

FILE NAME: Johns-Manville (JMA)

DATE: 1969-1979

DOC#: JMA215

DOCUMENT DESCRIPTION: Letters and Reports - Ingalls
Shipbuilding

Sheet Metal Workers' International Association

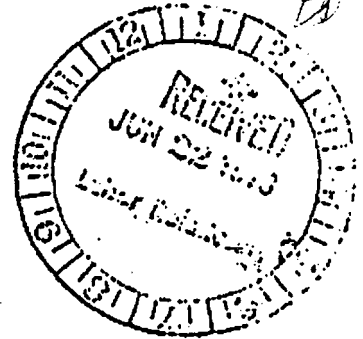
LOCAL UNION



No. 441

MOBILE, ALA. 36606

July 21, 1978



Mr. Joseph W. Hayes, Manager
Labor Relations Department
Ingalls Shipbuilding Division
Litton Systems, Inc.
P. O. Box 149
Pascagoula, Mississippi 39567

Dear Mr. Hayes:

In reply to your letter of June 15, 1978 requesting listing of job stewards acting for Sheet Metal Workers Local #441, we submit the following:

EAST BANK:
DAY SHIFT

Chief Steward - J. A. Raymond, #36781 - Shop

Area Stewards - C. B. Hacker - #32546 - Hull 1213 Sub.
H. P. Jackowick - #27924 - Hull 1212 Sub.
R. H. Johnson - #30051 - Hull 4216 DD
J. C. Williams - #51336 - Hull 4218 DD

EAST BANK:
NIGHT SHIFT

G. W. Fluker, #24122

WEST BANK:
DAY SHIFT

Chief Steward: - T. F. Quigley - #87041 - Combined shop

Area Stewards - L. G. Stewart - #50040 - Wet Dock LHA #4
J. W. Mulkey - #23451 - Track 5 LHA #5
C. E. Wilson - #23317 - East-West 600 Area
Bruce Moore - #32104 - LHA #3

WEST BANK:
NIGHT SHIFT

Chief Steward - R. E. Moore - #32786 - Shop

Area Stewards - J. L. Carlisle - #72291 - Layout area, shop
H. L. Faircloth - #22958 - LHA #5

Trusting this is the desired information, I remain,

Sincerely yours,

C. A. Rettig
C. A. Rettig
Business Manager

CAR/ir
opelu #71

W. F. Lee
S. Henry
R. Datz



INGALLS SHIPBUILDING

MEMORANDUM

0024 1118

TO: Safety Dept.

MAIL STOP: W-5-01

DATE: 8/9/78

FROM: L. Janus

PHONE: 4592

MAIL STOP: M-18-02

SUBJECT: Monitoring of Airborne Asbestos
H-1213, SS(N)649cc: K. A. Wheeler, Ad-1-05
R. K. Belcher

During the removal of asbestos insulation from steam piping located in the east corner of the E.B. Pipe Shop, an atmosphere sample was obtained for an asbestos fiber count. The following results were obtained:

<u>No. of Fibers/CC</u>	<u>Method of Sampling</u>
0.2	Sampling device was suspended from barrier rope 15' from actual removal site.

The results reveal that we are well within the Threshold Limit Value of 2 Fibers/CC greater than 5 micrometers in length. The sub-contractor personnel performing the asbestos removal were properly attired in approved safety clothes, including respirators. Also, noted was the utilization of wet-down work practice to reduce the spread of asbestos dust.

L. Janus

LJ/MPC/jab



INGALLS SHIPBUILDING

3) WTB 8/15/77
3) MFC MFC
4) FILE

STANDARD PROCEDURES

SUBJECT Asbestos Exposure Control	EFFECTIVE DATE AUG 11 1977		NUMBER 1049.26	REV New
	PRIMARY RESP. CODE B	AUDIT RESP. CODE B	PAGE 1 OF 4	
	SUPERSEDES	RESP. ORGANIZATION Public/ Industrial Relations	APPROVED <i>[Signature]</i> C. C. St. Pe	

1.0 PURPOSE:

To outline the system for ensuring the safety and health of all employees exposed to asbestos.

2.0 ORGANIZATIONS AFFECTED:

All Organizations

3.0 REFERENCES:

- 3.1 Part 1910 - Federal Regulations, Volume 37, Number 202, Title 29, Labor Section 1910.93A.
- 3.2 American National Standards Institute (ANSI) Z9.2, 1971.

4.0 GENERAL:

- 4.1 For the purpose of this procedure, "Asbestos" includes crystalline amosite, crocidolite, tremolite, anthophyllite, and actinolite (3.1).
- 4.2 "Asbestos fibers" are asbestos fibers longer than five (5) microns.
- 4.3 Threshold Limit Value for asbestos fibers is defined as the maximum concentration nearly all persons can be exposed to for an eight hour workday or forty hour workweek without any adverse effect on the human body.

5.0 EXPOSURE LIMITS EFFECTIVE JULY 1, 1976:

- 5.1 Eight hour exposure (Threshold Limit Value) - The eight (8) hour time-weighted average airborne concentrations to which an employee may be exposed shall not exceed two (2) fibers, longer than five (5) microns per cubic centimeter of air as determined by the method in 5.0.
- 5.2 Continuous concentration exposure - Employees exposed to concentrations of asbestos fibers in excess of ten (10) fibers longer than five (5) microns per cubic centimeter of air shall be protected by proper personal protective equipment as outlined in 7.0.

0024 1112

6.0 METHODS OF COMPLIANCE:

6.1 Engineering Controls:

- 6.1.1 Engineering controls, such as isolation, enclosure, exhaust ventilation and dust collection shall be used to meet exposure limits.
- 6.1.2 Local exhaust ventilation and dust collection facilities shall be designed, installed and maintained in accordance with 3.2.
- 6.1.3 All hand or power operated tools that may produce or release asbestos fibers in excess of the exposure limits in 5.1 shall be equipped with local exhaust ventilation systems in accordance with 6.1.2.
- 6.1.4 All exhaust systems shall discharge to the open atmosphere away from areas where employee exposure may occur, or such ventilation systems shall be filtered.

6.2 Work Practices:

- 6.2.1 Wet Method - Insofar as practical, asbestos shall be handled, mixed, applied, removed, cut, scored, or otherwise worked in a wet state sufficient to prevent the emission of airborne fibers in excess of the exposure limits of 5.1.
- 6.2.2 Particular Products and Operations - No asbestos cement, mortar, coating, grout, plaster, or similar material containing asbestos shall be removed from bags, cartons, or other containers in which they are shipped, without being wetted, enclosed, or ventilated so as to effectively prevent the release of airborne fibers in excess of prescribed limits.
- 6.2.3 Demolition or Removal - Employees engaged in the removal of asbestos shall use drop cloths, respirators, and proper clothing for personal protection.

7.0 PERSONAL PROTECTIVE EQUIPMENT:

- 7.1 Personal protective equipment shall be a respirator (Bureau of Mines or National Institute of Occupational Safety & Health approved) or continuous feed air line respirator. Clothing shall consist of coveralls of similar whole body clothing, head covers, gloves and foot coverings for employees exposed to airborne concentrations of asbestos fibers, which exceed the ceiling level of 5.2.
- 7.1.1 Employees with respiratory disorders as determined by the Company Physician shall not be allowed to work in asbestos areas.

8.0 MONITORING:8.1 Initial Determination:

To determine compliance with 5.0, monitoring shall be conducted by the Chemistry Laboratory when work is being done on asbestos and material containing asbestos.

8.2 Personnel Monitoring:

The Chemistry Laboratory, when requested by proper authority, shall collect samples from within the breathing zone of the employee. Collected on membrane filters of 0.8 micron porosity (mounted in an open-face filter holder), those samples shall be used for determination of the eight-hour time weighted average concentrations and ceiling concentrations of asbestos fibers.

8.3 Sampling Frequency and Patterns:

After the initial concentration determinations (8.2), the Chemistry Laboratory shall take additional samples of such frequency and pattern required to accurately represent the work environment and to signify changes in concentrations before they can become significant hazards. In no case shall the sampling be taken at intervals greater than six (6) months for employees whose exposure may be foreseen to exceed the limits of 5.0.

9.0 CAUTION SIGN POSTING:

If concentrations of asbestos fibers cannot be maintained consistently at levels below the Threshold Limit Value for asbestos fibers, caution signs shall be posted by the using department alerting employees of a hazard. Sign sizes shall be 20" x 14" vertical format. Such signs shall read as follows -

Asbestos

1" Gothic or block letters

Dust Hazard

3/4" Gothic or block letters

Avoid Breathing Dust

1/4" Gothic

Wear Proper Protective Equipment

Do Not Remain in Area Unless
Your Work Requires It

1/4" Gothic

Breathing Asbestos Dust May
Be Hazardous To Your Health

3/16" - 14 point Gothic

10.0

HOUSEKEEPING - CLEANING:

0024 1114

10.1

Asbestos filings, dust, etc., shall be collected by vacuum cleaner process only by the using department. No sweeping, blowing down, etc., shall be done. Work surfaces shall be maintained free of accumulations of asbestos fibers.

10.2

All asbestos waste, which may produce airborne concentrations in excess of the exposure limits, shall be collected by the using department for disposal in sealed impermeable bags or containers.

11.0

MEDICAL EXAMINATIONS:

11.1

Preplacement:

Prior to exposing any employee to concentrations of asbestos fibers, comprehensive medical examinations shall be performed by the Medical Department which includes (as a minimum) chest x-ray, a history of symptomatology respiratory disease and pulmonary function test to include forced vital capacity (FVC) and forced expiratory volume at one second (FEV).

11.2

Annual:

All employees exposed to asbestos fibers shall receive an annual physical examination which shall include (as a minimum) a chest x-ray, a history to determine symptoms of respiratory disease and pulmonary function tests to include forced vital capacity (FVC) and forced expiratory volume at one second (FEV).

DIVISION STAFF CONCURRENCE

<i>[Signature]</i> DIRECTOR, MANAGEMENT SYSTEMS ENG.		

0024 1115

10.0 HOUSEKEEPING - CLEANING:

10.1 Asbestos filings, dust, etc., shall be collected by vacuum cleaner process only by the using department. No sweeping, blowing down, etc., shall be done. Work surfaces shall be maintained free of accumulations of asbestos fibers.

10.2 All asbestos waste, which may produce airborne concentrations in excess of the exposure limits, shall be collected by the using department for disposal in sealed impermeable bags or containers.

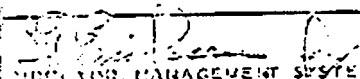
11.0 MEDICAL EXAMINATIONS:11.1 Preplacement:

Prior to exposing any employee to concentrations of asbestos fibers, comprehensive medical examinations shall be performed by the Medical Department which includes (as a minimum) chest x-ray, a history of symptomatology respiratory disease and pulmonary function test to include forced vital capacity (FVC) and forced expiratory volume at one second (FEV).

11.2 Annual:

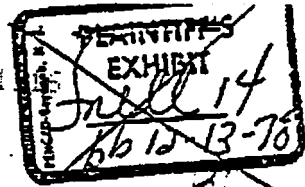
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DIVISION STAFF CONCURRENCE

 J. J. Bern MANAGEMENT SYSTEMS ENG.		

MAY 1965

Washington



2-165
RECORDS AUTHENTICATION CERTIFICATE

I HEREBY ATTEST, That the annexed copy, or each of the specified number of copies, of each document listed below is a true copy of a document in the official custody of the Department of Labor.

1 copy each of:

Transcripts from March 14, 15, 16, and 17

Comments and hearing exhibits of:

W.J. Nicholson, American Petroleum Institute, D.A. Holaday, Brand Insulations Inc., L.J. Bibri, B.J. Phillips (Certain-teed), M.W. Borow, J.D. Moran (Flint-kote), F.L. Pundsack (J-M), J.W. Rawlings, W.M. Hancock (Dow), W.K. Hesse (J-M), E.M. Fenner (J-M), E.J. Killian (Nat. Gypsum), Cement Asbestos Products Co., M.M. Key, G.E. Best (MCA)

SIGNATURE AND OFFICIAL TITLE	DIVISION AND BUREAU	DATE
 Daniel J. Marsick Technical Information Specialist	Docket Office/Technical Data Center/Occup. Sfty & Hlth Adm/ U.S. Dept. of Labor	7 Sep 78

I HEREBY CERTIFY, That Daniel J. Marsick who signed the foregoing attestation, is now and was at the time of signing (title) Technical Information Specialist and has legal custody of the official records of the United States Department of Labor therein attested and that full faith and credit should be given to his act as such.

IN WITNESS WHEREOF, I

J. J. Lafranchise

 duly designated by the Secretary of Labor as Authentication Officer of the Department of Labor, have hereunto subscribed my name and caused the seal of the Department of Labor to be affixed this 7th day of September 19 78.

Authentication Officer
Department of Labor

0007 2071

HITCO
MATERIALS DIVISION

1800 WEST 135th STREET, GARDENA
CALIF. 90248 • P. O. BOX 1197
(213) 921-8080 • (213) 532-0870
TWX: 910-348-8328 • TELEX: 87-7165
3715 Williams Boulevard
Suite 230
Kenner, Louisiana 70062
504-443-4242

August 25, 1976

Mr. T. Daughdrill
Ingalls Shipbuilding
P. O. Box 149
Mail Station 2050-01
Pascagoula, Ms. 39567

Dear Mr. Daughdrill:

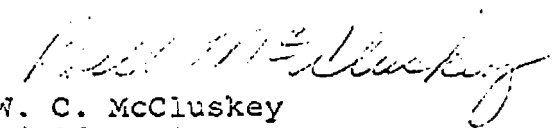
As you know, for the past year or so, HITCO has been working with Ingalls and other Commercial and Naval Shipyards in an effort to introduce Refrasil as a safe and cost effective replacement for asbestos in hot work applications. Like Ingalls, the Navy has been most anxious to find a suitable replacement for asbestos and asbestos containing materials because of the known health hazard (asbestosis) associated with the use of asbestos.

Navy policy, established last year by NAVSEA directive, prohibits the use of asbestos materials on future construction and repair of Navy ships where suitable replacements are available. Navy testing programs have been underway for nearly two years to find suitable replacement materials. The culmination of these tests is indicated by the attached Naval Speedletter which specifies Refrasil's UC-100-96 and UC-100-48 as "acceptable substitutes for asbestos welding blankets and cutting/burning safety shielding and should be used".

Mr. Daughdrill, we feel that Refrasil can offer the superior performance to Ingalls that convinced the Navy and other Commercial Shipyards to specify it as the replacement material for asbestos.

At your convenience I would like to discuss this matter further with you to determine what effect the attached Naval Speedletter will have at Ingalls. I will be in touch to arrange a mutually convenient time.

Very truly yours,
HITCO MATERIALS DIVISION


W. C. McCluskey
Field Engineer

cc: Fred Stuart (Mail Station 1090-51)
U. S. Brenner
H. L. Havens, ✓

HITCO
MATERIALS DIVISION

1600 WEST 135th STREET, GARDENA
CALIF. 90249 • P. O. BOX 1087
(213) 321-8080 • (213) 532-0670
TWX: 910-346-6326 • TELEX: 67-7168

September 8, 1976

Mr. H. L. Havens
Ingalls Shipbuilding
P. O. Box 149
Pascagoula, Mississippi 39567

Dear Hank:

First, let me thank you for your efforts and patience last Friday in helping me find the key to get Refrasil into the Ingalls supply system. I am most grateful for your help.

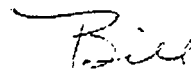
Your offer to coordinate the submission of substantiating letters from Welding, Burning, Welding Engineering and Safety to Messrs. B. C. Breaux and J. L. Griffin in Inventory Control is most welcome. I accept! Any further assistance that I or HITCO can provide is readily available.

Enclosed are three packets containing all Refrasil literature, a copy of HITCO's Materials Division Specification MDS 1113 and our Material Safety Data Sheet. If you would like more, please let me know.

Hank, thanks again for your continuing efforts on behalf of Refrasil. HITCO appreciates it now and I know Ingalls will appreciate it later once the superiority and cost effectiveness of Refrasil is established throughout Ingalls.

Best regards,

HITCO MATERIALS DIVISION



W. C. McCluskey
Field Engineer

WCM:co
cc: R. E. Portik
G. R. Teague

Enclosures

HITCO
MATERIALS DIVISION

1600 WEST 135th STREET, GARDENA
CALIF. 90248 • P. O. BOX 1057
(213) 321-8080 • (213) 532-0870
TWX: 910-346-6326 • TELEX: 67-7168

September 8, 1976

Messrs. B. C. Breaux, Supervisor - Inventory Control
and J. L. Griffin, Supervisor
Ingalls Shipbuilding
P. O. Box 149
Pascagoula, Mississippi 39567

Gentlemen:

Following up on our meeting of September 3, 1976, I would like to offer the information below regarding Refrasil which, hopefully, will facilitate its entry into the Ingalls supply system.

Attached you will find a copy of HITCO Materials Division Specification, MDS 1113, which sets forth physical and chemical requirements, applicable military specifications, test conditions, etc., for Refrasil. Of particular interest should be Paragraph 8.22 which establishes the testing criteria requiring that Refrasil withstand molten steel splash from a cutting torch. It is this unique characteristic that makes Refrasil superior to asbestos and other insulating type materials and allows you, the user, to realize significantly greater service life from your weld protection cloth. Additionally, the problem of having molten steel damage valuable equipment by burning through the weld blanket (as often happens with asbestos) will be eliminated.

A packet containing all Refrasil literature is enclosed for your review. In it you will find our Material Safety Data Sheet provided in compliance with OSHA standards.

For ordering/specifying purposes, the product description of UC100-96 (the consensus of opinion of the engineering and welding people at our Friday morning meeting indicated that this was the preferred product) is as follows:

<u>Product Description</u>	<u>Product Code</u>	<u>Nominal Thickness (in.)</u>	<u>Nominal Width (in.)</u>
Standard Refrasil Cloth	UC100-96 CERTIFIED TO HITCO QAL (MDS 1113)	.054	36

Continued

Ingalls Shipbuilding
September 8, 1976
Page Two

HITCO

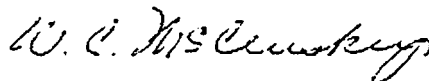
Standard rolls are 50 lineal yards minimum, +10% maximum length. No roll shall contain more than two pieces of fabric, no piece within the roll shall be less than ten lineal yards. Certification to HITCO Quality (MDS 1113) is provided.

Hank Havens has kindly offered to coordinate the submission of letters from the various using departments stating that Refrasil has been tested and evaluated and meets their requirements. Charles Roddy of your Safety/Industrial Hygiene Department indicated that he would provide information relative to OSHA and Navy restrictions on the use of asbestos. As we discussed on Friday, Navy directives now prohibit the use of asbestos and materials containing asbestos on the construction and repair of Navy ships and offer guidelines as to suitable replacement materials. (Copy of applicable Navy Speedletter dated August 2, 1976, is attached.)

Hopefully, we have provided the information you will need to make the transition from asbestos to Refrasil in your inventory control. If you need further information from HITCO, please let me know.

