Review: carcinogenic determination: animal positive
Toxic Effects: Neoplastic

129400 Chromic acid, Dipotassium salt 3111

Toxic Effects: Neoplastic
IARC Review: carcinogenic determination: animal suspected

129550 Chromic acid, Disodium salt 0000
Syn: Chromate of soda

IARC Review: Indefinite

140250 Chromite ----

Toxic Effects: Neoplastic
IARC Review: carcinogenic determination: animal positive

342000 Chromium 4102

Toxic Effects: Neoplastic
IARC Review: carcinogenic determination: animal suspected

364750 Chromium (III) oxide (2:3) 4102

Toxic Effects: Carcinogenic
IARC Review: carcinogenic determination: animal suspected
Status: NIOSH candidate subject for hazard review (carcinogenesis)

366500 Chromium (VI) oxide (1:3) 7202

Toxic Effects: Carcinogenic
IARC Review: Indefinite

385750 Coal tar, aerosol ----

Toxic Effects: Neoplastic

311090 Cobalt (II) nitrate (1:2) 2101

Toxic Effects: Neoplastic

328000 Cobalt (2+) oxide 4101

Toxic Effects: Carcinogenic

148000 1,3,2-Dioxathiolane 2,2-dioxide ----

Toxic Effects: Neoplastic

78000	Diphenyl Amine	0000	
	EDTA Trisodium Salt		See: AH52500
29750	Ethane, 1,1,1-Trichloro Syn: 1,1,1-Trichloroethane	0000	Status: Undergoing NCI testing 4/76
85750	Ethanol, 2-Butoxy Syn: Ethylene Glycol, Monogutyl Ether	0000	
63000	Ethyl Alcohol Syn: Ethanol	3112	Toxic Effects: Carcinogenic
33500	Ethylene, Chloro-, Polymer Syn: Polyvinyl Chloride	4101	Toxic Effects: Neoplastic IARC Review: Indefinite
36750	Ethylenediamine, N,N'-Diethyl- Dinitroso	----	Toxic Effects: Carcinogenic
	Ethylene Glycol, Monobutyl Ether		See: KJ85750
24500	Ethylene Oxide	----	IARC Review: Indefinite
54250	Fluorescein, Disodium Salt	4101	Toxic Effects: Neoplastic
47250	Hexamethylenetetramine	4101	Toxic Effects: Neoplastic
74000	Iron (III) Oxide	0000	IARC Review: Indefinite
85000	Iron (II) Sulfate (1:1)	3101	Toxic Effects: Neoplastic
49000	Magnelite	3101	Toxic Effects: Neoplastic
45500	Mercury	4101	Toxic Effects: Neoplastic
50750	Methacrylic Acid, Methyl Ester	4101	Toxic Effects: Carcinogenic
	Nylar		See: TQ79000
	Nitrotriacetic Acid		See AJ01750

112250	Nitrous Acid, Sodium Salt	0000	Status: Undergoing NCI testing 4/76
322750	9-Octadecenoic Acid, (Z) Syn: Oleic Acid	2101	Toxic Effects: Neoplastic
	Oleic Acid		See: RG22750
443750	Olivine	3101	Toxic Effects: Neoplastic
	Orthoboric Acid		See: ED45500
71750	Petroleum	3121	Toxic Effects: Neoplastic
373500	Petroleum Asphalt Syn: Asphalt (steam refined)	----	Toxic Effects: Neoplastic
<u>311750</u>	Phenanthrene (coal tar pitch component)	3121	Toxic Effects: Neoplastic
333250	Phenol	3121	Toxic Effects: Carcinogenic Status: Undergoing NCI testing 4/76
463000	Phenol, Pentachloro Syn: Dowicide G	3101	Toxic Effects: Neoplastic
95000	Phosphoric Acid, Trisodium Salt	0000	
333250	Polyethylene	4202	
5000	Polyethylene Glycol Syn: Carbowax	3101	Toxic Effects: Carcinogenic
279000	Polyethylene Terephthalate film Syn: Mylar	----	Toxic Effects: Neoplastic
115800	Polynuclear Aromatic Hydrocarbons	----	
	Polystyrene		See WL64750
381000	Polyvinyl Alcohol Syn: PVA	----	Toxic Effects: Carcinogenic