Very truly yours,

HITCO MATERIALS DIVISION



W. C. McCluskey *co*
Field Engineer

WCM:co

cc: K. R. Farnsworth, Ingalls
H. L. Havens, Ingalls
C. H. Roddy, Ingalls

Enclosures

Naval Speedletter

USE FOR URGENT
 LETTERS, ONLY

DO NOT CLEAR THROUGH
 COMMUNICATIONS OFFICE

TYPE OF MAIL ☒ REGULAR ☐ AIR ☐ SPECIAL DELIVERY		CLASSIFICATION UNCLASSIFIED	DATE AUG 02 1976	INSTRUCTIONS 1. Message type phraseology is permissible. 2. Both addressees must be spaced, date for window envelope or bulk mailing, as intent. Include attention codes, when known. Use dots and brackets as guides for window envelope addresses. 3. Give priority to processing, routing, and action required. Avoid time-consuming controls. 4. In order to speed processing, a readily identifiable, special window envelope, OPNAV 6016/145A, Speedletter Envelope, is provided for unclassified speedletters where bulk mailing is not used. Other window envelopes also may be used. In bulk mail, speedletters should be placed on top of regular correspondence.
IN REPLY REFER TO 0493A/APB Ser 613				

DISTRIBUTION LIST
 SEE PAGE 2

STANDARD REFERENCES AND ENCLOSURES, IF ANY, TEXT AND SIGNATURE BLOCK

Subj: Asbestos Replacement Program

Ref: (a) NAVSEAINST 5100.2 dtd 24 OCT 1975

Reference (a) provides background need for and NAVSEA policy that asbestos and materials containing asbestos shall not be used in future construction, overhaul repair and maintenance of Navy ships where suitable alternate materials are available.

Addressees providing industrial support to Naval ships construction and repair shall ensure that asbestos-free materials are employed in accordance with reference (a).

Pending completion of procurement specification and NSN assignment the following commercial available materials now in-use or under evaluation are considered acceptable substitutes for asbestos welding blankets and cutting/burning safety shielding and should be used:

- a. HITCO VC 100-96 REFRASIL
 HITCO VC 100-48 REFRASIL.

- b. Fabri-Cote C100-48

Address: A and S Glass Corp. Inc.
 724 East 60th St.
 Los Angeles, CA 90001
 Phone (213) 232-2147

Address: HITCO Materials Division (TR)
 1600 West 135th Street
 Gardena, CA 90249
 Phone (213) 321-8080.

F. J. Rasmussen
 F. J. RASMUSSEN
 By direction

COPY TO

From: Commander, Naval Sea Systems Command
 Department of the Navy
 Washington, DC 20362

ADDRESS REPLY AS
 SHOWN AT LEFT OR RE-
 PLY HEREON AND RETURN

CLASSIFICATION

UNCLASSIFIED

0493A/APB
Ser 613

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CINCPACFLT WASHINGTON DC
BUMED WASHINGTON DC
ANS BRASS FABRIC CORP, INC.
HITCO MATERIALS DIVISION



DEPARTMENT OF THE NAVY 0986
NAVAL SHIP ENGINEERING CENTER, PHILADELPHIA DIVISION
PHILADELPHIA, PA. 19112

IN REPLY REFER TO
6763:FV:cjh
9390(FA-730)
Ser 884

10 JUL 1974

From: Officer in Charge, Naval Ship Engineering Center,
Philadelphia Division
To: Supervisor of Shipbuilding, Conversion and Repair USN, Pascagoula,
MS
Subj: Intended Visit to Ingalls Shipbuilding Corporation; NAVSECPHILADIV
Project FA-730

1. This Division has active assignments from NAVSHIPS with regard to thermal insulation for shipboard use. The object of one such task is to lower temperatures in the firerooms of ships by utilization of new or improved insulation materials and methods.

2. Conversations with cognizant insulation personnel from leading shipyards are planned in order to gain the benefits of their experience. Accordingly, a visit is proposed to Ingalls Shipbuilding Corporation with the purpose of discussing their current insulation procedures and rationale.

3. As requested by a representative of Ingalls Shipbuilding Corporation, a written request for such a visit is hereby submitted. Information on the proposed visitor is:

Mr. Frank Vapniarek
Materials Engineer, GS-11
SSN 185-36-9660
Security Clearance: SECRET Based on NAC and
written inquiries Sect 3A of 25 Feb 1965
Code: 6763
Phone: 215-755-3922 X289

4. A one day visit on 15 Jul 1974 with Mr. Dale Barr (Moss Point, Mail Sta. 1090-22) is proposed. Your assistance in arranging such a visit is appreciated

B. I. Shapiro
B. I. SHAPIRO
By direction

Copy to:

Supships Pascagoula Code 187 (Ms. Moon)

NAVSHIPS 423

NAVSEC 6141B (615 F)

Ingalls Shipbuilding Corp, Mail Sta, 1090-22 (Mr. Barr)

NAVSECPHILADIV 6700E01, 6712, 6760, 6763(3)

INFORMATION COPY

OFFICIAL COPY TO CODE 6141B

817

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9390

Ser 343

23 DEC 1974

From: Commander, Naval Ship Engineering Center
To: Supervisor of Shipbuilding, Conversion and Repair, USN, New Orleans
Supervisor of Shipbuilding, Conversion and Repair, USN, Pascagoula

Subj: Elimination of asbestos containing materials

1. NAVSECONMADIV reports that Avondale and Ingalls Shipyards are extensively using "Cleanguard" products containing asbestos in lubrication by H. K. Porter Company. "Cleanguard" products are treated to minimize the health hazard from asbestos dust.
2. Information is desired on the results of investigations leading to decisions to use "Cleanguard", the particular ship applications for which it has been considered suitable, and if thermal insulation is one use, if safe ripout procedures have been developed.
3. NAVSEA has sponsored a program to develop alternate non-asbestos containing materials for high temperature thermal insulation. Suitable materials free from asbestos have been identified and are specified in a recent revision of MIL-STD-1294. Treated asbestos products such as "Cleanguard" have not been approved for naval ship installation because of the availability of other more suitable substitutes for thermal insulation and the uncertainty of safe handling, of "Cleanguard", particularly during ripout.

Copy to:
SUPSHIP (Newport News)
NAVSEA (SEA 0532)

Blind copy to:
NAVSEC (SEC 6141B)
~~SEC 6153C~~

Prepared by: J. B. Alferts/6101E/K61059
Typed by: D. A. Poss/19 Dec 1974

N212

HITCO

MATERIALS DIVISION

1600 WEST 135th STREET, GARDENA
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TWX: 910-346-6326 • TELEX: 67-716E3715 Williams Boulevard
Suite 230Kenner, Louisiana 70062
504/443-4242

March 22, 1976

Mr. Fred Stuart
Ingalls Shipyard Division
P. O. Box 149 - (1090-51)
Pascagoula, Mississippi 39567

Dear Fred:

Just a note to thank you and Messers. Baronich, Desilvey, Fleming and Havens for the time you gave to Bob Portik, Gary Teague and myself last Thursday. Your attention and assistance in our efforts to reintroduce our "new" Refrasil at Ingalls are very much appreciated. Hopefully, our presentation stimulated an interest in Refrasil and its cost saving advantages which are ideally suited for shipyard use.

Following our morning meeting, we met with Messers. Aikens, Anderson, Bradley, Pickering and Spooner on the East bank and made a similar presentation. As a result of that meeting, we will be forwarding samples to Mr. Spooner for his overall evaluation as an insulating and weld protection material.

Again, our thanks for your time and attention. Hopefully, Refrasil will soon be a "household" word at Ingalls.

Very truly yours,

HITCO Materials Division

Bill McCluskey
W. C. McCluskey
Field Engineer

WCM:cg

cc: E. Baronich
P. G. Desilvey
J. S. Fleming
H. L. Havens
R. E. Portik
G. Teague

1.0 THE PROBLEM

- A. Unauthorized removal of protective covering
- B. Non-replacement of protective covering
- C. Inadequate protection from welding & burning

2.0 CAUSES AND EFFECTS

- A. Protective covers are removed to provide raingear for personnel resulting in damage to the equipment.
- B. Protective covers are discarded and not replaced when inspecting, servicing, hooking-up, etc. leaving the equipment exposed.
- C. Equipment below, near, or on other side of a bulkhead not protected from heat of welding and burning resulting in damage.

3.0 ACTION BEING TAKEN

- A. Anyone removing protective covering for unauthorized purposes shall be disciplined. So-called "Herculite" material is being procured marked "Property of Ingalls Shipbuilding"
- B. Crafts failing to replace protective covering shall be accountable for any damage, and the responsible supervisor shall be disciplined.
- C. Before welding or burning, inspect the area and take adequate precautions to prevent damage to equipment below, near, and on other side of the bulkhead.
- D. So-called "Herculite" material shall not be used to protect against welding or burning. This material is not fireproof and affords no protection from flames, sparks, slag, etc. "Refrasil" material, which is reportedly completely fireproof, has been recommended by Welding Engineering for procurement. Until this material is available, sheetmetal shall be used as a barrier.

BD

AMERICAN MUTUAL CORPORATION
3301 N. Causeway Blvd.
P. O. Box 7148
Metairie, La. 70002

REPORT OF
OCCUPATIONAL DISEASE SURVEY

Ingalls Nuclear Shipbuilding
Division of Litton Industries
Pascagoula, Mississippi

A
M

by:
S. W. Foote
Industrial Hygienist

ENGINEERING DEPARTMENT
July 12, 1972

DISTRIBUTION:

Mr. M. A. Weeks, Director of Industrial Relations ✓
 Ingalls Nuclear Shipbuilding
 Division of Litton Industries
 P. O. Box 149
 Pascagoula, Mississippi 39567

cc: Mr. John Wechsler, Insurance Administrator
 Ingalls Nuclear Shipbuilding
 Division of Litton Industries
 P. O. Box 149
 Pascagoula, Mississippi 39567

Mr. S. Stratton, Manager of Fire, Medical and Safety
 Ingalls Nuclear Shipbuilding
 Division of Litton Industries, Inc.
 P. O. Box 149
 Pascagoula, Mississippi 39567

Mr. T. G. Daughdrill, Section Manager, Safety Department
 Ingalls Nuclear Shipbuilding
 Division of Litton Industries
 P. O. Box 149
 Pascagoula, Mississippi 39567

Mr. J. Lang, Director of Insurance
 Litton Industries, Inc.
 336 North Crescent Drive
 Beverly Hills, California 90213

ACKNOWLEDGEMENT

The author of this report wishes to acknowledge the courtesies extended to him by Mr. S. Stratton and Mr. T. G. Daughdrill during the calls at the yard on June 20-23, 1972.

PURPOSE

The purpose of this service call was to obtain air samples for asbestos analysis during insulating operations on ships, to obtain air samples for zinc oxide analysis at the hot zinc galvanizing tank and at welding operations on galvanized metal in the sheet metal shop, and to obtain an air sample for cadmium analysis during a silver brazing operation. Concentrations indicated of the above substances were to be compared with the threshold limit values of the Occupational Safety and Health Act (OSHA). During the call, laboratory equipment was discussed, and the author was present during an interview of an applicant for the position of Industrial Hygienist at the yard. All of the above activities were requested by Mr. Stratton and Mr. Daughdrill.

CONCLUSIONS

1. Under the conditions at the time of this call, no concentrations of asbestos fibers in excess of the OSHA Standard of five fibers longer than five micrometers per cubic centimeter of air were encountered at the locations sampled. (See attached Air Analysis Table, Samples CB58, CB51, CB56, CB71, and CB55). Results are shown in terms of total fibers and of asbestos fibers. Our laboratory estimates that of the total fibers seen, 10% were asbestos. Some fibers were definitely fiber-glass. The samples were collected from the breathing zone of the employees, on membrane filters mounted in an open face filter holder. A Mine Safety Appliances Company Monitaire Air Sampler was used to draw in air through the filters. Fibers were counted as prescribed by the OSHA Standard, with phase contrast illumination.
2. One zinc oxide concentration exceeded the OSHA threshold limit value (see attached Air Analysis Table, Sample CB63).
3. The concentration of cadmium was below the OSHA threshold limit value (see sample BU40).
4. Collection of air samples for zinc oxide and cadmium was similar to the method for asbestos. Analysis of the samples was by atomic absorption.
5. An atomic absorption spectrometer and a 400-450 power microscope with phase contrast illumination are major items required if your chemical laboratory is to analyze air samples. Whether your chemical laboratory is to be given this added responsibility, whether you establish a separate laboratory for this purpose, or whether you employ an outside laboratory for sample analysis, is a decision which should be made by your management.
6. The industrial hygiene applicant interviewed by Mr. Stratton appeared to have the necessary educational background, but lacks experience and

training in the specific occupational disease hazards present at the yard, and in sampling methods for air contamination. Courses are available for this training by the U. S. Department of Health, Education and Welfare. Information may be obtained from:

Director, Training Institute
Environmental Control Administration
P. O. Box 30200
Cincinnati, Ohio 45230

DESCRIPTION OF OPERATIONS

Asbestos - Insulation was being fitted around the generator of Hull 1176, a submarine, and around pipes of Hull 1171, an ammunition ship. The insulation was pre-formed and cut, but some hand cutting of individual pieces was necessary on the ships for a proper fit. The operation aboard the submarine could not be personally observed because of security reasons. On the ammunition ship, the cutting was by hand saw. General ventilation was provided. Dust was cleaned from decks with a vacuum cleaner. Respirators were available, but were not being worn.

Zinc Oxide - At the hot zinc galvanizing operation, steel pipes are immersed in a tank of molten zinc. The tank is outdoors under an open sided shed. In the sheet metal shop, galvanized sheet metal is welded with an electric arc. Flexible exhaust ducts are provided, in addition to general ventilation. The efficiency of removal of the fumes depends on how close employees place the flexible ducts to the spots being welded.

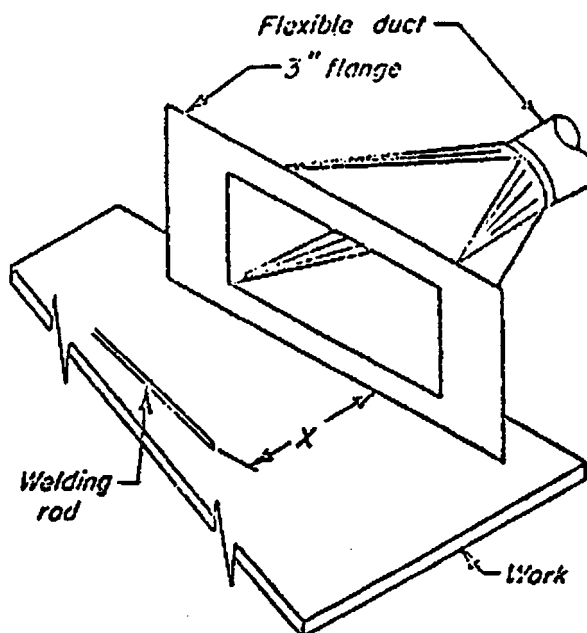
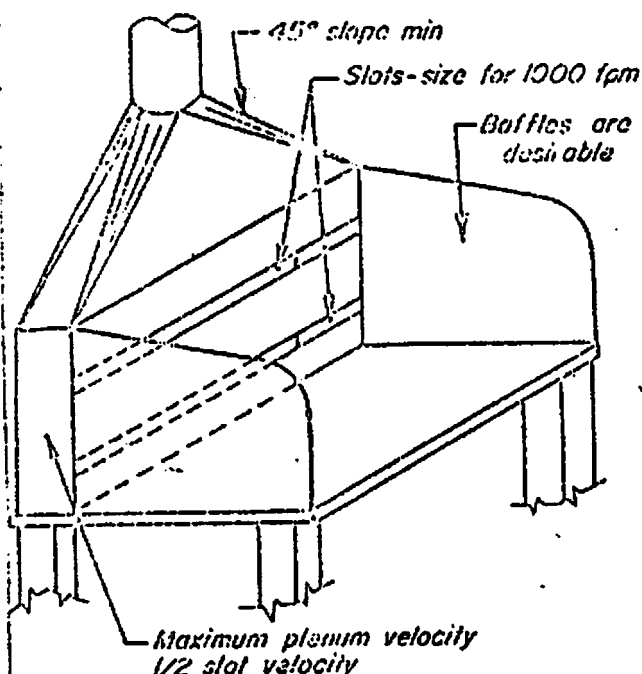
Cadmium - Pipe joints are silver brazed in the pipe shop with an oxy-acetylene torch. Three grades of brazing rod are used:

Grade III - 0% Cadmium
Grade IV - 17-19% Cadmium
Grade V - 15-17% Cadmium

About twice as much Grade III rod as Grade IV is used, and a small amount of Grade V. General ventilation is provided.

RECOMMENDATIONS

1. A "Standard for Exposure to Asbestos Dust" has been published by the U. S. Department of Labor in the Federal Register, Volume 37, No. 110, Wednesday, June 7, 1972. A copy of this Standard should be obtained and applicable provisions complied with. Among these provisions are monitoring requirements and medical examination requirements, to include 14 X 17 inch Chest X-rays.
2. Flanges should be provided for the flexible exhaust ducts in the sheet metal shop. (See Enclosure 2, sketch, from "Industrial Ventilation" by the American Conference of Governmental Industrial Hygienists). Employees should be required to place the ducts close enough to the work so that the fumes are efficiently captured.



$Q = 350 \text{ cfm/linear ft of hood}$
 Hood length = required working space
 Duct width = 2-4" maximum
 Duct velocity = 1000-3000 fpm
 Entry loss = $1.7C \text{ slot VP} + 0.25 \text{ duct VP}$

PORTABLE EXHAUST

X, inches	cfm
6	250
9	400
12	1000

Face velocity = 1500 fpm
 Duct velocity = 3000 fpm minimum
 Entry loss = 0.25 duct VP
 Also see "Granite Cutting" VS-909

GENERAL VENTILATION, where local exhaust cannot be used:

Rad, diam	cfm/welder*
5/32	1000
3/16	1500
1/4	3500
3/8	4500

*For toxic materials higher airflows are necessary.

OTHER TYPES OF HOODS

Booth:

$Q = 100 \text{ cfm/sq ft of face opening}$

See

"Spray Painting" VS-603, VS-604

"Metal Spraying" VS-415

AMERICAN CONFERENCE OF
GOVERNMENTAL INDUSTRIAL HYGIENISTS

SOLDERING AND ARC WELDING

DATE 1-70

VS-415

1-101-2

PLANT ~~Tennessee Nuclear Shipbuilding~~ LOCATION Pascagoula, Miss.

AIR ANALYSIS TABLE

Sample No.	Time Mins.	Location and Events	Concentration in:				of:
			Total fibers fibers/ml	Asbestos fibers/ml	Zinc Oxide mg/m ³	Cadmium mg/m ³	
CB 58	45	Exposure of E.D. Logan fitting insulation around generator hull # 1176	4.1	0.41			
CB 51	45	Exposure of J.M. Johnson fitting insulation around Generator hull # 1176	1.5	0.15			
CB 56	45	Exposure of F.D. Turner pipe welder in reactor compartment hull 1176	0.6	0.06			
CB 71	35	Exposure of A. Weaver insulating pipe, hull #1171 upper level eng. rm.	1.5	0.18			
CB 55	45	Exposure of P. Johnson, same as above	0.27	0.027			
CB 54	45	Exposure of R U Palmas at hot zinc galvanizing tank			0.016 6.5*		
CB 63	50	Exposure of A.T. Gill welding Galvanized pipe, S.E. end of sheet metal shop			1.3		
CB 23	70	Exposure of E. A. Hudson Welding Galvanized pipe, S.W. end of sheet metal shop					
BU 40	60	Exposure of M.A. Bowles silver brazing pipe joint with Grade IV brazing Rod (17-18% cadmium). in pipe shop				<0.018	

5.0 mg/m³ 0.1 mg/m³

ACTION

NOT A TYPED INFORMATION

DATE OUT

INITIALS

768

5-14 1748

RETURNED TO:

FILE DESTROY

752

0024 1220

043623

II-0372

Mr. Seneca Foote

Atlanta Engineering

6/26/72

L.D. Horowitz/bf H.O. Engineering

Ingalls Nuclear Shipbuilding
Pascagoula, Miss.

The nine air samples obtained at the subject plant have been analyzed in our laboratory. The results are shown on the attached Air Analysis Table.

Note that we have reported both total fibers and asbestos fibers since it was difficult to differentiate. Although some fibers were definitely fiberglass and some fibers looked like asbestos I would estimate that we saw less than 10% asbestos fibers. So we have reported both total fibers and asbestos fibers (based on 10% of the total). However, as you see even the total fiber count was well below the T.L.V.

Chief Industrial Hygienist

043630

DATE 6/26/72

PLANT Inalls Nuclear Shipbuilding

LOCATION Pascagoula, Miss.

AIR ANALYSIS TABLE

Sample No.	Time Mins.	Location and Events	Concentration in:				of:
			A—Milligrams per Cubic Meter B—Parts per Million				
			Total fibers (fibers/ml)	Asbestos (fibers/ml)	Zinc Oxide mg/m3	Cadmium mg/m3	
CE 58	45	Exposure of F.D. Logan fitting insulation around generator, hull # 1176	4.1	0.43			
CE 51	45	Exposure of J.N. Johnson fitting insulation around Generator hull # 1176	1.5	0.15			
CE 56	45	Exposure of F.D. Turner pipe welder in reactor compartment, hull 1176	0.6	0.06			
CE 51	45	Exposure of A. Newer insulating pipe, hull #1171 upper level eng. Rm.	1.5	0.15			
CE 55	45	Exposure of P. Johnson, same as above	0.27	0.027			
CE 54	45	Exposure of R U Palmas at Hot zinc Galvanizing tank.			6.016		
CE 53	50	Exposure of A.T. Gill welding Galvanized pipe, S.E. end of sheet metal shop			6.5*		
CE 23	70	Exposure of E. A. Hudson Welding Galvanized pipe, S.W. end of sheet metal shop			1.3		
BU 40	60	Exposure of M.A. Bowles silver brazing pipe joint with (grade IV brazing Rod (17-19% cadmium), in pipe shop				<0.018	

* Excessive

Threshold Limit Value = 5.0 5.0 5.0 mg/m3 0.1 mg/m3

PLANT Inaalis Nuclear Shipbuilding LOCATION Taschengula, Miss.

Date of Sampling 6-22-12

Greenburg-Smith Impinger _____ Single _____ Series _____
Midget Impinger Pump _____ Mitey-Mite Pump MSA 140012116

Samples Taken For: Carbon

DATE SAMPLES RECEIVED JUN 26 1972
DATE SAMPLES ANALYZED JUN 27 1972
BY A.S. J.

No copies of Air Analysis
Table wanted 10

SAMPLE DATA SHEET 0024 1236

PLANT Ingers Nuclear Shipbuilding LOCATION Tascheville 17155

SAMPLING EQUIPMENT USED: (CHECK)

Date of Sampling 6-21-72

Electrostatic Sampler of Precipitator _____
 Greenburg-Smith Impinger _____ Single _____ Series _____
 Midget Impinger Pump _____ Mitey-Mite Pump MSA MONITARE
 Electric Pump _____
 Midget Impinger Flasks _____ Regular Nozzle _____ Series _____
 All Glass Impinger _____ No. _____ Sintered Glass Nozzle _____ No. _____
 Millipore Filters ☒ Holder No. 14
 Silica Gel _____ U-Tube No. _____
 Whatman Filters _____ Holder No. _____
 Samples Taken For: ZINC OXIDE

Sample No.	Time Mins.	Rotameter or Vacuum	DESCRIPTION OF SAMPLE
CB 54	45	S.O.	Exposure of R.U. Delmas at hot ZINC GALVANIZING tank.
CB 63	50	S.O.	Exposure of A.T. Gill welding GALVANIZED pipe, S.W. end of sheet metal shop.
CF 25		S.O.	
CF 23	70	S.O.	Exposure of C.A. Hudson welding GALVANIZED PIPE, S.W. end of sheet metal shop.
		<u>Please expedite.</u>	
<u>Sp 146</u>		<u>mg/m³</u>	
CB-54		0.016	
CB-63		6.5 ⁻⁷	
CF-23		1.3	

EXCESSIVE

TCV = 5.0

DATE SAMPLES RECEIVED JUN 26 1972

DATE SAMPLES ANALYZED JUN 27 1972

BY A.S. J

Engineer S.W. Foote

Location Atlanta, Ga.

No copies of Air Analysis Table wanted 10

SAMPLE DATA SHEET 0024 1227

PLANT Ingers Nuclear Ship Building LOCATION Passadena, Miss.

SAMPLING EQUIPMENT USED: (CHECK)

Date of Sampling 6-22-72

Electrostatic Sampler of Precipitator _____
 Greenburg-Smith Impinger _____ Single _____ Series _____
 Midget Impinger Pump _____ Mitey-Mite Pump MSA Monitor
 Electric Pump _____
 Midget Impinger Flasks _____ Regular Nozzle _____ Series _____
 All Glass Impinger _____ No. _____ Sintered Glass Nozzle _____ No. _____
 Millipore Filters ☒ Holder No. 111
 Silica Gel _____ U-Tube No. _____
 Whatman Filters _____ Holder No. _____

Samples Taken For: 1456100

Sample No.	Time Mins.	^{10%} Rotameter or Vacuum	DESCRIPTION OF SAMPLE
CB 55	45	0.41 S.C.	Exposure of E.D. Logan fitting # insulation around generator, hull # 1176.
CB 51	45	0.15 S.C.	Exposure of J.M. Johnson fitting insulation around generator, hull # 1176.
CB 56	45	0.06 S.C.	Exposure of C.D. Moore pipe welder in reactor compartment, hull # 1176.
6-21-72			
CB 71	55	0.18 S.C.	Exposure of A. Weaver insulating pipe, hull # 1171, upper level eng. RM, with Johns-Manville Thermabestos pipe insulation.
CB 55	45	0.027 S.C.	Exposure of P. Johnson, same as above.
All of above insulation contained 10% asbestos. Remainder is calcium silicate & fiber glass.			
LV = 5.0			
<u>Please expedite.</u>			

DATE SAMPLES RECEIVED JUN 26 1972

Engineer S. M. F. [Signature]

DATE SAMPLES ANALYZED JUN 27 1972

Location Passadena GM

BY L. D. H. & H. S. [Signature]

No copies of Air Analysis Table wanted 0

AMERICAN MUTUAL CORPORATION

(504) 834-3376
XXXXXXXXXX

3301 N. Causeway Blvd.
P. O. Box 7043
Metairie, Louisiana 70002

XXXXXXXXXXXXXXXXXXXX
XXXXXXXXXXXXXXXXXXXX
XXXXXXXXXXXXXXXXXXXX

February 18, 1972

Mr. J. S. Stratton, Jr. (3)
Manager of Fire, Medical and Safety
Ingalls Nuclear Shipbuilding Corporation
Division of Litton Industries
P. O. Box 149
Pascagoula, Mississippi 39567

Dear Mr. Stratton:

The undersigned visited your East Yard on February 4, 1972, with Mr. L. D. Herowitz, Chief of our Industrial Hygiene Section. The purpose of the visit was to evaluate certain occupational disease hazards as requested by Mr. T. C. Daughdrill, Section Manager, Safety. In the absence of Mr. Daughdrill, we contacted Mr. J. P. Burke, Jr. He and Mr. C. Alfred of the Safety Section accompanied us throughout the visit. We also contacted you during the visit and in accordance with your instructions I am sending you three copies of this letter. It is understood that you will distribute copies of this letter to Mr. Weeks and Mr. Daughdrill.

ASBESTOS

No asbestos dust operations were in progress during the time of this call. However, we visited several locations where such operations are in progress from time to time, such as boiler rooms on ships and sawing operations in the yard, conducted by your contractors. We noted that respirators were on hand both on the ship and in the yard where asbestos dust operations might take place. These respirators were of a type approved by the United States Bureau of Mines for this purpose. As discussed during the visit, we recommend that you monitor concentrations of asbestos dust to which various people might be exposed. I am attaching a U. S. Department of Labor sampling data sheet for asbestos. You have a personal sampling pump in your chemical laboratory. It will only be necessary to acquire the prescribed type of filters and a filter holder which is available from Mine Safety Appliances Company. A phase microscope is necessary to count the fibers after the air sampling. Such a

Page Three

This should provide sufficient control of the silica hazard. Employees near enough to the operation to be exposed to the dust should also wear respirators. Another blasting operation was in progress near May #10. In this operation, "Black Magic" is used as the blasting agent. According to the manufacturer, this substance contains no free silica. A sample of the substance was obtained and will be analyzed in our laboratory for free silica. The operator at this operation also wore a supplied air abrasive blasting helmet.

GALVANIZING

A hot dip galvanizing operation was in progress at the north end of the yard. Parts are slid into a tank of molten zinc and coated. The tank is in the open under a shed and if the operator stands upwind from the tank, it is believed the natural ventilation will be sufficient to protect him from the zinc fumes.

PLAZMA TORCH

A plasma torch was observed in the fabricating shop. It was not in operation at the time of the call. Ozone, oxides of nitrogen and metal fumes are possible hazards from this operation. Most plasma torches produce noise above permissible levels. The torch in the fabrication shop had a flexible ventilation duct on the ground beside the torch. It did not appear that the duct was long enough nor placed properly. It is recommended that the duct be extended and placed close to the torch so that it will capture the fumes and gasses produced. The operator of the torch should wear ear protection.

The courtesies extended during our visit are appreciated.

Sincerely,

Industrial Hygienist

S. W. Foster/ch

cc: Mr. John F. Wechsler
Insurance Administrator
Inland Nuclear Shipbuilding Corporation
Division of Litton Industries
P. O. Box 149
Pascagoula, Mississippi 39567

Mr. James P. Lang
Director of Insurance
Litton Industries, Inc.
360 North Crescent Drive
Beverly Hills, California

0524 1093

P112

Substance:

Asbestos.

Standard: 29 CFR 1910.93a(a) of December 7, 1971

8-hour time-weighted average*: 5 fibers per milliliter greater than 5 microns in length.

Excursion limit*: 10 fibers per milliliter, up to 15 minutes in an hour for up to 5 hours per 8-hour day.

*Unprotected or improperly protected worker exposures

Analytical Method:

Fibers counted at 400-450 magnification, using phase contrast illumination, with sample mounted in high-viscosity solution of membrane filter material.

Sampling Equipment:

Personal sampling pump plus Millipore type AA filter (37mm, 0.8 μ pore size). Face cap is removed and filter used open face during sampling. Sampling rate: 2 l/m.

Sample Size:

Minimum period of 15 minutes for evaluation of excursion limit. Several samples of up to 4 hours for evaluation of 8-hour average. Samples with a visible deposit may be too heavy to count. Compare with a clean filter. Heavy concentrations of visible dust in the air (100 to 300 fibers/ml) may require short sampling periods of only 5 minutes, or less.

Blanks:

With each batch of samples submit two filters which are subjected to exactly the same handling as for the samples except that no air is drawn through them. Label these as blanks.

AMERICAN MUTUAL INSURANCE COMPANIES

AMERICAN MUTUAL LIABILITY INSURANCE COMPANY

AMERICAN MUTUAL INSURANCE COMPANY OF BOSTON

A M LIFE INSURANCE COMPANY

TELEPHONE (404) 533-8471

AMERICAN MUTUAL BUILDING
ONE EXECUTIVE PARK EAST
ATLANTA, GEORGIA 30329

January 25, 1972

Mr. T. G. Daughdrill
Ingalls East Division
Litton Systems, Incorporated
P. O. Box 149
Pascagoula, Mississippi 39567

Dear Mr. Daughdrill:

I plan to visit Ingalls East in accordance with your request on Thursday, February 3, 1972, and Friday, February 4th, arriving shortly after noon on Thursday.

If this is not convenient, please advise. I will be accompanied by Mr. L. D. Horowitz, Chief of our Industrial Hygiene Section.

Sincerely yours,

S. W. Foote
S. W. Foote
Industrial Hygienist

SWF/djl

cc: Mr. Joris, New Orleans Engineering



INGALLS NUCLEAR SHIPBUILDING

65-2-1-5

P.O. Box 149, Pascagoula, Mississippi 39327 601 799-0110

February 17, 1972

Eastern Cold Storage Insulation Co., Inc.
630 3rd Avenue
New York, New York 10017

Attention: Mr. Henry Pearlman

Subject: OSHA Emergency Standard 1910.93A (Asbestos)

Reference: Meeting with Mr. T. G. Daughdrill,
Ingalls' Section Manager of Safety

Gentlemen:

This is to advise that Ingalls Nuclear Shipbuilding Division expects all subcontractors to comply immediately with all requirements of subject emergency standard. All subcontractors were given copies of the subject standard in reference meeting.

Any questions pertaining to this standard are to be directed to Ingalls' Safety Department, Mr. T. G. Daughdrill, or the appropriate Government Representative. Any violations or non-compliance by subcontractors within Ingalls' facilities will be the subcontractor's responsibility.

Very truly yours,


E. L. Crowe
Manager of Procurement

ELC/rm

cc: T. G. Daughdrill
H. T. Grusnick
J. A. McQuaid
C. V. Morrow
J. A. Sanchez
J. A. Serrie
J. S. Stratton
M. A. Weeks
M. White (LSS)



INGALLS NUCLEAR SHIPBUILDING

0024 1087

65-2-1-5

P.O. Box 149, Pascagoula, Mississippi 39567 001 76-0110

February 17, 1972

Shook & Fletcher Insulation Co.
P. O. Box 1363
Pascagoula, Mississippi 39567

Attention: Mr. J. N. Strickland III

Subject: OSHA Emergency Standard 1910.93A (Asbestos)

Reference: Meeting with Mr. T. G. Daughdrill,
Ingalls' Section Manager of Safety

Gentlemen:

This is to advise that Ingalls Nuclear Shipbuilding Division expects all subcontractors to comply immediately with all requirements of subject emergency standard. All subcontractors were given copies of the subject standard in reference meeting.

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Very truly yours,


E. L. Crowe
Manager of Procurement

ELC/rm

cc: T. G. Daughdrill
H. T. Grusnick
J. A. McQuaid
C. V. Morrow
J. A. Sanchez
J. A. Serrie
J. S. Stratton
M. A. Weeks
M. White (LSS)



INGALLS NUCLEAR SHIPBUILDING

65-2-1-5

P.O. Box 149, President Johnson, Springfield, MO 65801

February 17, 1972

J. E. Steigerwald Company
5515 Belair Road
Baltimore, Maryland 21206

Attention: Mr. J. E. Steigerwald

Subject: OSHA Emergency Standard 1910.93A (Asbestos)

Reference: Meeting with Mr. T. G. Daughdrill,
Ingalls' Section Manager of Safety

Gentlemen:

This is to advise that Ingalls Nuclear Shipbuilding Division expects all subcontractors to comply immediately with all requirements of subject emergency standard. All subcontractors were given copies of the subject standard in reference meeting.

Any questions pertaining to this standard are to be directed to Ingalls' Safety Department, Mr. T. G. Daughdrill, or the appropriate Government Representative. Any violations or non-compliance by subcontractors within Ingalls' facilities will be the subcontractor's responsibility.

Very truly yours,

E. L. Crowe
Manager of Procurement

ELC/rm

cc: T. G. Daughdrill
H. T. Grusnick
J. A. McQuaid
C. V. Morrow
J. A. Sanchez
J. A. Serrie
J. S. Stratton
M. A. Weeks
M. White (LSS)



INGALLS NUCLEAR SHIPBUILDING

65-2-1-5

P.O. Box 143 Pascagoula, Mississippi 39370 601 768-6111

February 17, 1972

Bailey Carpenter & Insulation Co.
74 Sullivan Street
Brooklyn, New York 11231

Attention: Mr. Ric Vassallo

Subject: OSHA Emergency Standard 1910.93A (Asbestos)

Reference: Meeting with Mr. T. G. Daughdrill,
Ingalls' Section Manager of Safety

Gentlemen:

This is to advise that Ingalls Nuclear Shipbuilding Division expects all subcontractors to comply immediately with all requirements of subject emergency standard. All subcontractors were given copies of the subject standard in reference meeting.

Any questions pertaining to this standard are to be directed to Ingalls' Safety Department, Mr. T. G. Daughdrill, or the appropriate Government Representative. Any violations or non-compliance by subcontractors within Ingalls' facilities will be the subcontractor's responsibility.

Very truly yours,


E. L. Crowe
Manager of Procurement

ELC/rm

cc: T. G. Daughdrill
H. T. Grusnick
J. A. McQuaid
C. V. Morrow
J. A. Sanchez
J. A. Serrie
J. S. Stratton
M. A. Weeks
M. White (LSS)



INGALLS NUCLEAR SHIPBUILDING DIVISION

65-2-1-5

P.O. Box 149, Pascagoula, Mississippi 39567 601 76-0110

February 17, 1972

Shook & Fletcher Insulation Co.
P. O. Box 1363
Pascagoula, Mississippi 39567

Attention: Mr. J. N. Strickland III

Subject: OSHA Emergency Standard 1910.93A (Asbestos)

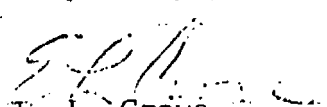
Reference: Meeting with Mr. T. G. Daughdrill,
Ingalls' Section Manager of Safety

Gentlemen:

This is to advise that Ingalls Nuclear Shipbuilding Division expects all subcontractors to comply immediately with all requirements of subject emergency standard. All subcontractors were given copies of the subject standard in reference meeting.

Any questions pertaining to this standard are to be directed to Ingalls' Safety Department, Mr. T. G. Daughdrill, or the appropriate Government Representative. Any violations or non-compliance by subcontractors within Ingalls' facilities will be the subcontractor's responsibility.