	Polyvinyl Chloride		See: KV03500
	PVA		See: TR81000
	Quartz		See: VV73300
U24500	Serpentine	3101	Toxic Effects: Neoplastic
V73300	Silica, Crystalline-Quartz Syn: Quartz; Silica Flour (powdered crystalline silica); Silicon Oxide, DI-(Sand)	----	Toxic Effects: Neoplastic
	Silica Flour (powdered crystalline silica)		See: VV73300
	Silicon Oxide, DI-(Sand)		See: VV73300
V35000	Silver	4101	Toxic Effects: Neoplastic
V80500	Sodium Azide	0000	Status: Undergoing NCI testing 4/76
	Sodium Bisulfate		See: WT111100
Z47250	Sodium Chloride	0000	Status: Undergoing NCI testing 4/76
	Sodium Chromate		See: G829550
I44600	Stearic Acid, Methyl Ester	3101	Toxic Effects: Neoplastic
L64750	Styrene Polymer	4101	Toxic Effects: Neoplastic
T111100	Sulfuric Acid, Monosodium Salt Syn: Sodium Bisulfate		
W50750	Tannic Acid	4101	Toxic Effects: Carcinogenic IARC Review: carcinogenic determination: animal positive
R22750	Titanium Oxide Syn: Titanium Dioxide	0000	Status: Undergoing NCI testing 4/76
	Titanium Dioxide		See XR22750
SQ2500	Toluene	0000	
R62500	Urea	0000	Status: Undergoing NCI testing 4/76



ACTION ALERT

THE REFRACTORIES INSTITUTE
1102 OLIVER PLAZA
PITTSBURGH, PA. 15203

July 18, 1978

To: The Official Representative of Each
Active and Associate Member Company
in the United States:

Subject: PRELIMINARY CLASSIFICATION OF
SUSPECTED CARCINOGENS

The day after the Institute's testimony at the OSHA hearings on suspected carcinogens, OSHA released its long-awaited preliminary classifications. While these lists are only tentative and subject to change as the rulemaking process continues, they do give us the first authoritative indication of how chemical substances in use in the refractories industry may be controlled.

I am attaching a list of OSHA's proposed Category I, II and III classifications for chemicals reported by members of the TRI Safety and Health Committee as being in use in the industry. There are 14 substances classified as Category I, five as Category II, 22 as Category III, and one (Silica) classified both as Category II and III---a situation I am trying to clarify.

Needless to say, I was disappointed to see so many Category I classifications for our industry. Chromium compounds received more attention than I expected, but coal tar and coal tar pitch compounds received less. Remember, however, that these are only tentative classifications.

CATEGORY I

Exposure to substances classified as Category I is considered to constitute "a grave danger" and such chemicals are proposed to be regulated most stringently, first under an emergency standard, then under a permanent standard designed to reduce workers' exposure to the "lowest feasible level" or possibly zero if substitutes are available. Activities required of manufacturers or processors by the proposed permanent standard include (i) exposure monitoring and measurement; (ii) regulated (limited access) areas; (iii) control through engineering and work practices; (iv) respiratory protection; (v) protective clothing and equipment; (vi) housekeeping; (vii) waste disposal; (viii) hygiene facilities; (ix) medical surveillance; (x) employee training; (xi) precautionary signs and labels; and (xii) recordkeeping. The extent of these activities would be similar to those discussed at the May membership meeting in connection with the proposed silica standard, but the cost impact would probably vary from substance to substance.