Very truly yours,


E. L. Crowe
Manager of Procurement

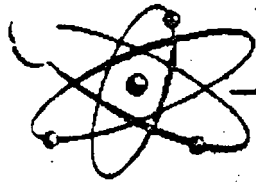
ELC/rm

cc: T. G. Daughdrill
H. T. Grusnick
J. A. McQuaid
C. V. Morrow
J. A. Sanchez
J. A. Serrie
J. S. Stratton
M. A. Weeks
M. White (LSS)

MEMORANDUM



INGALLS NUCLEAR SHIPBUILDING



*File
Arthur*

DATE: January 24, 1972

FROM: T. G. Daughdrill

PHONE 4191

cc. J. A. Sanchez
J. Sirrie
J. S. Stratton
M. A. Weeks

TO: Mr. J. McQuaid

SUBJECT: OSHA Emergency Standard

On December 7, 1971 the Occupational Safety and Health Administration released an emergency standard (1910.93A) concerning working with asbestos. The new standard will have considerable effect on the sub-contractors doing insulation work in the yard. A meeting has been held with each sub-contractor to advise each of the new standard. Each contractor has received copies of the standard. During the meetings with the sub-contractors, it was determined that each is in violation of some part of the standard.

In order that the shipyard be in compliance, it is necessary that each sub-contractor follow the below listed safe work practices as outlined in OSHA 1910.93A when working with asbestos.

1. The 8 hour time weighted average airborne concentration of asbestos dust to which employees are exposed to, shall not exceed 5 fibers longer than 5 microns per milliliter as determined by the membrane filter method at 400-450 X (magnification) (4 millimeter objective) phase contrast illumination. Concentrations above 5 fibers per milliliter but not to exceed 10 fibers per milliliter may be permitted up to a total of 15 minutes in an hour, but for not more than 5 hours in an eight hour day. (Currently we have no equipment to monitor the concentrations but we will have shortly). When these limits are exceeded, respirators must be worn by all personnel in the affected area.
2. Only respirators approved by the U.S. Bureau of Mines may be worn.
3. The sub-contractor shall establish a respirator program in accordance with the requirements of the American National Standard Practice for Respiratory Protection Z88.2-1969.
4. All hand or power operated tools which produce asbestos dust, such as but not limited to, saws, scrapers, abrasive wheels and drills shall be provided with local exhaust ventilation and dust collectors.
5. All asbestos cement, mortar, coatings, grout and plaster shall be mixed in closed bags or other closed containers.

JAN 25 1972

6. All asbestos waste and scraps shall be collected and disposed in sealed bags or other closed containers.
7. Accumulation of asbestos dust shall be removed as soon as practicable and only with vacuum cleaners.
8. The employer shall provide or make available, at his cost, a program of health examinations on a periodic basis of any employee who is exposed to asbestos dust in excess of the previously specified limits.
9. The employer shall maintain records of the personal and environmental monitoring and of medical examinations. Such records must be maintained for at least 20 years.
10. All such records listed above shall be available for inspection and copying by the Secretary of Labor or his designated representative.

Please advise each below listed sub-contractor that strict compliance with the standard is expected immediately.

Jamestown Metal Div.
 Eastern Cold Storage
 J. E. Herington Co., Inc.
 Chown and Fletcher
 Budham Insulation Co.
 Bailey Insulation Co.

T. G. Pangborn

Asbestos Division, U.S. Dept. of Labor

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AMERICAN MUTUAL BUILDING
ONE EXECUTIVE PARK EAST
ATLANTA, GEORGIA 30329

January 25, 1972

Mr. T. G. Daughdrill
Ingalls East Division
Litton Systems, Incorporated
P. O. Box 149
Pascagoula, Mississippi 39567

Dear Mr. Daughdrill:

I plan to visit Ingalls East in accordance with your request on Thursday, February 3, 1972, and Friday, February 4th, arriving shortly after noon on Thursday.

If this is not convenient, please advise. I will be accompanied by Mr. L. D. Horowitz, Chief of our Industrial Hygiene Section.

Sincerely yours,

S. W. Foote
S. W. Foote
Industrial Hygienist

SWF/djl

cc: Mr. Joris, New Orleans Engineering

October 1, 1969

TO: Officer in Charge
Naval Ship Engineering Center
Philadelphia Division
Philadelphia, Pennsylvania

VIA: Supervisor of Shipbuilding
Conversion & Repair, USN
Pascagoula, Mississippi

SUBJECT: Shipyard Practices in Combating the
Hazards Attending the Use of Insulating
Materials: NavSec Phila Div Project PA-287

REFERENCE: (a) NavSec Phila Div Let 6764: MA:1a1 9390
(PA-287) Ser 724 of 30 April, 1969 fwded by
SupShip 1st Ind 202C: ARL:hdm, 9390 Ser 202C-
558 of 12 May 1969

ENCLOSURE: (1) Tabulation of Survey Results of Use of
Insulating Materials at Ingalls Shipbuilding
Division

Enclosure (1) is forwarded herewith in reply to Reference (a).
It is regretted that the reply is so late, but the information
was difficult to assemble.

Additional comments are furnished below:

(a) Our Medical and Compensation Department reports, "No
known treatment or payment of cases diagnosed as those caused
by asbestos dust".

(b) Safety regulations concerning threshold limit values
as imposed by the yard and law are enforced. Most safety and
health regulations in effect deal with ventilation and personal
protective equipment required generally rather than to a
specific hazard.

C
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104-1835

TO: NavShip Engrg Cntr, Phils Div
VIA: SupShip, Pascagoula
October 1, 1969
Page 02

(c) The yard makes available respirators (Bureau of Mines approved only) for all type operations.

(d) Most insulation work involving asbestos materials is performed by sub-contractors. In addition, the material used is usually required by Government specifications.

(e) Few, if any, written instructions are available concerning shop and ship practices for insulation workers.

Recommendations based upon the theory of asbestos dust as a harmful product follow:

(1) That asbestos insulation work be performed at such a time as to minimize exposure to personnel in the adjacent areas. (2nd & 3rd shifts)

(2) That wet processes be adopted where feasible.

(3) That specifications concerning insulation materials be made flexible enough to allow non-asbestos substitutes.

(4) That heavy cutting of asbestos materials be performed in well ventilated areas.

(5) That all employees working with asbestos materials and those in the immediate area be required to wear the approved type respirator.

THE INCALLS SHIPBUILDING DIVISION
LITTON SYSTEMS, INCORPORATED

M.A. Weeks
Director
Industrial Relations

MAW/dsp
Encl.

Mobile
Personal organization
of personnel resources
W. G. Alsip

U.S. DEPARTMENT OF LABOR
BUREAU OF LABOR STANDARDS
Office of Occupational Safety
504 Milner Building
Mobile, Alabama 36602

January 20, 1970

Mr. N. J. Marandino, President
Ingalls Shipbuilding Co.
P. O. Box 149
Pascagoula, Miss. 39567

Dear Mr. Marandino:

Mr. William B. Reitze, Director-Field Studies Industrial Insulation Hygiene Research Program and Doctor Harry Heimann of the Mount Sinai School of Medicine, have requested this office to arrange visits to shipyards in this area. These visits are for the purpose of conducting research studies in the use of asbestos and other insulating materials.

Present plans are for them to be in this area on February 5 and February 6. Can you arrange a tour of your facilities on February 5, 1970 for them?

We will appreciate any courtesies shown these gentlemen, and will also appreciate advice on whether, and, if not, when, you will have insulation work in progress.

Please advise.

Sincerely yours,

W. G. Alsip
W. G. Alsip
District Supervisor, Mobile



January 20, 1970

Mr. W. G. Alsip
District Supervisor
U. S. Department of Labor
504 Milner Building
Mobile, Alabama 36602

Dear Mr. Alsip:

We are pleased to comply with your request that Mr. Reitz and Dr. Heiman of Mount Sinai School of Medicine visit our yard. It is my understanding that they made a similar visit here last year.

We will assist them in any way that we can in their research studies of asbestos and other insulating materials. Unfortunately, on February 5th and 6th, our schedule shows very little, if any, shipboard insulation work for the commercial vessels.

Sincerely,

M. A. Weeks
M. A. Weeks, Director
Industrial Relations

MAW:edp

cc: Mr. G. M. Bryan
Mr. H. J. Marandino



0143 1967

MOUNT SINAI SCHOOL OF MEDICINE
of The City University of New York
FIFTH AVENUE AND 100TH STREET NEW YORK, N.Y. 10029



Department of Community Medicine

February 24, 1970

T.C. Daughdrill, Safety Supervisor
Ingalls Shipyards, East Division
Box 149
Pascagoula, Miss. 39567

Dear Mr. Daughdrill:

Thank you very much for permitting us to visit your shipyards.

As you may recall, our group at Mt. Sinai has been studying health hazards from asbestos in the construction industry for several years. Because of the unique conditions found in the shipyard construction, we are planning a more comprehensive study of shipyard health hazards. The information gained from our visit to your yard will aid us in planning the more detailed program.

Any information gained in this study will be available to you as well as your medical officers.

Once again thank you for your kind cooperation.

Very truly yours,

William B. Reitze

William B. Reitze
Director Field Studies
Insulation Industry Hygiene
Research Program

WBR:bd

*Thanks to M. Dr.
for giving us the tour.*

THE INGALLS SHIPBUILDING DIVISION  LITTON SYSTEMS, INC.

DATE: February 10, 1970

TO: Mr. H. A. Weeks

FROM: T. G. Daughdrill

PHONE: 4191

SUBJECT: Asbestos Study

CC: G. M. Bryan
J. A. Sanchez

Last week Mr. W. B. Kietze and Dr. Harry Hiemann of the Mount Sinai School of Medicine were directed to the Yard by Mr. Alsip of the Department of Labor. They requested that we allow them to observe any job we might be working where asbestos was involved. Mr. Alsip did not go down in the yard with us. These gentlemen have for some time been conducting studies relative to asbestos and cancer.

C They related that presently they are winding up a tour of all major shipyards. I talked to Mr. Smythe who related that some asbestos work was being done in the uptake on Hull 1173. Safety Representative Mack Conner escorted them down to the ship where they looked at the asbestos operation. They were on the ship approximately 30 minutes.

C I requested that they send us a copy of their findings. They stated that our operation is little different from other places they have been. They did comment that our yard was one of the best kept and cleanest they had seen.

P Dr. Hiemann stated that we, along with the other yards visited, have some problems where asbestos dust is concerned. However, he agreed it is more of an educational problem rather than one of engineering.

Y The findings of the Mount Sinai group possibly might be beneficial toward solving future problems of the asbestos nature.

T. G. Daughdrill
Safety Supervisor

TGD/jed



- 6 -

DEPARTMENT OF THE NAVY
NAVAL SHIP ENGINEERING CENTER PHILADELPHIA DIVISION
PHILADELPHIA, PA. 19112

MAY 13 1968
ENGINEERING

IN REPLY REFER TO
6764:NA:181
9390(FA-287)
Ser 724

30 APR 1968

From: Officer in Charge, Naval Ship Engineering Center,
Philadelphia Division
To: Ingalls Shipbuilding Corporation
Pascagoula, Ms. 39567
Via: Supervisor of Shipbuilding, Conversion and Repair, USN ✓
Pascagoula
Subj: Shipyard Practices in Combating the Hazards Attending the Use of
Insulating Materials; request for information concerning;
NAWSECPHILADIV Project FA-287

1. The serious hazards of asbestos have recently received widespread publicity and have generated a high level of interest in its use by the U. S. Navy as an insulating material. Although the Naval Shipyards have for many years been aware of the hazards associated with asbestos and have observed certain precautionary measures, it is evident that more stringent measures must be taken to insure personnel safety. There are many varied uses of asbestos in the Navy and the most important from a health hazard viewpoint is from piping insulation, lagging and boiler insulation. The hazard exists wherever there is a possibility of dust evolution during operations such as fabrication, installation, and especially during rip-out.
2. In order to minimize the hazards associated with the use of asbestos and therefore reduce the possibility of injury to personnel, a comprehensive study has been initiated by NAWSEC, and NAWSECPHILADIV has been assigned responsibilities to conduct the following:
 - a. Survey of Naval and private shipyards to determine uses of asbestos, alternates available and rationale for choice of material selected, safety precautions observed, and relative costs of materials and installation.
 - b. Assemble pertinent shipyard publications including safety manuals, medical records, fabrication manuals and shop procedures for asbestos workers.
 - c. Seek the cooperation of manufacturers and suppliers of insulation to the Navy insuggesting replacement materials for those known to cause the most severe problems during rip-out operations.

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9390(FA-287)
Ser 724

3. Pursuant to urgent NAVSHIPS directives, the aid of shipyards is being solicited to conduct this study in the most expeditious manner. Accordingly, answers to the following questions are requested for collation and evaluation purposes:

a. What insulating materials are presently being used for piping and boiler insulation and what rationale is being used for considering non-asbestos containing substitutes?

b. What areas, other than piping and boilers, are being insulated with asbestos and what adequate alternate materials are available for these applications?

c. What safety precautions are being observed during the fabrication, installation and rip-out of insulating materials?

d. What appropriate written instructions are available concerning shop and ship practices for insulation workers?

e. What is the incidence of respiratory problems encountered by personnel engaged in the fabrication, installation and rip-out of insulating materials?

f. What recommendations for preventing the bioeffects of asbestos dust and fibers on exposed insulation workers can be made?

4. Due to the urgency of this undertaking, it is requested that the above information be forwarded no later than 1 June 1969, addressed to the Naval Ship Engineering Center, Philadelphia Division, 6764, Philadelphia, Pa. 19112. Where additional data is deemed necessary, personal contact will be arranged. Dr. M. Anmuth is the project engineer for this task. The telephone number is (215) 755-3922. The capabilities of manufacturers of industrial insulation are to be explored by NAVSECPHILADIV and the entire input will be utilized by NAVSHIPS in promulgating a directive which will eliminate the use of materials and practices which are potentially hazardous to the health of insulation workers.

J. W. Murdoch
J. W. MURDOCK
By direction

Copy to:
OP 98
BUMED 732
NAVSHIPS 072C, OOA
NAVSEC 6101C
NAVSECSDIEGODIV 6873
NAVSECNORDIV 6603
NAVSECPHILADIV 6700B01, 6712,
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DEPARTMENT OF THE NAVY
NAVAL SHIP ENGINEERING CENTER, PHILADELPHIA DIVISION
PHILADELPHIA, PA. 19112

IN REPLY REFER TO
6764-MA:121
9390(PA-287)
Ser 1584

24 SEP 1969

From: Officer in Charge, Naval Ship Engineering Center,
Philadelphia Division
To: Commander, Naval Ship Engineering Center
Subj: Survey of Hazards of Asbestos; final report of
NAWSEC/PHILADIV Project FA-287

- Ref: (a) NAVSEC 1tr 6101C:EC:an, 9390, Ser 278 of 7 Apr 1969
(b) NAVSECPHILADIV 1tr 6764:MA:1al, 9390(FA-287), Ser 688 of 24 Apr 1969
(c) NAVSECPHILADIV 1tr 6764:MA:1al, 9390(FA-287), Ser 1189 of 30 Jul 1969
(d) NAVSECPHILADIV 1tr 6764:MA:1al, 9390(FA-287), Ser 1273 of 6 Aug 1969
(e) NAVSECPHILADIV 1tr 6764:MA:1al, 9390(FA-287), Ser 1300 of 13 Aug 1969
(f) NAVSECPHILADIV 1tr 6764:MA:jy, 9390(FA-287), Ser 1417 of 26 Aug 1969
(g) NAVSHIPS Tech Manual Chapter 9390, Thermal Insulation of Sep 1966
(h) MIL-STD-769C (SHIPS) of 15 Nov 1967, Thermal Insulating Requirements for Machinery and Piping

1. Background

a. The enormous rise in the production and industrial uses of asbestos during the past 60 years has resulted in a markedly widened exposure to asbestos dust for a greatly increased number and variety of workers. Some of them, moreover, sustain accidental contacts either when being employed in various capacities in operations where asbestos products are processed, used, or handled, or when working in plant areas in which an environmental pollution of the air with asbestos exists. The harmful effects of such growing exposures to asbestos during the past two decades are reflected in an increased number of reports on the occurrence of asbestosis and asbestos cancer (mesothelioma) in a variety of asbestos workers from a rising number of countries. The principal worker groups exposed to respiratory contact with asbestos are employed in the asbestos mining and milling industries, in the production and commercial use of asbestos cement and plaster, in the production and application of asbestos for insulating purposes and in

Enclosure (1)

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9390(FA-287)
Ser 1584

Office Memorandum Code 155-418515 (CONFIDENTIAL)
Date: 11/10/41 Box 111, #12

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the processing of asbestos and its manufacture into textiles. Ensuring adequate protection of asbestos workers against occupational health hazards related to respiratory and cutaneous contact is of paramount importance to Government, industry, and the workers themselves.

b. Since individual habits of workmen play a large part in their exposure patterns, observations of their practices have been included in the survey. Most insulation workers are aware that exposure to asbestos dust, even at low concentrations, is hazardous but they also feel that the hazards are unavoidable and must be accepted as part of the occupation. Moreover, a recently published survey conducted by a naval shipyard aboard selected ships has revealed that, although dust respirators have been required during installation or ripout of asbestos, 76% of the workers did not use them. In fact 50% did not possess respirators even though they were readily available at central tool rooms. This lack of worker discipline and the seriousness of the lung effects of asbestos could be the main deciding factors for considering the elimination of asbestos as a lagging material and as a cement on piping, ducts and boilers and thus reduce and eventually eradicate the reported incidence of asbestosis ranging up to 21% among shipyard insulation workers.

c. One recent shop and ship time study has revealed that ladders currently occupy 45% of their working time with asbestos-containing materials. This survey also reported that the individual duties of insulation workers required the following time allotment:

(1) 10% of the ladders' time involved prefabrication procedures such as the hand or power cutting of molded pipe covering or blocks and their shaping to fit the intended area of application.

(2) 40% of the time is spent in the application operation including fitting, hammering into place, carving and/or attaching insulation materials by wire or adhesive.

(3) 30% of time is spent on the finishing operation in which insulating materials are coated with cement, resin, cloth, or petroleum-based sealers.

(4) 10% of the time is spent in tearing out old insulation prior to re-application.

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Ser 1524

(5) 5% of the time is spent in blending varying combinations of cements in buckets, troughs or in automatic mixing machines.

(6) General work, occupying 5% of the time, comprises cleaning up of old insulation, transporting material and moving equipment.

d. In an attempt to improve the insulation program of the Navy, NAVSECPHILADIV, by reference (a), was directed to participate in a survey of the shipyards and the insulation manufacturers so that action can be taken to minimize the health hazards to which insulation workers are exposed. Fulfilling the schedule proposed by reference (b), this activity has completed the suggested study of the practices of shipyards and shipyard insulation workers. Findings of this study are presented herein.