CATEGORY II

Category II substances are potential carcinogens for which the evidence is "only suggestive" rather than convincing. They would be regulated less stringently, but the regulation would require most of the activities mentioned above in one form or another. A major difference is that exposure limits, instead of being at the "lowest feasible level", are to be set at the level of existing OSHA standards (29 CFR 1910.1000), or (where none exists) at "an appropriate level based upon acute or chronic effects of exposure...other than carcinogenicity", or, if the present OSHA standard is inadequate to prevent those effects, it shall be lowered by the Secretary to an "appropriate" level. Also, there is no emergency standard provision for Category II substances, nor a requirement for regulated areas, nor the need for special lunchrooms. The difference in the cost of compliance for a Category I classification compared to Category II for a given substance could vary from trivial to catastrophic, depending upon the difference, if any, between an "appropriate level" to prevent acute or chronic effects from exposure and the "lowest feasible level".

CATEGORY III

Category III substances require no special new controls but since they are recognized toxic substances there may already be recommended or regulated exposure limits which should still be followed. Category III substances can, of course, be upgraded to II, or II to I, if new test results or other convincing scientific information is forthcoming.

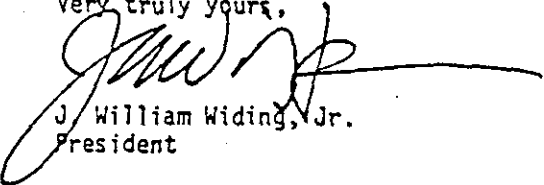
STRATEGY

If the OSHA procedure is adopted as proposed and these classifications are upheld, it is obvious that many extremely expensive and far-reaching changes in how the industry does business will be required. This is not the time to throw in the towel, however. It is the time to get to work on developing a counterstrategy. If you have any data on these Category I or II classifications which would indicate they are incorrect (overly stringent), now is the time to get it together. In fact, if you can get such information in my hands by August 1, I can have it included in the post-hearing record. Of particular interest here is the question of whether Chromium (III) should be controlled to the same degree as Chromium (VI), as well as the question of whether either deserves a Category I classification.

Beyond that, it will take further discussions and planning to decide how TRI should respond to these initial classifications. One thing seems clear to me, however, and it is this: we stand a much better chance of softening their impact if we start work immediately instead of waiting for OSHA to publish final classifications. The time for response later when a notice of proposed rule-making appears in the Federal Register will be far too short to accomplish anything of significance.

I would appreciate hearing from each member who expects to be affected by these classifications as quickly as possible during the post-hearing comment period.

Very truly yours,



J. William Widing, Jr.
President

JWW/hm

cc: Environmental Protection Committee
Safety and Health Committee
Technical Advisory Committee
Toxic Substances Subcommittee
H. W. Fulton, Jr.

PRELIMINARY CLASSIFICATION OF
SUSPECTED CARCINOGENS
REPORTED BY SOME REFRACTORIES PRODUCERS

CATEGORY I

Acetic acid, Lead (2+) salt
Asbestos
Benzene
Carbon Tetrachloride
Chromic acid, Chromium (3+) salt (3:2)
Chromic acid, Dipotassium salt
Chromic acid, Disodium salt
Chromite
Chromium
Chromium (III) oxide (2:3)
Chromium (VI) oxide (1:3)
Ethylenediamine, N,N'-Dimethyl-
N,N' Dinitroso
Serpentine
Tannic acid

CATEGORY II

Ethyl alcohol
Iron (III) oxide
Petroleum
Petroleum asphalt
Phenanthrene
Silica, Crystalline (also Category III)