2. Shipyard Survey

a. Letter inquiries addressed to the Naval Shipyards resulted in 100% response, whereas those addressed to private shipyards failed to elicit replies from Newport News Shipbuilding and Drydock Co., and Ingalls Shipbuilding Corp. However, General Dynamics, Lockheed Shipbuilding and Bath Iron Works responded to our inquiry. Follow-up personal visits were made to representative Naval and private shipyards on the East and West Coasts and reports of visits to their installations have been submitted to NAVSEC by references (c) through (f). Discussion meetings were held with medical directors, industrial hygienists, safety managers, value analysis engineers and pipe-coverer shop foremen. In every instance, it was noted that shipyard personnel management is aware of the hazards attending the use of asbestos insulating materials but does not exercise an equal degree of care in their elimination. Worker organizations have been instrumental in securing some improvements but their chief interest is in securing "dirty" or "hazard" money for handling these materials. Shipyard safety bulletins to guide the practices of shop workers have been issued at every Navy installation, although not all of the workers abide by them. However, the workers do submit to semi-annual chest x-rays. The interpretation of the x-ray plates should not be considered lightly since variations in the technique of taking the film may result in disclosing a greater incidence of asbestosis than heretofore realized. BUMED should be consulted in this regard.

Chief Master-at-Arms (CMA) /
Asst. Chief Master-at-Arms (ACMA) /
B-111, #2

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d. A study of insulating materials used by the shipyards revealed a wide range of materials including asbestos, rock wool, cork, elastomeric foam, fibrous glass, cellular glass, calcium silicate, magnesia, diatomaceous earth, cotton and cementous agents. The handling practices of these materials by the pipe coverer-insulator varied considerably and in many cases, the worker was his own chief enemy. He failed to wear coveralls, respirators, goggles, gloves and use protective skin creams and curtail smoking habits (a practice which is known to increase the incidence of asbestosis). Work practices were observed. One innovation initiated at one of the shipyards was the mixing of asbestos cement with water under cover of a closed polyethylene bag to eliminate dusting. All of the shipyards which use amosite asbestos blankets wet them down and enclose them in polyethylene bags prior to transportation to the application site and then rewet them with a fine water spray as they are being reopened for use.

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e. Shipboard practices on the handling of asbestos-containing materials occasionally showed failure to isolate working areas, improper ventilation, dusting due to emptying cement bags, failure to wet down insulation preliminary to ripout and disposal in polyethylene bags, and failure to wear coveralls and properly equipped and approved respirators. Dust counting on board ship during dry ripout operation of amosite revealed a total dust count as high as 24 million parts per cubic foot (mppcf). The present accepted maximum limit for asbestos dust is 2 mppcf for an 8-hour working day.

f. In the observations made of the visited shipyards, reported on by references (c) through (f), it was indicated that in the fabrication shops, portable covers for flange joints and irregular surfaces are prepared from grade AA asbestos cloth (SS-C-446) and contain a fiber glass fill conforming to MIL-I-16411, type II. As a replacement for the asbestos cloth, one shipyard is satisfactorily using 100% fiber glass lagging, manufactured by J. P. Stevens, Co. (MIL-C-20079, type I). Aboard the visited ships at these installations, the following practices were observed, as previously reported:

(1) Ventilation ducts were insulated with unfaced fibrous glass board (MIL-I-742) and covered with rewettable asbestos cloth. Fibrous glass cloth (MIL-C-20079, type I) adhered with MIL-A-3716, class 1, has been used as a suitable replacement for the asbestos lagging cloth.

(2) Boiler steam drums, main steam flanges, deaerating feed tanks, water heaters and main propulsion turbines are insulated with asbestos felt (amosite) MIL-I-15091, type A, plain. To eliminate this material for this use, calcium silicate insulating blocks (MIL-I-2819, class 2) have been satisfactorily used for applications up to 1000 F. They are applied as two, 2-inch thicknesses covered by 1-inch open mesh wire and coated with magnesia cement (SS-C-160, type I) or mineral wool cement (SS-C-160, type III, grade f) and finally lagged with fiber glass cloth (MIL-C-20079, type I).

(3) For insulating hot piping up to 1200 F molded or preformed fibrous asbestos sections (MIL-I-2781, grade III, class f) have been replaced in some instances by calcium silicate (molded) sections (MIL-I-2781, grade III, class e).

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Ser 1584

(4) For stress relieving procedures on welded pipe joints and shafts: Johns-Manville, Carafelt, refractory fiber felt (MIL-I-23128, grade B), is being used to replace amosite asbestos felt (MIL-I-15091, type A, plain). The temperature of the encased heating element in these applications ranges up to 2300 F.

(5) Where elastomeric foam is used as antisweat insulation on fire mains, and cold piping, a covering of 3 inch wide fibrous glass tape or cloth (MIL-C-20079, type I and III) may be used for sailer-proofing in place of asbestos cloth or painting, where abuse is a problem.

(6) Wherever asbestos cement (MIL-C-2908A, type I) has previously been utilized, replacement may be effected by the use of mineral wool cement (SS-C-160, type III, grade f).

(7) Asbestos millboard (MIL-M-351); a highly dust producing material during sawing operations, may be eliminated in the manufacture of removable covers by replacing with fiber glass felt (MIL-I-16411, type II).

3. Industry Survey

a. Letters of inquiry addressed to some 20 manufacturers and vendors of thermal insulation were followed by personal visits from company technical representatives, including directors of research and development and company officials. The response included submission of letters, catalogs, samples, field demonstrations, and, in one instance, a letter from one manufacturer's representative cautioning the Navy against legislating the asbestos business out of existence. In the main, however, helpful letters describing new materials and new uses for old materials were received. Information reported by these letters indicated that some consideration is given to the workers' safety by conducting particulate counting, by furnishing exhaust ventilation, by wetting down the ingredients and by automating the production line from processing the raw material to packaging the finished product. Moreover, one large insulation manufacturer has contributed a substantial grant to the Insulation Industry Hygiene Research Program which is concerned with the hazards of asbestos and how to overcome them. However, no industrial plants were visited to observe their manufacturing procedures, safety precautions exercised, worker habits or packaging and other pertinent sequences of producing thermal insulating materials.

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b. The National Insulation Manufacturing Association through its executive secretary has issued pamphlets describing recommended health safety practices for handling and applying thermal insulation products containing asbestos and mineral fibers. Additionally, application practices for spraying asbestos fibers have been issued by the executive secretary of the Sprayed Mineral Fiber Manufacturers' Association. Adequate ventilation, wetting, vacuum cleaning of dust and the wearing of Bureau of Mines-approved respirators are emphasized during ripout and application procedures. The associations advocate both isolating the working area in order to prevent excessive dust contamination in adjacent areas and permitting only workmen engaged in ripout operations to be allowed in the work location. In every case, unnecessary handling of scrap or permitting scrap to lie around unprotected should be prohibited. The recommendations advocated by industry generally have been adopted by the Naval and private shipyards.

c. Several responses from insulation manufacturers have indicated that new materials are being developed for the replacement of asbestos for thermal insulation. When these products become available, they should be subjected to Industrial Hygiene studies prior to adoption, especially if the new materials contain volatile solvents. In addition, these materials should be critically evaluated with respect to the following:

- (1) Shipping, movement and storage properties (weight allowance).
- (2) Ease of removal and reapplication whenever necessary.
- (3) Dusting tendencies (especially if used in radioactive applications).
- (4) Combustibility (flash point, fire point, smoke density, smoke toxicity, fuel contributed).
- (5) Safety requirements (dead load wear, impact or mechanical damage, forces of expansion and contraction, vibration).
- (6) Compatibility with metal to which it is applied (resistance to atmosphere, spillage).
- (7) Thermal conductivity at use temperature.

Current asbestos map Code 83, Asbestos Cores /
Axes, Pipe to 1440 to 1971, Box 111, #2

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d. As a result of our inquiries, industry has offered information on the following materials and their current prices for evaluation as alternatives for minimizing the hazard attending the use of asbestos:

(1) Fiber glass felt, MIL-I-16411, type II with a service temperature up to 1200 F is supplied by Pittsburgh Corning, (Temp-Mat), Eastern Refractory Inc. (Erco-Mat 1300) and Owens-Corning (W-1200-6). The approximate cost is sixty-five cents a square foot for a one inch thickness.

(2) Calcium silicate pipe insulation, MIL-I-2781, grade I, class b; grade II, class d and grade III, class e, with a service temperature up to 1200 F is supplied by Pabco Industrial Products Division (Caltemp), Owens-Corning (Kaylo), Johns-Manville (Thermobestos), GAF Corp. (Celsilite) and Keene Industrial Insulation (Thermasil). The cost of 1 1/2" NPS x 1" thick, grade I, class b is seventy-five cents a foot; grade II, class d is \$1.20 a foot and grade III, class e is \$1.10 a foot.

(3) Fiber glass cloth with a service temperature of 1000 F is supplied by J. P. Stevens Co. as style #1925 at \$2.50 per square yard and style #84205 at \$1.32 per square yard. These materials can be incorporated in MIL-C-20079, type I by raising the maximum weight requirements per square yard.

(4) Calcium silicate block insulation, MIL-I-2819, classes 1 and 2 with a service temperature up to 1000 F is supplied by Pabco Industrial Products Division (Caltemp), Johns-Manville (Thermobestos), Owens-Corning (Kaylo) and Keene Industrial Insulation (Thermasil). The cost of a 1" thickness is fifteen cents a square foot and of a 2" thickness is twenty-eight cents a square foot.

(5) Asbestos cloth, lint free, is supplied by Nicolet Industries Inc., manufactured with Nicolon and Nicofil yarns. Cost is not known.

(6) Asbestos felt, lint free, with a service temperature of 850 F is supplied by H. K. Porter Co., Inc. (Knitted Amosite).

(7) Foam plastic, elastomeric, pipe insulation, MIL-R-15280, forms T and S with a service temperature of 180 F is supplied by Johns-Manville (Aerotube), Keene Industrial Insulation (Mono-flex), Armstrong Cork (Armo-flex) and Owens-Corning (O-C Flexible Tubing and Sheeting). A 1 1/2" NPS x 3/4" thickness is thirty-seven cents a foot and eighty-seven cents a square foot for sheeting 3/4" thick.

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(8) Refractory fiber, MIL-I-23128, grade B with a service temperature up to 2000 F is supplied by Johns-Manville (Cerafelt). Cost is not known.

(9) Fiber glass tape, MIL-C-20079, type II, class 3 is supplied by Reef Industries Inc., and Carolina Marrow Fabric Co. (Sea-Lag Form-I-Glass Tape) at \$1.35 a square yard.

(10) Asbestos cloth, a rewettable lagging cloth, is supplied by H. K. Porter Co., Inc. (RWL-100 Lagging Cloth) and Raybestos-Manhattan Inc. (R/M Speedlag Cloth) at \$2.50 a square yard.

(11) Cement, finishing, mineral wool, SS-C-160, type III, class f with a service temperature of 1200 F is supplied by Eagle Picher Industries Inc. (One-Coat and Rylo Cement), Keene Industrial Insulation (Super Power-house), Forty-Eight Insulation Inc. (48 Quick Set Cement) and Pabco Industrial Products Division (Finishing Insulating One-Coat Cement). Approximate cost is \$4.50/50 lb bag.

(12) Fibrous glass, pipe insulation, MIL-I-22344, with a service temperature of 370 F is supplied by Johns-Manville (Micro-Lok), Owens Industrial Insulation (Mono-Kover), Owens-Corning (Fiberglas Pipe Insulation) and Certain-Teed Products Corp. (Snap-On). A 1½" NPS x 1" thickness costs \$1.17 a foot.

a. Naval and private shipyards as well as insulation suppliers are well aware of the serious hazards attending the use of asbestos. Nevertheless, considerable asbestos-containing insulation material currently is being used in Naval applications and stringent handling precautions are not being enforced in all instances.

b. In the course of performing surveys of shipyards and insulation suppliers, NAVSECPHILADIV uncovered ample information to lead this activity to believe that the use of high-asbestos-containing thermal insulating materials should be curtailed due to hazards to the health of insulation workers. However, inasmuch as the Medical phase for the overall asbestos study was assigned to BUMED by reference (a), BUMED should be consulted for more definitive solutions to the medical aspects of this problem.

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Ser 1584

c. The results of the NAVSECPHILADIV survey indicates that suitable alternate insulation materials presently are available with decreased health hazards attending their use.

5. Recommendations

Based on the finding of this survey and in order to minimize health hazards attending the use of Naval insulation, the following action is recommended:

a. NAVSEC/NAVSHIPS issue an interim instruction to all concerned activities to replace all current utilization of high-asbestos-containing materials with alternate materials in the following applications:

(1) Discontinue the use of amosite asbestos insulation felt (MIL-I-15091, type A, plain) for stress relieving and as a filler in the manufacture of removable covers. Substitute calcium silicate block insulation (MIL-I-2819, classes 1 and 2) or Cerafelt, a refractory insulation felt, conforming to MIL-I-23128, grade B for stress relieving applications. Substitute fiber glass felt (MIL-I-16411, type II) for amosite felt in the manufacture of removable covers.

(2) Discontinue the use of water repellant asbestos felt (MIL-I-15091, type B) as an antisweat insulation for cold and chilled water service, and substitute foam plastic (MIL-P-15280, forms T and S) in its place.

(3) Discontinue the use of preformed fibrous piping insulation (MIL-I-2781, grade II, class c and grade III, class f) and substitute calcium silicate (MIL-I-2781, grade I, class b, grade II, class d, or grade III, class e) depending upon temperature requirements.

(4) Discontinue the use of asbestos cloth (SS-C-466, form I, grades U. G., AA and AAA) for lagging purposes. A satisfactory substitute is fiber glass fabric such as #84205, presently available from the J. P. Stevens Co., Inc., and which can be incorporated into MIL-C-20079 by raising the weight requirements.

(5) Discontinue the use of asbestos cloth (SS-C-466, form I, grades U. G., AA and AAA) for the manufacturing removal cover. Fiber glass fabric such as #1925, manufactured by J. P. Stevens Co., Inc., is satisfactory for this use and can be incorporated in MIL-C-20079, with an appropriate weight adjustment. A limited use of grade AAA-M asbestos cloth as an inner surface of removable covers for rigidity of interference

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Ser 1584

cutouts may be permitted until glass cloth can be adapted for this purpose.

(6) Discontinue the use of thermal tape (MIL-I-15349) for hot piping up to 3/4 inch NPS and replace with fiber glass cloth, such as #1925 of J. P. Stevens Co., Inc., cover and a filler of fiber glass rovings (MIL-I-16411, type I).

(7) Discontinue the use of asbestos finishing cement (MIL-C-2903, types I and II) and replace with mineral wool finishing cement (SS-C-160, type III, grade f).

(8) Discontinue the use of asbestos millboard (HM-M-351) in the manufacture of removable covers by replacing with fiber glass felt (MIL-I-16411, type II).

b. Revise NAVSHIPS Technical Manual Chapter 9390, Thermal insulation and MIL-STD-769C, references (g) and (h) to reflect the following:

(1) Delete prohibited materials.

(2) Incorporate additional functions of presently available specification materials.

(3) Detail methods of handling and disposing of used insulating materials.

(4) Describe the stress relieving procedure for welded pipe joints and shafting depending upon the use of a resistance or induction coil and the insulating materials required in each instance.

(5) List a realistic tabulation encompassing the quantity of insulation and the degree of protection afforded by different thicknesses of the various insulating materials.

c. Promulgate and strictly enforce comprehensive safety regulations and required housekeeping practices in shops and ships with respect to all phases of handling insulation materials. In this regard, the wide

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Ser 1584

adoption of a self contained battery operated respirator should be considered during ripout operations of asbestos insulation. A Stryker Cast Cutter will minimize dusting during this shipboard ripout procedure.

4. Critically evaluate new materials as they become available for the replacement of asbestos for thermal insulation.

J. W. MURDOCK
By direction

Copy to:
NAVSEC 6101C(20)

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6712, 6720,
6723, 6760,
6764(8)

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Ser 104

RECORD OF ORAL OR TELEPHONIC CONVERSATION

PROJECT NO: FA-287 DATE: 14 Jan 1971 TIME: 0940
MEDIUM OF COMMUNICATION: Telephone
CONVERSATION INITIATED BY: Mr. S. Greenberg, 6764
WITH: Mr. L. S. Birnbaum, NAVSEC 6101C
REF: (a) Survey of Hazards of Asbestos; final report of NAVSECPHILADIV
Project FA-287 of 24 Sep 1969
PURPOSE: To request permission to release a copy of reference (a) to
NAVSHIPYD PHILA

RESUME OF POINTS DISCUSSED AND CONCLUSIONS REACHED:

1. I informed Mr. Birnbaum that the Philadelphia Naval Shipyard, Code 260, is currently investigating problems related to pipe cover and insulation and feels that reference (a) would be helpful in this investigation.
2. Because reference (a) had restricted distribution, I requested official guidance for release of this document.
3. Mr. Birnbaum replied that although reference (a) has limited distribution, permission for release of reference (a) to NAVSHIPYD PHILA is granted. However, he advised me to alert NAVSHIPYD PHILA that the document is for Official Use Only and shall not be released, nor duplicated, outside the Navy without prior approval of NAVSEC 6101C.
4. I replied I would follow his suggestion. I also indicated that I would furnish him with a copy of our FONECON.

S. Greenberg
S. GREENBERG
Head, Chemistry Branch

Copy to:
6760
6764(4)

Enclosure (1)

100-11540-1171 Box III, #2

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MEMORANDUM ①

THE INGALLS SHIPBUILDING DIVISION  LITTON SYSTEMS, INC.

TO: Mike Bryan DATE: 5/17/69
Safety Division
FROM: _____ PHONE: _____

SUBJECT: _____

Attached is the letter on
asbestos which I spoke to you
about. May I assume that
you will handle reply? Ed Powell
and I will be happy to help with
whatever information you need
from Works or QA Division.





MOUNT SINAI SCHOOL OF MEDICINE
of The City University of New York
FIFTH AVENUE AND 100TH STREET NEW YORK, NY 10029



Department of Community Medicine

August 20, 1969

Mr. J. M. Bryon, Mgr. of Safety
Ingalls Ship Yards
P. O. Box 149
Pascagoula, Miss. 39567

Dear Mr. Bryon,

Thank you for escorting us through the yards and visiting with us. I am sure you are aware of the magnitude of the problem of health hazards in the insulation industry. Any work towards solving this problem must involve the wholehearted cooperation of the manufacturer, the contractor, and the labor groups.

I have added your name to our mailing list for our bi-monthly Newsletter.

Very truly yours,

A handwritten signature in cursive script that reads 'William B. Reitze'.

William B. Reitze
Insulation Industry
Hygiene Research Program

WBR:s1

THE INGALLS SHIPBUILDING DIVISION LITTON SYSTEMS, INC.

DATE: September 12, 1960
TO: Mr. Floyd Schultz FROM: Safety Department PHONE: 634
SUBJECT: Survey of Insulation Materials and Other Materials Containing Asbestos. CC: Mr. M. A. Weeks

The subject survey was conducted during the month of June, 1960, by Mr. J. W. Webb (Senior Safety Representative). Mr. Webb contacted many users of insulation and asbestos containing materials found in the shipyard. Attached is his report.

In addition, we have included the following information:

- (1) That a survey for asbestos dust exposure was conducted by the Ind. Hygienist employed by our comp carrier and results were favorable in all but two locations. (See Attached)
- (2) That our Medical and Compensation Department reported they have "no known treatment or payment of cases diagnosed as those caused by asbestos dust.
- (3) That safety regulations concerning threshold limit values as imposed by the yard and the law are enforced. Most safety and health regulations in effect deal with ventilation and personal protective equipment required generally rather than to a specific hazard.
- (4) That the yard makes available respirators (Bureau of Mines approved only) for all type operations.
- (5) That most insulation work involving asbestos materials is performed by sub-contractors. In addition, the material used is usually required by government specification.
- (6) That few, if any, written instructions are available concerning shop and ship practices for insulation workers.

Recommendations: (Based upon theory of asbestos dust as a harmful product)

- (A) That asbestos insulation work be performed at such a time as to minimize exposure to personnel in the adjacent areas. (2nd and 3rd Shift)
- (B) That wet processes be adopted where feasible.

Memo to Mr. Floyd Schultz
Page 2

- (C) That specifications concerning insulation materials be made flexible enough to allow non-asbestos substitutes.
- (D) That heavy cutting of asbestos materials be performed in well ventilated areas.
- (E) That all employees working with asbestos materials and those in the immediate area be required to wear the proved type respirator.

G. M. Bryen
Manager of Safety

GMB/law

0024 1081

AMERICAN MUTUAL LIABILITY INSURANCE COMPANY

Policyholder Report

3801 N. Causeway Blvd.

P. O. Box 7140

Metairie, Louisiana 70002

Mr. Allen Bryan

Facilities Subcontracting Corporation

P. O. Box 149

Bossier, Louisiana

March 5, 1969

Date

Mr. Bryan

Person Contacted

Purpose of Visit: To conduct a survey of the shipyard for asbestos exposure. Visit

conducted on January 21 and 22, 1969.

A Mine Safety Appliances Company air sampler and millipore filters were used

to obtain air samples for dust analysis.

The results of the analysis may be seen on the attached Air Analysis Table.

The threshold limit value for asbestos dust established by the American

Conference of Governmental Industrial Hygienists is 5 million particles per

cubic foot of air.

The only operation which approached this figure under the conditions at the

time of this visit was applying insulation to boilers in the engine room,

upper level, center, of Hall 1157 (Sample #BM 16). All other samples were

below the threshold limit value.

RECOMMENDATION

Respiratory protection should be provided for the operation of applying

insulation to boilers. If this is not possible, all persons in this operation

should wear dust respirators approved by the United States Bureau of Mines.

All other persons in the same compartment should wear similar respirators,

or else other operations should be discontinued while asbestos insulation is

Report by

Location

Neither the visit of our representative under the terms of our policy nor the making of this report constitutes an undertaking to determine or warrant that your premises or operations are safe.

AMERICAN MUTUAL LIABILITY INSURANCE COMPANY
SUPPLEMENTARY SHEET — ENGINEERING REPORT

Sheet No. 2

INSURED Ingalls Shipbuilding Corporation Date
LOCATION Pascagoula, Mississippi

being applied to boilers.

The courtesies extended during my visit are appreciated.

S. W. Foote

S. W. Foote
Industrial Hygienist - Atlanta, Ga.

bvk

cc: Mr. Bud Polham
Ingalls Shipbuilding Corporation
P. O. Box 149
Pascagoula, Mississippi

Mr. John Weckler
Ingalls Shipbuilding Corporation
P. O. Box 149
Pascagoula, Mississippi

DATE March 5, 1969 *PR*

PLANT Ingalls Shipbuilding Corporation

LOCATION Pascagoula, Mississippi

AIR ANALYSIS TABLE

Sample No.	Time Min.	Location and Events	Concentration		
			(A)	(B)	(C)
DL 37	10	Warehouse #1, Receiving area, stores receiving work leaderman desk, asbestos received and shipped out.			0.6
EX 70	10	Warehouse #2, No asbestos used. Bailey Insulation Company			1.2
DL 38	10	Center of valders school. Asbestos curtains used.			0.9
DL 36	10	Outside, southeast corner of Navy Plate racks.			0.3
EX 73	10	Center of Fabrication Shop.			0.6
EX 42	10	Workers exposure applying asbestos insulation to smoke stacks at north end of #5 Platen (Bodham Insulating Company)			1.2
DL 34	10	Center of Sheet Metal Shop.			1.2
DL 35	10	South end of Warehouse #4. Asbestos stored and occasionally cut and issued.			2.2
EX 39	10	Lead shop. Occasionally lead is wrapped with asbestos.			0.6
EX 69	10	West end of machine shop. Occasionally bushings are wrapped with asbestos.			0.3
DH 189	10	Building S-24. Asbestos cloth occasionally cut.			0.9

Threshold Limit Value

A—Milligrams per Cubic Meter

B—Parts per Million

C—Million Particles per Cubic Foot

PLANT Ingalls Shipbuilding Corporation LOCATION Pascagoula, Mississippi

AIR ANALYSIS TABLE

Sample No.	Time Mins.	Location and Events	Concentration		
			(A)	(B)	(C)
BH 23	10	Center of Electrical Shop. Asbestos blankets sometimes used.			0.3
BH 19	10	Pipe Shop Store Room. Asbestos flame guards are occasionally cut and pipes wrapped.			0.6
BH 63	10	South end of Building 12A. Shook and Fletcher, Insulation Pads Fabricated, Not in operation during time of testing.			0.3
BH 17	10	Riggers loft, asbestos panels fabricated.			1.2
BH 16	10	Hull #1157, Engine room, upper level, center. Asbestos insulation being applied to boilers.			5.0
BH 23	10	At table saw in Warehouse #6, Hopeman Brothers, Marinite occasionally sawed.			1.2

Threshold Limit Value
A—Milligrams per Cubic Meter
B—Parts per Million
C—Inhalation Particles per Cubic Foot

AMERICAN MUTUAL LIABILITY INSURANCE CO.

PURCHASE ORDER
THE INGALLS SHIPBUILDING CORPORATION
 A DIVISION OF LITTON INDUSTRIES
 P.O. BOX 900
 PASCAGOULA, MISSISSIPPI 39567

PURCHASE ORDER 10024-1057 9-5303
 REQUISITION #20,002
 AWARD DATE: 1-30-69 PAGE 1 OF 5 PAGES

BADHAM INSULATION COMPANY
 P.O. BOX 1345
 PASCAGOULA, MISS. 39567

ISSUE DATE: 1-30-69
SHIPPING INSTRUCTIONS
 SHIP ALL MATERIAL TO US AT: WHESE NO. 1A,
 PASCAGOULA, MISSISSIPPI 39567
MARK FOR:
 MAIL ALL CORRESPONDENCE, PLANS, LISTS, INSTRUCTION MANUALS,
 REPORTS, ETC. TO OUR PURCHASING DEPARTMENT
 P.O. BOX 900, PASCAGOULA, MISSISSIPPI 39567

SHIP NO. 200193		SS	
SPEC. HEREIN SPECIFIED FOR USE ON:		U.S. NAVY VESSELS ☐ U.S. MARINE VESSELS ☐	
NAMES HULL NOS.		NAVY HULL NOS.	
TERMS: Net 30 days		APPROPRIATION NO.	
MANUFACTURED AT/SHIPPED FROM		NAVY CONTRACT	
Pascagoula, Miss.		P.O.B. Our Yard	
SHIPMENT REQUESTED: As Required.		SHIPMENT PROMISED: As Required	
QUANTITY		UNIT PRICE	
UNIT		AMOUNT	
DESCRIPTION		QUANTITY	

TERM ORDER

ASBESTOS CLOTH

This order is entered into to become effective on the 30th day of January, 1969, and it shall remain in effect until the 30th day of January, 1970, unless terminated or canceled in accordance with the other provisions of this order providing for earlier termination of cancellation.

MINIMUM TO BE SUPPLIED

The Buyer hereby agrees to purchase from the Seller during the term of this Order at least 11% of the quantity of each of the items set forth under Requirements, and the seller agrees to sell to the buyer the minimum quantity and any additional quantity ordered by the buyer up to the total estimated quantity set forth for each item hereof.

REQUIREMENTS

2	22,039	Sq.Yds.	40" wide Commerical grade asbestos cloth, American Asbestos Textile Corp. "LAGRITE" (B37-356038) (2.39 lb. per sq. yd.)	\$1.778/ Sq.Yd.	\$39,274.24	11-101
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THE INGALLS SHIPBUILDING CORPORATION WILL DO BUSINESS WITH THE SELLER ONLY IN ACCORDANCE WITH THE ATTACHED TERMS AND CONDITIONS FORM NO. R-161 AND THE OTHER TERMS AND CONDITIONS OF THIS ORDER. ANY DIFFERENT OR ADDITIONAL TERMS IN YOUR ACCEPTANCE OF THIS OFFER ARE HEREBY OBJECTED TO. THIS ORDER SHALL BE GOVERNED BY THE LAWS OF THE STATE OF MISSISSIPPI.

SEE PAGE 5 OF P.O.

INVOICES, WAYBILLS, BILLS OF LADING, PACKING LISTS AND PACKAGES, MUST SHOW PURCHASE ORDER, ITEM NUMBER, PLAN AND PIECE NUMBER. THIS IDENTIFICATION IS ESSENTIAL. SHIP MOST ECONOMICAL WAY, UNLESS OTHERWISE SPECIFIED.

MIT INVOICE IN 6 COPIES:
 ATTENTION ACCOUNTS PAYABLE

SHIP VIA: VENDOR'S TRUCK
 BASE DATE: 8-68

THE INGALLS SHIPBUILDING DIVISION
LITTON SYSTEMS, INC.

J. B. CARROLL, PURCHASING MANAGER

DGM/bm (3)

FOR PURCHASING DEPARTMENT

ALL CODE NUMBERS APPEARING ON THIS ORDER ARE OF NO SIGNIFICANCE TO THE VENDOR AND ARE FOR

THE INGALLS SHIPBUILDING CORPORATION
PURCHASE ORDER CONTINUATION SHEET

PAGE 2 OF 5

ORDER NO. 9-5803

TO: **BADHAM INSULATION CO.**

DATE 1/30/69

ITEM NO.	QUANTITY	UNIT	DESCRIPTION	UNIT PRICE	AMOUNT	ACCOUNT
2	5,550	SQ.YL	3. 40" wide Commercial grade Asbestos cloth, lint free, flameproofed, American Textile Corp. "LAGRITE" (2.39 lbs. per sq.yd.) B37-280499). It is agreed the Seller will maintain in his inventory for delivery within 10 days, 11% of the quantity shown for items 2 and 3. DELIVERY REQUEST Buyer will order from time to time during the term of this Order its requirements for the items set forth, and is obligated to order at least the minimum quantity of each item. Orders will be made for the items by delivery to the Seller of "Delivery Requests," Ingalls Form S-035. The Seller shall delivery supplies only pursuant to delivery requests, and such delivery requests may be authorized only by the following authorized personnel whose signatures are set forth below: INVENTORY CONTROL DEPARTMENT C/C 434 <i>John K. Sapp</i> John K. Sapp, Manager Inventory Control <i>R. L. Dale</i> R. L. Dale, Supervisor Inventory Control <i>O. P. St. Amant</i> O. P. St. Amant, Supervisor Data Control Shipping documents will specify this P.O. number and the delivery request number. SHIPMENTS All items, in the quantity specified on each delivery request, must be shipped complete, in a single shipment. Partial shipments may be rejected by the buyer and back orders will not be permitted. Failure of the seller to have available quantities to meet the delivery requests within the time set forth for each item will be sufficient cause for cancellation of this Order for default in accordance with the general terms and conditions attached to and made a part of this Order. Seller shall not be obligated to deliver in excess of the minimum quantity set forth under requirements	\$1.860/Sq.Yd.	\$10,323.00	

PURCHASE ORDER
THE INGALLS SHIPBUILDING CORPORATION
 A DIVISION OF LITTON INDUSTRIES
 P.O. BOX 900
 PASCAGOULA, MISSISSIPPI 39567

PURCHASE ORDER (002) 1052 **9-5809**
REQUISITION #20,003
AWARD DATE: 2-13-69 **PAGE 1 OF 5 PAGES**
ISSUE DATE: 2-13-69
SHIPPING INSTRUCTIONS
 SHIP ALL HARDWARE TO US AT: WHSE NO. 1A,
 PASCAGOULA, MISSISSIPPI 39567
MARK FOR:
 MAIL ALL CORRESPONDENCE, PLANS, LISTS, INSTRUCTION MANUALS,
 REPORTS, ETC. TO OUR PURCHASING DEPARTMENT:
 P.O. BOX 900, PASCAGOULA, MISSISSIPPI 39567

SHOOK & FLETCHER INSULATION CO.
 P.O. BOX 623
 PASCAGOULA, MISS. 39567

ORDER NO. 201425

58

MATERIAL HEREIN SPECIFIED FOR USE ON

U.S. NAVY VESSELS ☐

U.S. MARITIME VESSELS ☐

INGALLS HULL NOS.

NAVY HULL NOS.

U.S. MARITIME VESSELS
 REGISTRATION NO. 1 AS

ITEMS 23 10th PROX.

APPROPRIATION NO.

U.S. CONTROLLED MATERIAL:

MANUFACTURED AT/SHIPPED FROM

NAVY CONTRACT

CCOE QTR.

PASCAGOULA, MISS.

P.O.D.

OUR YARD

QUANTITY:

SHIPMENT REQUESTED: AS REQUIRED.

SHIPMENT PROMISED: AS REQUIRED.

ITEMS NO.

ITEM NO.	QUANTITY	UNIT	DESCRIPTION	UNIT PRICE	AMOUNT	ACCT. NO.
			TERM ORDER			
			ASBESTOS CLOTH			11-101
			This Order is entered into to become effective on the 13th day of February, 1969, and it shall remain in effect until the 13th day of February, 1970, unless terminated or canceled in accordance with the other provisions of this order providing for earlier termination of cancellation.			
			MINIMUM TO BE SUPPLIED			
			The Buyer hereby agrees to purchase from the Seller during the term of this Order at least 10% of the quantity of each of the items set forth under Requirements, and the seller agrees to sell to the buyer the minimum quantity and any additional quantity ordered by the buyer up to the total estimated quantity set forth for each item hereof.			
			REQUIREMENTS			
1	17,000	Sq. Yds.	36" wide Asbestos Cloth, light green, water-proof, moisture proof, fireproof, lint free, dust free. (Approx. 100 lin. yds. per roll) Flameguard 6374. (537-305870)	\$5.85/Sq.Yd.	\$99,450.00	

THE INGALLS SHIPBUILDING CORPORATION WILL DO BUSINESS WITH THE SELLER ONLY IN ACCORDANCE WITH THE ATTACHED TERMS AND CONDITIONS FORM NO. R-161 AND THE OTHER TERMS AND CONDITIONS OF THIS ORDER. ANY DIFFERENT OR ADDITIONAL TERMS IN YOUR ACCEPTANCE OF THIS OFFER ARE HEREBY OBJECTED TO. THIS ORDER SHALL BE GOVERNED BY THE LAWS OF THE STATE OF MISSISSIPPI.

TYPE OF INSPECTION REQUIRED

SEE PAGE 5 OF P.O.

RECEIPT INSP

RC

INVOICES, WAYBILLS, BILLS OF LADING, PACKING LISTS AND PACKAGES, MUST SHOW PURCHASE ORDER, ITEM NUMBER, PLAN AND PIECE NUMBER. THIS IDENTIFICATION IS ESSENTIAL. SHIP MOST ECONOMICAL WAY, UNLESS OTHERWISE SPECIFIED.

3 MIT INVOICE IN 6 COPIES:
 ATTENTION ACCOUNTS PAYABLE.

SHIP VIA: VENDOR'S TRUCK.

BASE DATE: 8-69

THE INGALLS SHIPBUILDING DIVISION
LITTON SYSTEMS, INC.

J. B. CARROLL, PURCHASING MANAGER

DGH/bm (5)

FOR PURCHASING DEPARTMENT

INGALLS MATERIAL CODE NUMBERS APPEARING ON THIS ORDER ARE OF NO SIGNIFICANCE TO THE VENDOR AND ARE FOR

SA

THE INGALLS SHIPBUILDING CORPORATION
A Division of Litton Industries, Inc.
Pascagoula, Mississippi

SPECIFICATIONS COVERING THE CONSTRUCTION OF
34,000 DWT Tanker
For Falcon Carriers, Inc.

~~_____~~
~~_____~~

Prepared by:
Marine Consultants & Designers, Inc.
308 Investment Insurance Building
Cleveland, Ohio 44114

August 16, 1968
Y959

SECTION 75

MACHINERY AND PIPING, INSULATION AND LAGGING

1. GENERAL
2. INSULATING MATERIALS
3. LAGGING MATERIALS
4. THICKNESS TABLES
5. APPLICATION
6. PAINTING

SECTION 75MACHINERY AND PIPING, INSULATION AND LAGGING1. GENERAL

This section shall contain the general requirements for insulation of all applicable piping, piping appurtenances and machinery.

All surfaces having normal operating temperatures above 125°F and which are liable to be injurious to the operating or other personnel, and all cold water lines, below 55°F and subject to sweating shall be insulated where applicable with materials as described hereafter.

Where surface temperatures are normally between 125°F and 150°F, and the omission of insulation will not adversely affect operational efficiency, non metallic lagging only may be applied where necessary to protect personnel from contact with hot metal surfaces.

Insulated and fabric-lagged surface temperatures shall not exceed 150°F; metal or metallic type lagging surface temperatures shall not exceed 125°F when in areas susceptible to personnel contact.

Surfaces excluded from these requirements are:

- (a) 125°F and higher piping in bilges not within water tight enclosures.
- (b) Piping in locations where sweating is not objectionable.
- (c) Pressure gauge piping.
- (d) Steam traps and their inlet lines back 24" from traps.

Pipe hangers and supports for piping with internal temperatures of 300°F and above shall be insulated from the steel structure to which they are attached where the heat transmitted may be objectionable on the other side of the structure.

Insulation shall be furnished in form of sectional pipe covering, segmented form, block or cement, as required. Where applied to curved surfaces, block insulation shall be of curved form.

All insulation and lagging materials shall be in accordance with the requirements of various Military, Federal, and Marad specifications.

Refrigerating supply piping ahead of expansion valve need not be insulated where ambient temperature is less than 120°F, except where dripping or damage may cause damage or discomfort.

All cold water piping and equipment, such as fresh water, sanitary, fire system and soil pipes, etc., shall be insulated and lagged (as required) with anti-sweat type insulation where damage or discomfort may result from condensation dripping.

2. INSULATING MATERIALS

Low temperature insulation material shall be fitted where the temperature is between -30°F and +125°F and shall be of anti-sweat asbestos felt, fibrous glass, rigid, or equal type of first quality material. The material shall be treated with a suitable water repellent agent, woven together in such a manner as to provide a compact flexible strip.

Medium temperature insulation material shall be applied where the temperature is between 126°F and 1200°F and shall be of asbestos, fibrous glass, Thermobestos, or equal type first quality material capable of withstanding a continuous temperature of 1200°F without cracking, crumbling, or other deterioration.