CATEGORY III

Anthracene
Boric acid
Brucite
Cellulose, Carboxymethyl eth
Sodium salt
Cobalt (II) nitrate (1:2)
Cobalt (2+) oxide
Ethylene oxide
Fluorescein, Disodium salt
Hexamethylenetetramine
Iron (II) sulfate (1:1)
Magnetite
Mercury
9-Octadecenoic acid (Z)
(Syn: Oleic acid)
Olivine
Phenol
Phenol, Pentachloro-
(Syn: Dowicide G)
Polyethylene
Polyethylene glycol
(Syn: Carbowax)
Polyvinyl alcohol
(Syn: PVA)
Silica, crystalline
(also Category II)
Silver
Stearic acid, Methyl ester
Styrene polymer

administrator has a "heavy burden" to "explain the basis for his decision to permit the continued use of a chemical known to produce cancer in experimental animals." *EDF v. Ruckelshaus* (DOT), 439 F.2d 584, 596 n.41 (D.C. Cir. 1971); accord, *EDF v. EPA* (heptachlor and chlordane), 584 F.2d 998, 1005 (D.C. Cir. 1978), cert. denied, 431 U.S. 925 (1977); *EDF v. EPA* (aldrin and dieldrin), 510 F.2d at 1302; see *EDF v. Department of Health, Education and Welfare*, 428 F.2d at 1090-92. When firm evidence establishes that a chemical is a carcinogen, statutes generally leave an administrator no alternative but to step in to protect the public.

"On the other hand, when the evidence is less than firm, but merely suggests that a chemical may be a carcinogen, the same 'heavy burden' may not attend administrative inaction. The decision to act in such a case has been held to fall within the discretion of the Administrator. For example, in *Reserve Mining Co. v. EPA*, 514 F.2d 492 (8th Cir. 1975) (en banc), EPA sought to abate discharge of mining refuse into Lake Superior "under an acceptable but unproved medical theory," that the discharges were carcinogenic. 514 F.2d at 529. The court concluded that the discharges should be abated, even though there would be a heavy cost, including possible loss of many jobs, to the local economy. Id. at 514-20, 535-40. Similarly, in *Certified Color Manufacturers Association v. Mathews*, 543 F.2d 284 (D.C. Cir. 1976), the Food and Drug Administration (FDA) terminated its provisional approval of a color additive used to dye food on the basis of a vigorously debated study of the additive's carcinogenic effects. This court concluded that the FDA action should be upheld, based upon FDA's scientific judgment that the study was not conclusive, but was merely suggestive of carcinogenicity. Id. at 297. "Courts have traditionally recognized a special judicial interest in protecting the public health, particularly where 'the matter involved is as sensitive and fright-laden as cancer.' Where the harm envisaged is cancer, courts have recognized the need for action based upon lower standards of proof than otherwise applicable." Id. at 297-98 (footnotes omitted) quoting *EDF v. EPA* (DOT), 465 F.2d 528, 538 (D.C. Cir. 1972). The courts have frequently upheld regulations based on evidence of carcinogenic effects. See, e.g., *American Iron & Steel Institute v. OSHA*, No. 76-2258, slip op. at 31-32 (3d Cir. March 28, 1978) (coke oven emissions); *Society of the Plastics Industry v. OSHA*, 509 F.2d at 1311 (vinyl chloride); *Synthetic Organic Chemical Manufacturers Association v. Brennan*, 503 F.2d 115, 1159-60 (3d Cir.) (same), cert. denied, 420 U.S. 973 (1974).

These cases demonstrate that inevitable tension attending regulation of carcinogens. Frequently, such regulations have severe economic impact. Indeed, sometimes, as alleged by industry petitioners in this case, such regulations may jeopardize plants or whole industries, and the jobs depending on them. In such circumstances, the temptation to demand that the agency furnish conclusive proof of carcinogenicity as support for the regulations is great. However, the decision to delegate authority to an agency to control

suspected carcinogens is a legislative judgment that is not open to question in this court. Congress's direction to EPA to protect against incompletely understood dangers could not be carried out if we were to adopt the proof requirements advocated by industry petitioners."

This proposal marks a departure from OSHA's usual pattern of a substance-by-substance approach in setting health standards concerning exposures to potential occupational carcinogens. For the reasons set forth herein, OSHA believes that such an approach is not only proper and necessary but in fact compelling because of its "experience gained under this and other health and safety laws." (The Act, section 6(b)(5).) Moreover, OSHA believes that by establishing a rational and predictable policy concerning the regulation of exposures to occupational carcinogens, employers, employees, the general public, the scientific community and public interest groups will not only benefit from improved employee health, but also experience greater efficiencies in their own activities."