3. LAGGING MATERIALS

Insulating materials shall be covered by lagging as a protective and confining covering. Lagging shall be of asbestos cloth, brattice cloth, fibrous glass cloth, aluminum, sheet steel galvanized or canvas.

Finishing and insulation cements, adhesives, coating compounds, etc. shall be applied where required for filling crevices, smoothing surfaces, joining ends, etc.

4. THICKNESS TABLES

a) Low Temperature Piping Insulation (-30°F to +125°F)

All piping having a normal internal design temperature between -30°F and +125°F shall be insulated to the suggested minimum thickness indicated in the following table.

<u>Thickness (inches) of Piping Insulation</u>			
<u>Temperature Range</u>	<u>Pipes 1/4" to 4-1/2"</u>	<u>Pipes 5" to 8"</u>	<u>Pipes 9" to 24"</u>
Below -20°F	3	3	3 1/2
-20°F to 35°F	2 1/2	2 1/2	3
Over 35°F	1-1/2	2	2

b) Medium Temperature Piping Insulation (126°F to 599°F)

All piping having a normal internal design temperature between 126°F and 599°F shall be insulated with medium temperature insulation to the suggested minimum thicknesses indicated in the following table:

<u>Thickness (inches) of Piping Insulation</u>			
<u>Temperature Range</u>	<u>Pipes smaller than 2"</u>	<u>Pipes 2" to 4"</u>	<u>Pipes 5" & over</u>
126°F to 199°F	1	1	1-1/2
200°F to 299°F	1	1-1/2	2
300°F to 399°F	1	1-1/2	2-1/2
400°F to 499°F	1-1/2	2	2-1/2
500°F to 599°F	1-1/2	2-1/2	3

c) High Temperature Piping Insulation (600°F to 999°F)

All piping having a normal internal design temperature of 600°F and over shall be insulated with high temperature insulation or with a combination of high and medium temperature insulation to the suggested minimum thickness indicated in the following table:

<u>Thickness (inches) of Piping Insulation</u>			
<u>Pipe Size</u>	<u>Inner Layer (ins.) High Temperature Insulation</u>	<u>Outer Layer Medium Temperature Insulation</u>	<u>Total</u>
1-1/2" & below	2-1/2"	None	2-1/2"
2"	1"	1-1/2"	2-1/2"
2-1/2"	1-1/2"	1-1/2"	3"
3" & 4"	1-1/2"	2"	3-1/2"
5" & over	1-1/2"	2-1/2"	4"

All thicknesses of insulation are nominal. Actual thickness to conform to the National Insulation Manufacturers Association Table of Simplified Thicknesses.

5. APPLICATION

a) Piping Insulation

Straight runs of piping shall generally be insulated with molded or pre-formed type materials. Butt end and longitudinal joint surfaces shall be buttered, when applicable, with joint compound.

On bends, elbows, etc., pre-formed or fabricated segments of the same insulation on adjacent straight runs shall be applied. All joints shall be tightly fitted and cemented together with joint sealing adhesive compound. Where required for rigidity, use of galvanized wire mesh or netting shall be incorporated. Insulating or insulating-finishing cements shall be applied to fill crevices and smooth all surfaces as required to produce a smooth surface underneath the jacket.

002-1054

Insulation shall be secured tightly in place with galvanized iron wire, the ends of which shall be twisted tightly, bent over and flattened into the insulation so as to leave no projections.

Typical 3 ft. lengths of insulation shall be secured at three points on piping up to and including 6 inch diameter and not less than four points on larger pipes. Two-foot lengths and less shall be secured at two points.

Diesel engine exhaust pipes shall have 10 gauge sheet metal rings, 1/2" narrower than the insulation thickness, welded to the pipes each 6 feet to help prevent insulation sagging down the pipes.

In double layer insulation construction, the second layer shall be applied over the first layer so that all joints are staggered. All joints shall be secured with an adhesive. 1

b) Lagging

Piping and/or equipment insulation not exposed to weather shall be covered with either cloth or tape lagging which shall be secured by an adhesive or sewing. The cloth shall be free from wrinkles and of smooth appearance throughout. 1.

At elbows and bends a 1/4" coat of asbestos cement shall be applied, trowelled to a smooth and even finish before cloth is applied.

Insulation on piping and/or equipment exposed to weather or excessive moisture shall be protected by the application of 1/4" thick weather resistant type coating and secured in place prior to application of its lagging. 20

Anti-sweat insulation shall be applied, where required, to prevent sweating damage, and secured with heavy twine and covered with cloth or tape lagging, secured with an adhesive to form a moisture proof finish.

In locations where the completed insulation and lagging is subject to damage, protective sheet metal covering shall be fitted.

c) Insulation of Valves and Flanges

All flanges, valves, piping components, applicable machinery, etc., particularly those subject to frequent maintenance, shall be fitted with easily removable and replaceable (one piece or sectionalized) type covers or pads.

The covers and/or pads shall generally be made of applicable felted material completely lagged. Lagging shall be secured by stitching or stapling.

To insure non-interference with servicing at flanged joints, the permanent insulation on the pipe shall be reduced in thickness by beveling the insulation on both sides of the joint, for a sufficient length to allow for removal of bolts.

d) Machinery and Equipment Insulation and Lagging

The following schedule covers the suggested type and thickness of insulation required for exposed surfaces of equipment:

<u>Equipment</u>	<u>Approx. Max. Temperature</u>	<u>Type & Thickness of Insulation</u>	<u>Finish</u>
Boiler Uptake	500°F	3" Medium Temp.	Cloth
Main Engine Exhaust Pipes & Silencers	800°F	2-1/2" High Temp. 1-1/2" Medium Temp.	Cloth
Diesel Generator Exhaust Pipes & Silencers	800°F	2-1/2" High Temp. 1-1/2" Medium Temp.	Cloth
Steam Separator	350°F	2" Medium Temp.	Cloth
Low Press. Steam Generator	350°F	2" Medium Temp.	Cloth

All other equipment requiring insulation, such as fuel oil heaters, condensers, hot water heater, etc., shall be insulated with either molded curved or shaped segmented blocks or blankets of felted type materials within limitation of commercial standards. Where double layer insulation is used, all joints shall be staggered. All insulation shall be tightly wired to prevent settling. All joints shall be pointed up with insulating cement.

All equipment shall have the insulation lagged with a hard finish asbestos cement reinforced with hardware cloth, or sheet steel where applicable.

Insulation shall not be fastened to bolts and nuts on the equipment, and shall be arranged to facilitate removal of heads, covers and access plates. Manholes, handholes, etc., shall be insulated with easy removable covers. Nameplates, inspection certification data, etc., shall not be covered.

6. PAINTING

All piping and surfaces that are to be insulated shall be cleaned and painted with two coats of heat-resisting aluminum paint before applying insulation.

CHARLES R. DALTON, JR.
ROBERT M. HUGHES, III
A. JACKSON TIMMS
EDGAR H. MACKINLAY
LANIER THURMOND
JOHN R. CRUMPLER, JR.
FREDERICK W. BECK, III
C. MICHAEL MONTGOMERY
JOEL A. KOLODNY
PHILIP N. DAVEY
THOMAS A. RUCKER
GEORGE M. KELLEY III
MICHAEL F. LEBAN
STEPHEN WAINGER
GLEN A. HUFF
WILLIAM L. PECK
STEVEN G. SCHWARTZ
RICHARD T. ROBOL
R. MICHAEL SMITH
S. MICHAEL GLASS
REEVES W. MANONEY
C. GRIGSBY SCIFRES
EVERETT A. MARTIN, JR.
DIANE S. FENTON
STEWART J. SACKS
FOREST A. NESTER
L. WAYNE GOODMAN

LAW OFFICES OF
SEAWELL, DALTON, HUGHES & TIMMS

(P. O. BOX 110, NORFOLK, VIRGINIA 23501)

900 WAINWRIGHT BUILDING

BUTE & DUKE STREETS

NORFOLK, VIRGINIA 23510

TELEPHONE (804) 622-5341

LEON T. SEAWELL
OF COUNSEL

CABLE: SEAWELL
TELEX: 82-5458
82-3690

RICHMOND OFFICE
707 MUTUAL BUILDING
9TH & MAIN STREETS
RICHMOND, VIRGINIA 23219
TELEPHONE (804) 643-7707

MAR 15 1962

Re: Asbestos Litigation --
SUPSHIPS Documents

Robert G. Andre, Esq.
Johns-Manville Corporation
Post Office Box 5723
Denver, Colorado 80217

Dear Bob:

Further to our discussions concerning our review of the SUPSHIPS documents that we have received, we have now canvassed 13 of the 30 boxes and enclose herewith all those we have found to date which have been routed to the Supervisor of Shipbuilding in Pascagoula or which reference Pascagoula. Some are interesting in that on their face they do not indicate that they were to be routed to any Supervisor of Shipbuilding Department, but nevertheless were found in the SUPSHIPS file. Others give indications that Supervisors of Shipbuilding were asked to comment on changes to military specifications.

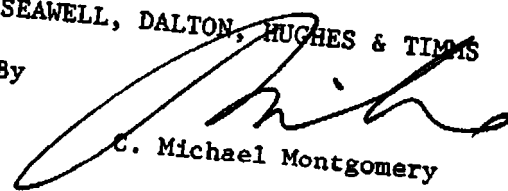
✓ We are continuing to do a more thorough analysis of these and the remaining SUPSHIPS documents and will give you a detailed report later.

We have sent a copy of the documents that we have culled out so far to Roy Williams so that he might review the same to see whether any would be particularly useful in his trial, and hopefully, there will be time to obtain some authenticated evidence if he deems that any are useful.

Very truly yours,

SEAWELL, DALTON, HUGHES & TIMMS

By


C. Michael Montgomery

CMM/dm

Enclosures

cc: Dennis H. Markusson, Helen Marsh, Lively M. Wilson,
Roy C. Williams (w/encl.) and Albert H. Parnell, Esq.

LAW OFFICES OF
KARL WIESENBURG

MARKLAND BUILDING - 3106 CANTY STREET
POST OFFICE BOX 26
PASCAGOULA, MISSISSIPPI 39567

WILLIAM TOWNSEND REED
ASSOCIATE

June 20, 1979

TELEPHONE
(601) 762-3258

Roy C. Williams, Esquire
Megehee, Brown, Williams & Mestayer
Post Office Box 787
Pascagoula, Mississippi 39567

Re: Asbestos litigation

Dear Roy:

Pursuant to my continuing discovery on behalf of the defendant, Litton Systems, Inc., in this litigation, I have uncovered the following information which I pass on to you with the understanding that you will make it available to the other defendants as well as plaintiffs:

- (1) Impact of Proposed OSHA Standard for Asbestos, first report to the U. S. Department of Labor, Arthur D. Little, Inc. June 12, 1972.
- (2) Undated letter from Supervisor of Shipbuilding to Ingalls Shipbuilding Division Subj: Asbestos containing materials, hazards of, attached thereto, Consubpac Engineering Note, No. 9508-1 original date January, 1976.
- (3) Random sample of chemical analysis taken by Litton chemical lab to determine asbestos composition (capability to perform these type tests was not achieved by Litton until March, 1974).
- (4) Memorandum from H. L. Ehrlich to C. D. Anderson re: Item No. (2).
- (5) Memorandum to T. Daughdrill from J. E. Frew dated 8-4-75 attaching memorandum of July 17, 1975 of H. L. Ehrlich.
- (6) Millipore Monitoring Airborne Asbestos with the Millipore Membrane Filter.
- (7) American Mutual Insurance Co. from Leon D. Horowitz to William Mullen, Chemistry Lab, Ingalls Shipbuilding dated

Roy C. Williams, Esquire
June 20, 1979
Page 2

May 8, 1974 re: "The Method used by the U. S. Public Health Service for Enumeration of Asbestos Dust on Membrane Filters."

- (8) Letter dated 3-7-77 to Safety Department from L. Janus re: Monitoring of airborne asbestos, Hull 1212.
- (9) Letter dated 8-9-78 to Safety Department from L. Janus re: Monitoring of airborne asbestos, H-1213, SS(N)649.
- (10) Letter dated 6-26-78 to Safety Department from L. Janus re: monitoring of airborne asbestos H-1213, SS(N)649.
- (11) Standard Procedures concerning asbestos exposure control 1049.26 dated August 11, 1977.
- (12) Handwritten notes of L. Janus containing date, sub-contractor, number of samples submitted and number meeting spec. Mil-I-24244. Note: This list has nothing to do with the personnel aspects of asbestos, and simply is a list of asbestos materials samples to determine chemical composition and chloride content for use in submarines.
- (13) Federal Register dated October 9, 1975.

Sincerely,

Bill

William T. Reed

WTR/ds

Enclosures

cc All Defendants' Counsel
All Plaintiffs' Counsel

0024 1165

MEGEHEE, BROWN & WILLIAMS

(A PROFESSIONAL ASSOCIATION)

ATTORNEYS AT LAW

3112 CANTY STREET

P. O. BOX 767

PASCAGOULA, MISSISSIPPI 39567

CARL A. MEGEHEE
RAYMOND L. BROWN
ROY C. WILLIAMS
JOHN M. KINARD
LARRY A. SMITH
MICHAEL J. MCELHANEY, JR.

PHONE 762-2271
AREA CODE 601

March 13, 1979

Superintendant of Ships
Ingalls Shipbuilding, a
division of Litton Systems, Inc.
Legal Office
Pascagoula, Mississippi 39567

Attention: Mr. Bill Presley

Re: Asbestos litigation

Dear Bill:

Pursuant to our telephone conversation of this date, the various defense attorneys in the asbestos litigation are seeking information concerning design and construction of various vessels at Ingalls Shipbuilding, a division of Litton Systems, Inc. In this regard we have enclosed a listing of all vessels constructed, renovated, or converted at the Ingalls Shipbuilding facility.

We are interested in Navy inspection reports, specifications, installation procedures and correspondence concerning installation of asbestos insulation. Please advise me at your earliest convenience as to the proper persons and/or documents that should be questioned or inspected in this regard.

Sincerely,

ROY C. WILLIAMS

RCW/kys

enclosure

BD

March 20, 1979

Don Pierce, Esq.
Attn: Randall, Bedsole, Graaves & Johnston
Post Office Box 100
Mobile, Alabama 36601

Re: Asbestos litigation

Dear Don:

As part of the Ingalls discovery we were able to receive and photocopy a study accomplished by Ingalls on April 27, 1973 having to do with employees at the shipyard as of that date who resided in Alabama or Mississippi. It would appear that this particular study will be very helpful to us in our change of venue argument in view of the fact that the over whelming majority of the employees live in Mississippi.

We should give some thought as to how this should be presented to the Judge by deposition, affidavit or otherwise.

Also, I have had discussions with Mr. Duke at the Alabama Dry Dock and after explaining to him the situation involving discovery, may have convinced him to cooperate with us more so than he indicated in his letter to you recently. I am also attempting to make inreads with the Navy department here at the shipyard since it appears that a great deal of needed information for our Ingalls defense with by shipyard documents. I shall keep you and your office advised as we proceed.

Sincerely,

ROY C. WILLIAMS

RCW/kys

MEGEHEE, BROWN & WILLIAMS

(A PROFESSIONAL ASSOCIATION)

ATTORNEYS AT LAW

3112 CANTY STREET

P. O. BOX 787

PASCAGOULA, MISSISSIPPI 39567

CARL A. MEGEHEE
RAYMOND L. BROWN
ROY C. WILLIAMS
JOHN M. KINARD
LARRY A. SMITH
MICHAEL J. McELHANEY, JR.

PHONE 762-2271
AREA CODE 601

March 23, 1979

Karl O. Wiesenburg, Esq.
P.O. Box 26
Pascagoula, Mississippi 39567

Re: Asbestos litigation

Dear Karl:

The Defendants in the above cases involving the Ingalls employees have concluded that the necessary discovery of Ingalls information can be considerably more limited than we originally anticipated. In this regard, we now feel that the most important information needed by the Defendants would be the following:

- (A) The Purchase Orders for insulation work on each vessel constructed, converted and/or overhauled by the shipyard.
- (B) The list of insulation and lagging for piping and machinery on each vessel constructed, converted and/or overhauled by the shipyard.

Please advise me at your earliest convenience as to the availability and accessibility of these documents and what procedure should be taken by the Defendants in order to obtain copies of same.

Since this is of the utmost importance, we would appreciate your notifying us to the availability of these documents as soon as possible.

Sincerely,


ROY C. WILLIAMS

RCW/kys

BUTLER, SNOW, O'MARA, STEVENS & CANNADA

ATTORNEYS AT LAW

17TH FLOOR DEPOSIT GUARANTY PLAZA

P. O. BOX 22567

JACKSON, MISSISSIPPI 39205

(601) 948-5711

GEO. BUTLER 1948
J. MORGAN STEVENS 1951
CHAS. B. SNOW 1960

ROBERT C. CANNADA

JUNIOR O'MARA

GEORGE H. BUTLER

PHINEAS STEVENS

ROGER C. LANDRUM

DAN McCULLEN

HAROLD D. MILLER, JR.

THOMAS W. PREWITT

LAWRENCE J. FRANCH

C. EUGENE McROBERTS, JR.

JOHN A. CRAWFORD

D. CARL BLACK, JR.

JAMES W. O'MARA

W. SCOTT WELCH, III

JAY A. TRAVIS, III

RICHARD L. FORMAN

JAMES L. MARTIN

KENNETH W. BARTON

RHESA H. BARKSDALE

ALAN W. PERRY

CHARLES F. JOHNSON, III

STEPHEN W. ROSENBLATT

HERBERT C. EHRHARDT

WENDELL H. HOLMES

CHRISTY D. JONES

FRED KRUTZ, III

COO B. CANNADA

WALTER G. WATKINS, JR.

PHIL B. ABERNETHY

March 27, 1979

Mr. Roy Williams
Megchee, Brown & Williams
Post Office Box 787
Pascagoula, Mississippi 39567

Re: Asbestos Cases

Dear Roy:

When most of us were in Jackson several days ago for the deposition of Vernon Baker, we discussed a time for the proposed seminar to be held in Jackson for the benefit of the Mississippi attorneys. At that time we discussed the dates of April 19 and 20. If we are going to hold the seminar on those dates, we need to be making plans accordingly. If we can all agree on a date, I will be glad to give you any assistance I can in making the necessary plans. In view of the number of attorneys who will attend, we may need to obtain some space for the meeting at a local motel rather than try to have the seminar in an office of one of the Jackson firms.

We also discussed various depositions which needed to be taken on the Gulf Coast. As I recall, we tentatively agreed to depose the Moore widow, Mr. Daughdrill of Ingalls, as well as the subcontractors Frigitemp, Selby-Battersby, and Shook & Fletcher. I believe you suggested the first week in May for these depositions.

If Karl Weisenberg is agreeable to furnishing with the purchase orders and lists of insulation and lagging on the ships constructed at the Ingalls yard, we may be able to proceed with the depositions at that time. I know that we are all concerned in getting our discovery completed in a timely fashion. Therefore, unless you have some new information which would indicate we should hold up on these depositions, I suggest we proceed as discussed and take these depositions the first week in May.