Employees are exposed to many substances on a daily basis. Obviously, most of these substances are not carcinogenic. Yet, some may be. OSHA believes that this general policy and procedure will facilitate the sifting through the evidence concerning substances which may be imputed to be potential carcinogens and the application of uniform, predictable criteria in order to assess whether such substances should indeed be treated as carcinogenic. Without such a system and appropriate criteria, OSHA believes that this task cannot be accomplished in a timely and efficient manner. With an appropriate system and criteria, worker health will be protected efficiently without rediscussing or relitigating, time and time again, the same issues and without unnecessarily draining limited industry, union, public interest, scientific and government resources. As a result of this policy, OSHA believes that these limited resources will focus on the most

substantial issues in OSHA rule proceedings, thus leading to more compact and useful Records in a period of time. In addition, this process will result in continuity of approach even in the face of changes of policymakers. This new approach intended to ameliorate certain administrative problems in stand setting. One significant aspect of rulemakings concerning carcinogens was the enormous time period between OSHA's initial Federal Register notice and final judicial actions. For example, in its nine (9) year history, OSHA concluded only seven (7) rulemaking proceedings in regulating carcinogens. Moreover, it should be noted that total time the official process took the date of the first official announcement in the Federal Register to the completion of the judicial review of final standard does not necessarily include the time required to analyze facts and develop the proposal in the first instance, which itself can be considerable. Finally, it should be noted that the procedures followed each of the following cases differed because of an attempt to speed up the process. None of the differing procedures succeeded in achieving goal.

a. Asbestos

An emergency temporary standard regulating occupational exposures to asbestos was published on December 1971 (36 FR 23207) and not judicially contested; a permanent standard was proposed on January 12, 1972 (37 FR and, after a short hearing, was published in final form on June 7, 1972 (37 FR 11318); the permanent standard was contested in *Industrial Union Department, AFL-CIO v. Hodgson* on July 27, 1972, and affirmed in 499 F.2d

"Only two other health standards have been promulgated during the history of OSHA namely standards regulating occupational exposures to inorganic lead and cotton dust. In the case of the standard regulating occupational exposure to lead the proposed final standard was published on October 3, 1975 (40 FR 43904), extensive hearings held and the final standard published on November 14, 1978, a process that took over 36 months. An appeal is pending in the Court of Appeals for the District of Columbia in *Lead Industries, Inc. v. OSHA*. In the case of the standard regulating occupational exposure to cotton dust, an advance notice of proposed rulemaking was published on December 27, 1974 (39 FR 44769), a proposed permanent standard published on December 28, 1978 (41 FR 54498), extensive hearings held in April and May of 1977, and final standards published as to Cotton Dust and Cotton Dust in Cotton Gins on June 23, 1978 (43 FR 27350 and 27418), a process that took over 42 months. Appeals were recently decided by the Court of Appeals for the District of Columbia in *AFL-CIO v. Marshall and Textile Workers Union of America*, 499 F.2d 1120, 1127-1128.

"While OSHA will not elaborate upon the lengthy time consuming 'case-by-case' rulemakings experienced by other agencies under other statutes, an excellent discussion of the same problems appears in McGarry, 'Substantive and Procedural Discretion in Administrative Resolution of Science Policy Questions: Regulating Carcinogens in EPA and OSHA', 67 Georgetown Law Journal 724 (February 1979). Also see Berner and Riskin, 'Economic and Technological Feasibility in Regulating Toxic Substances Under the Occupational Safety and Health Act', 7 Ecology Law Quarterly 285 (1978). The scientific commissions have also recommended a generic, rather than a case-by-case approach, to regulating carcinogens for the same reasons. See National Academy of Sciences-National Research Council, 'Decisionmaking for Regulating Chemicals in the Environment', 33 (1973).