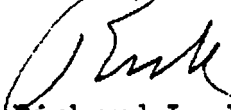
Mr. Roy Williams
Page 2
March 27, 1979

We have received a letter from Nicolet advising that their Los Angeles counsel had been involved in a deposition taken of the industrial hygienist at the Long Beach Naval Shipyard. He produced over 2700 pages of documents, many of which related to asbestos and asbestos problems at the Naval Shipyard. He apparently kept a diary of every day that he worked at the shipyard. I do not know whether Ingalls would have had an industrial hygienist in addition to Mr. Daughdrill; but if so, it will probably be a good idea to include the hygienist in any depositions to be taken.

I will be looking forward to hearing from you.

Very truly yours,

BUTLER, SNOW, O'MARA, STEVENS & CANNADA



Richard L. Forman

RLF:ml

cc: All Defense Counsel

LAW OFFICES OF
KARL WIESENBURG
MARKLAND BUILDING - 3106 CANTY STREET
POST OFFICE BOX 26
PASCAGOULA, MISSISSIPPI 39567

0024 1175

WILLIAM TOWNSEND REED
ASSOCIATE

April 2, 1979

TELEPHONE
(601) 762-3255

Roy C. Williams, Esquire
Megehee, Brown & Williams
Post Office Box 787
Pascagoula, Mississippi 39567.

Re: Asbestos litigation

Dear Roy:

For some reason I did not receive your letter of March 23, 1979 with reference to the asbestos litigation until after my return from Miami.

I also received a copy of a letter dated March 27, 1979 from Richard L. Forman. I note in this letter that he misspelled my name and suggested that if Litton is able to furnish the purchasing orders and lists of insulation and lagging for piping and machinery on the ships constructed at Ingalls' yard that you may be able to proceed with the taking of depositions in May.

In accordance with the agreement that we made on March 9, 1979 Litton will undertake to locate all of the purchase orders and lists of insulation and lagging for piping and machinery that it still has available. We anticipate that we will be able to give you this information sometime during the month of April.

We appreciate the cooperation of both the attorneys for the plaintiffs and the defendants in these cases.

With best regards, I am

Sincerely,



Karl Wiesenburg

KW/ds

cc All Plaintiffs' counsel
All Defendants' counsel

LAW OFFICES OF
KARL WIESENBURG
MARKLAND BUILDING - 3106 CANTY STREET
POST OFFICE BOX 26
PASCAGOULA, MISSISSIPPI 39567

0024 1176

PT

WILLIAM TOWNSEND REED
ASSOCIATE

April 4, 1979

TELEPHONE
(601) 762-3255

Roy C. Williams, Esquire
Megehee, Brown & Williams
Post Office Box 787
Pascagoula, Mississippi 39567

Re: Asbestos Litigation

Dear Roy:

This letter is written as a follow-up to your letter of March 23, 1979 and my reply of April 2, 1979. We have checked the available records of Litton on the first item of your request; that is the purchase orders for insulation work on each vessel constructed, converted and/or overhauled by the shipyard. We find that there are approximately 2,500 boxes, stored in four different locations. Each box is approximately 2 feet by 3 feet and each contains between 50 and 100 separate files. The times involved are from 1965 to date. From our first inspection of the indexes, it appears that the majority, if not all, of such files prior to 1965 were destroyed in the course of Litton's usual business practice.

The physical task of going through these 2,500 boxes and separating asbestos subcontracts and asbestos purchase orders will require roughly 600 manhours. Litton would propose to pull out the relevant files with its own personnel. If Litton is to make these files available by May 1, it would require the assignment of sufficient personnel at an estimated cost of \$6,000.00. If the plaintiffs and defendants are willing to share this cost in accordance with Judge Roper's suggestions, we will proceed to do this with our own personnel.

The boxes filed do not include the requested records on the current contracts in work by Litton, including the DDs and LHAs. We are pulling these files and will make them available to you for reproduction without cost for our time in assembling the files as soon as they are available.

With regard to your request for insulation and lagging lists for all the vessels that Litton has constructed, our engineering section is determining the availability of these documents and we will furnish you this information as soon as we receive it.

With best regards, I am

Sincerely,



Karl Wiesenburger

KW/mw

cc All Plaintiffs' counsel
All Defendants' counsel

LAW OFFICES OF
KARL WIESENBURG
MARKLAND BUILDING - 3106 CANTY STREET
POST OFFICE BOX 26
PASCAGOULA, MISSISSIPPI 39567

WILLIAM TOWNSEND REED
ASSOCIATE

TELEPHONE
(601) 762-3255

April 6, 1979

Roy C. Williams, Esquire
Megehee, Brown & Williams
Post Office Box 787
Pascagoula, Mississippi 39567

Re: Asbestos Litigation

Dear Roy:

Please refer to your letter of March 23 and my replies of April 2 and 4, 1979. I am enclosing herewith an engineering report which indicates the availability of the insulation and lagging lists of vessels built by Litton.

It appears that a large volume of the lists are still available. We have not at this point estimated the cost of reproducing the lists. This will depend on the form of reproduction desired; i. e., copies of the micro-films or full scale print-outs.

Please review this engineering report and advise me of your wishes so that Mr. Reed of my firm can coordinate the reproduction requirements.

With best regards, I am

Sincerely,



Karl Wiesenburg
KW/ds
Enclosure

cc Danny E. Cupit, Esquire
W. Roberts Wilson, Esquire
Paul Minor, Esquire
Rex Gordon, Sr., Esquire
Ransom P. Jones, III, Esquire

- NOTE 1. Drawings referred to this note are on aperture cards, 35 MM single frame, or reels and are stored in a vault on East or West Bank as indicated on attached sheets.
2. Drawings referred to this note are on 105 MM microfilm and are stored in a vault on East or West Bank as indicated on attached sheets. Viewers for this film are available at Ingalls but reproduction must be done by photographics which is quite expensive.
 3. Drawings referred to this note are on Mylar or Brownline and are stored in a vault on East or West Bank as indicated on attached sheets.
 4. Drawings referred to this note are stored in Record Retention Warehouse on Old Mobile Hwy, Pascagoula.
 5. Drawings referred to this note are not on microfilm and record copies are not retained by Ingalls.
 6. When Note 1 through 4 are referred to but no drawing number is shown, drawings are available as indicated by note, but plan list was not found to indicate drawing number for insulation schedule. Since insulation schedule drawing number is normally one of about four BSCI numbers, these drawings could be located but considerable search time could be required.

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KARL WIESENBURG
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WILLIAM TOWNSEND REED
ASSOCIATE

April 9, 1979

TELEPHONE
(601) 762-3255

Roy C. Williams, Esquire
Megehee, Brown & Williams
Post Office Box 787
Pascagoula, Mississippi 39567

Re: Asbestos Litigation

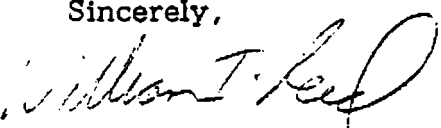
Dear Mr. Williams:

I have today requested French Caldwell and Don Massengale to obtain the information you requested concerning the following hulls:

- (1) No. 265 - African Comet
- (2) No. 266 - African Meteor
- (3) No. 576 - USS Walworth County
- (4) No. 1030 - Eagle Courier
- (5) No. 1205 - USS Gato.

We are getting this information as expeditiously as possible. As soon as it is available, we will deliver it to you along with the charges so that you will have an idea as to what the basic charges will be.

Sincerely,


William T. Reed
WTR/ds

THOMAS, PRICE, ALSTON, JONES & DAVIS

ATTORNEYS AT LAW

SUITE 519 FIRST NATIONAL BANK BUILDING

POST OFFICE DRAWER 1532

JACKSON, MISSISSIPPI 39205

EARL T. THOMAS (1906-1970)
PAUL TUDOR JONES (1937-1970)

JOHN H. PRICE, JR.
ALEX A. ALSTON, JR.
CHARLES R. DAVIS
KENNETH A. RUTHERFORD
THOMAS W. TARDY, III

January 26, 1979

AREA CODE 601
TELEPHONE 948-6662

To: All Defense Counsel

Re: Malcolm Hinton v. Armstrong
Cork Company, et al

Gentlemen:

On Wednesday, January 24, 1979, Roy Williams and I met with French Caldwell and Don Masengale, who gave the following responses in connection with those requests made of Ingalls in Roy's January 5, 1979 letter to Mr. George Howell:

- (1) ✓ Personnel files or folders and all time cards on Malcolm E. Hinton, R. C. Romano and James L. Jackson.

The personnel file of each individual is available; time cards from 1962 to present are available but are on microfilm; it will be expensive to review the microfilm to retrieve individual time cards.

- (2) ✓ Identification of the various Ingalls Employees of the Purchasing Department, as far back as records will permit.

Ingalls will comply with this request.

- (3) ✓ Identification by name and address of all Sub-contractors employed by the Shipyard handling any phase of insulation of vessels, as far back as records permit.

Ingalls has a record of all Sub-contractors from 1968 to present. It also has some records of Sub-contractors in earlier years and will make those records available.

- (4) ✓ Identification of all Ingalls Employees who were primarily or partially responsible for safety instruction for as far back as records will permit.

Ingalls records are complete from 1969 to present.

- (5) ✓ Identification of the Ingalls Employees whose primary responsibility includes medical records, physical examination and physical histories.

Ingalls records will identify all employees with these responsibilities from 1969 to present. Ingalls will attempt to identify earlier employees who fit this classification.

- (6) ✓ Identification of Ingalls Employees whose primary responsibility includes Quality Control Inspection of Sub-contractors who install insulation products.

Ingalls will produce its records for 1969 to present and will attempt to identify earlier employees who fit this classification.

- (7) ✓ Identification of Ingalls Employees who would be familiar with the nature and use of asbestos related products in ship design and construction, including Submarines and surface vessels.

Ingalls will produce a naval architect or machinery engineer.

- (8) ✓ A complete organizational chart of the Shipyard now and as far back as records will permit.

Ingalls will produce organizational charts from 1950 forward.

- (9) ✓ A list of all operating Unions, their Business Agents, Shop Stewards and description of types of employees covered.

Ingalls has no record of Shop Stewards; it will produce all other information from 1952 forward.

- (10) ✓ Copies of all Instruction and Safety Manuals, particularly regarding use and installation of insulation products and/or asbestos related products, whether used inhouse by Ingalls Management or given to rank and files employees.

Ingalls will produce all documents from 1969 forward.

- (11) ✓ A list including all information available on the number, type and origin of asbestos related diseases or illnesses affecting Ingalls Employees that have been identified through any source whatever.

Ingalls will produce all documents from 1969 forward.

- (12) ✓ List by name and type all vessels constructed or repaired at the Shipyard which contained asbestos products.

Ingalls will produce all documents from 1940 forward.

- (13) ✓ A description of the type and number of safety classes and instructional periods afforded Ingalls Employees, including a description of the Instructions given concerning use of safety equipment, insofar as such safety classes, instructions and safety equipment appertaining to installation or removal of insulation products or other products containing asbestos.

Ingalls has a few documents which it will produce in response to this request. Ingalls stated that it would produce an employee who could testify concerning safety measures.

- (14) ✓ A listing of the documented cases of violations of safety regulations appertaining to insulation products or other asbestos related products wherein the Shipyard has been cited by OSHA or other Inspectors for such violations and the corrective action taken.

0035 1798

There are no documents; there have been no OSHA citations concerning asbestos.

- (15) A breakdown by number and classification of the employees at the Shipyard who reside in Alabama and the employees who reside in Mississippi.

Ingalls will produce a breakdown compiled in April of 1978.

- (16) Problems to be encountered by Defense Attorneys in examining documents appertaining to asbestos containing insulation products and other asbestos products on vessels particularly submarines wherein such information may be classified.

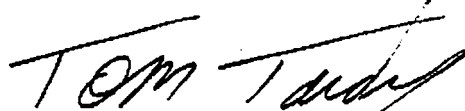
Ingalls will notify defense counsel if any request made of Ingalls for production of documents touches upon a classified area.

Ingalls also informed us that it would not produce any of the above documents or employees without formal discovery measures. Roy Williams has volunteered to subpoena the necessary witnesses and documents. All counsel in Hinton, and in the Alabama class action case involving Ingalls, will receive appropriate notice of the depositions.

If you have any questions concerning our meeting with Ingalls, please give me a call; if you have any questions concerning the proposed discovery, please call Roy.

With best wishes, I am

Sincerely yours,



Thomas W. Tardy, III

TWT,III:fm

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0024 1173

TELEPHONE
(601) 762-3255

April 12, 1979

Roy C. Williams, Esquire
Megehee, Brown, Williams & Mestayer
Post Office Box 787
Pascagoula, Mississippi 39567

Re: Asbestos Litigation

Dear Roy:

Per our telephone conversation of this date, I am enclosing the following documents from Litton's files in connection with our agreement to make available to both the plaintiffs and the defendants such information as Litton has in its files relevant to the pending asbestos cases:

- ✓(1) Sample purchase order to Badham Insulation Company of 1-30-69.
- ✓(2) Sample purchase order to Shook & Fletcher Insulation Co. of 2-13-69.
- ✓(3) March 5, 1969 survey report made by American Mutual.
- ✓(4) April 30, 1969 U. S. Navy request on "shipyard practices in combating the hazards attending the use of insulating materials" with attached memorandum dated May 17, 1969
- ✓(5) September 12, 1969 letter from G. M. Bryan to Floyd Schultz-survey of insulation materials and other materials containing asbestos.
- ✓(6) Survey of insulation materials and other materials containing asbestos [eight legal pages].
- ✓(7) Litton's October 1, 1969 reply to U. S. Navy concerning shipyard practices in combating the hazards attending the use of insulating materials.
- ✓(8) August 20, 1969 letter from William B. Reitze of Mount Sinai School of Medicine to J. W. Bryon, Ingalls Manager of Safety.
- ✓(9) January 20, 1970 letter from W. G. Alsip of U. S. Department of Labor to N. J. Marandino of Ingalls.

Roy C. Williams, Esquire
April 12, 1979
Page 2

- /(10) January 30, 1970 letter from M. A. Weeks to W. G. Alsip.
- /(11) February 10, 1970 letter from T. G. Daughdrill to M. A. Weeks.
- /(12) February 24, 1970 letter to T. G. Daughdrill from William G. Reitze.
- /(13) January 24, 1972 letter from T. G. Daughdrill concerning the OSHA emergency asbestos standards with attached five (5) letters dated February 17, 1972 to:
 - Shook & Fletcher Insulation Co.
 - Bailey Carpenter & Insulation Co.
 - J. E. Steigerwald Company
 - Jamestown Metals Corporation
 - Eastern Cold Storage Insulation Co., Inc.
- /(14) American Mutual report of occupational disease survey dated July 12, 1972 compiled by S. W. Foote, Industrial Hygienist.

I believe that if you will review the eight-page report prepared by Litton in June, 1969, for the Department of the Navy, you will find in this report substantially everything that both the plaintiffs and the defendants asked for in their request for production of documents.

I also have on hand for your inspection those copies of the insulation and lagging lists that you requested on April 9, 1979 [Mr. Reed's letter of April 9, 1979], which Litton has made available to us.

It is my understanding that you will furnish counsel for the plaintiffs and the defendants with copies of the papers set out in the first paragraph of this letter.

With best regards, I am

Sincerely,



Karl Wiesenburg

KW/ds

Enclosures

cc Danny E. Cupit, Esquire
W. Roberts Wilson, Esquire
Paul Minor, Esquire
Rex Gordon, Sr., Esquire
Ransom P. Jones, III, Esquire
Richard F. Pate, Esquire

BUTLER, SNOW, O'MARA, STEVENS & CANNADA

ATTORNEYS AT LAW

17TH FLOOR DEPOSIT GUARANTY PLAZA

P. O. BOX 22567

JACKSON, MISSISSIPPI 39205

(601) 948-5711

SEC. BUTLER 1946
J. MORGAN STEVENS 82
CHAS. B. SNOW 1960

ROBERT C. CANNADA
JUNIOR O'MARA
GEORGE H. BUTLER
PHINEAS STEVENS
ROGER C. LANDRUM
DAN McCULLEN
HAROLD D. MILLER, JR.
THOMAS W. PREWITT
LAWRENCE J. FRANCK
C. EUGENE McROBERTS, JR.
JOHN A. CRAWFORD
D. CARL BLACK, JR.
JAMES W. O'MARA
W. SCOTT WELCH, III
JAY A. TRAVIS, III

RICHARD L. FORMAN
JAMES L. MARTIN
KENNETH W. BARTON
RHESA H. BARKSDALE
ALAN W. PERRY
CHARLES F. JOHNSON, III
STEPHEN W. ROSENBLATT
HERBERT C. EHRHARDT
WENDELL H. HOLMES
CHRISTY D. JONES
FRED KRUTZ, III
DON B. CANNADA

January 18, 1979

Mr. Roy C. Williams
Megehee, Brown & Williams
Attorneys at Law
Post Office Box 787
Pascagoula, Mississippi 39567

Re: Asbestos Litigation

SHOPYARD

Dear Roy:

I have tried to reach you this morning via telephone but have been unable to do so. Consequently, I am writing you concerning your proposed letter of January 5 to Mr. George Howell, which you discussed yesterday at the meeting in Watkins & Eager's office.

We represent Owens-Illinois, Inc., National Gypsum Company, and Nicolet Industries, Inc. At the moment I do not know that these companies have been made party defendants in all of the suits which have been filed in Mississippi. They have been made defendants in some of these cases. I understand approximately twelve cases have been filed in the Federal District Court in Biloxi by Mr. Paul Minor as attorney for plaintiffs. These are the cases I have in mind when I say that we do not know if our clients have been named as defendants. I frankly do not mean to say that their not being named as defendants in some of the suits has any material bearing on your proposed letter to Mr. Howell.

After reviewing your proposed January 5 letter to Mr. Howell, we do not have any suggestions as to additional information which should be requested from Ingalls.

At the meeting yesterday you mentioned Ingalls had raised the question of it being reimbursed for cost of obtaining information pertaining to any of its employees and working conditions in its yards, etc. We, of course, cannot expect Ingalls to furnish the various defendants information at its own cost, however, it will be necessary before we can agree to pay a

Mr. Roy C. Williams
January 18, 1979
Page 2

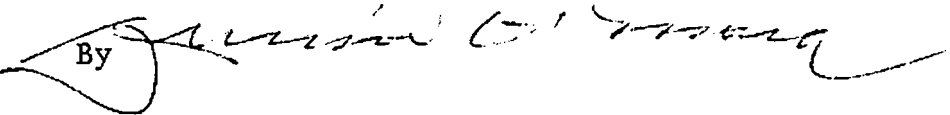
part of such costs that we have some idea as to the amount, dollarwise, in order to obtain authority from our clients to incur such costs.

If you would permit me to do so, I would suggest that consideration be given to an approximate cost and you let us have the benefit of same. We will immediately take it up with our clients.

With kindest personal regards, we are

Very respectfully yours,

BUTLER, SNOW, O'MARA, STEVENS & CANNADA

By 

JO/ew