Gentlemen:-

Receipt is acknowledged of your letter of September 3, 1933, in answer to the Bureau's letter of August 31, 1933.

The Bureau's records show that your INDOMO brand of high temperature insulation has a density of 96.34 pounds per cubic foot and a moisture content of 0.01, indicating that in this respect you can supply with a maximum density of 77 pounds per cubic foot, which is now under consideration. The Bureau would be pleased to be able to obtain a suitable high-temperature insulation having a maximum density of 80 pounds per cubic foot.

The material covered by Specification 3873 has apparently been satisfactory for temperatures heretofore encountered, namely, not in excess of 600°F. It is now proposed to increase the steam temperature up to 850°F. To provide satisfactory living conditions in confined spaces thicker insulation will have to be used for temperatures up to 850°F.

Test data to date indicates that insulation materials of low weight per cubic foot are more efficient from a temperature drop standpoint than those of high weight. It was this fact which led the Bureau to set the maximum limit of 35 pounds as a basis for discussion and not by reason of any suggestion orally or otherwise by any manufacturer of this material.

With respect to the change in thicknesses, this information was obtained from a manufacturer's catalogue and was assumed to be standard practice of all of the manufacturers of this material. To verify this a letter similar to that sent to you was sent to each known manufacturer of this material.

In your letter of September 5th, 1933, you say that these thicknesses are standard only to Johns Manville Inc. but you do not offer any information as to your own standard from which it is assumed that your standards are those shown in present Specification 3873.
As explained above these thicknesses are to be changed to provide pipe covering suitable for pipe temperatures of 250°F. Your ENDURA brand of high temperature pipe covering when tested on a 3 inch pipe with insulation thickness of 3 inches gives a surface temperature of approximately 117°F, with a room temperature of approximately 84°F. A thickness of 2-1/8 inches as now provided will show a much higher surface temperature and 117°F, in as much as can be tolerated.

The Bureau will be pleased to receive your recommendations for a combination pipe covering for temperatures of 350°F. The thickness of the inner layer of high temperature insulation and the outer layer of 25% magnesia should be stated for each pipe size 3 inch to 12 inches.

In conclusion the Bureau wishes to assure you that it does not prepare specifications in the interest of any manufacturing source. All changes in specifications are dictated by necessities of the Naval Service and are made after careful consideration.

Respectfully,
C. W. Willette
By direction

Ernest Magnesia Manufacturing Co.,
Valley Forge,
Pa.
TITLE 32 - NATIONAL DEFENSE
CHAPTER IX - OFFICE OF PRODUCTION MANAGEMENT
Subchapter B - PRIORITIES DIVISION

Part 1064  ASBESTOS

TION ORDER NO. M-79 CURTAILING THE USE OF CERTAIN TYPES OF ASBESTOS

National defense requirements have created a shortage of certain types of asbestos for the combined use, private account, and export; and the supply now is and will be insufficient for defense and export requirements unless their use is curtailed; and in the public interest, to promote the defense of the United States, to conserve the supply and distribution thereof:

NOW, IT IS HEREBY ORDERED THAT:

Provisions on the Use of Certain Types of Asbestos

1. Except as otherwise specifically authorized by the Director of Priorities, after February 1, 1943, no person shall manufacture, spin, or process in any other way asbestos fibre imported from South Africa except where such fabrication, spinning, or processing is necessary to fill Defense Orders as defined in Priorities Regulations No. 1, as amended from time to time.

2. In addition to the above limitation, unless otherwise specifically authorized by the Director of Priorities, after February 1, 1943, no person shall manufacture, spin, or process in any other way:

(i) Chrysotile asbestos fibre (Rheasian), Grade C and D-1 and D-2 except where such fabrication, spinning, or processing is necessary to fill Defense Orders for:
   (a) overhang to meet Navy specification Number 41-T-29 (197); (Insulation, electrical, asbestos fibre, treated and untreated, dated October 1, 1941, or as same may be amended).
   (b) tapes and cloth which are required by specification to be of a non-ferrous nature;
   (c) non-ferrous lappes.

(ii) Asbestos fibre (Rheasian) Grade S-1 or amosite asbestos having a fibre length equivalent to that of Grade B-3; except where such fabrication, spinning, or processing is necessary to fill Defense Orders for Amosite woven felt blankets and mattresses for turbine insulation for use on naval and maritime ships.

(iii) Amosite asbestos fibre (Grade B-3, B-4 or amosite asbestos having a fibre length equivalent to that of Grade B-3 or B-4) except where such fabrication, spinning, or processing is necessary to fill Defense Orders for:
   (a) Woven felt blankets and mattresses and fittings for turbine insulation for use on naval and maritime ships;
   (b) Fire proof board;
   (c) Sprayed Amosite;
   (d) Eight-five per cent magnesium pipe covering and blocks;
   (e) Molded Amosite pipe covering and blocks;
   (f) Flexible amosite pipe insulations.

(g) Dry pack insulation.

3. In addition to the above limitations unless otherwise specifically authorized by the Director of Priorities, after February 1, 1943, no person shall install eight-five per cent magnesium or other high temperature pipe covering except as installed where temperatures of 3000 Fahrenheit or over occur.

4. Any person who manufactures or processes asbestos fibre shall, as or before the 10th day of February, 1943, and as or before the 10th day of each calendar month thereafter, file with the Office of Production Management, Ref: M-79, all of the information required by Form PD-281 and PD-282, whichever is applicable.

5. In addition, any person who manufactures or processes asbestos fibre shall, when requested, file with the Office of Production Management, Ref: M-79, all the information required by Form PD-283.

6. Provisions against Sales or Deliveries. No person shall thereafter sell or deliver asbestos fibre to another person if he knows, or has reason to believe, such material is to be used in violation of any term of this Order.

7. Any manufacturer shall receive delivery of asbestos fibre or products therefrom in the form of raw materials, semi-processed materials, finished parts or sub-assemblies, or shall put into process any raw material, in quantities which in either case shall result in an inventory of such raw-semi-processed or finished material in excess of a minimum practicable working inventory, bring into consideration the limitations placed upon the production of asbestos fibre products by this Order.

cessful Provisions

8. Applicability of Priorities Regulations No. 1. This Order and all transactions affected thereby are subject to the provisions of Priorities Regulations No. 1, (Part 814) as amended from time to time, except to the extent that any provision hereof may be inconsistent therewith, in which case the provisions of this Order shall govern.
A person affected by this Order who considers that compliance therewith would work unreasonable hardship upon him or that it would result in a degree of sacrifice which would be unreasonable and disproportionate compared with the amount of safety saved, or that compliance with this Order would disrupt or impair a program of conservation from non-defense work to defense work, may appeal to the Office of Production Management, Ref: M-19, setting forth the pertinent facts and the reasons he considers he is entitled to relief. The Director of Priorities may thereupon take such action as he deems appropriate.

The prohibitions and restrictions contained in this Order shall apply to the use of material in all articles hereafter manufactured irrespective of whether such material is manufactured pursuant to a contract made prior or subsequent to the effective date of the Order. The Director of Priorities may waive the effect of limiting or curtailing to a greater extent than herein provided, the use of asbestos fibre in the production of any article, the provisions of such other Order shall be observed.

Record of Communication. All reports required to be filed hereunder, and all communications concerning this Order, shall, unless otherwise directed, be addressed to:

"Office of Production Management,
Washington, D.C. Ref: M-19"

Action. Any person who willfully violates any provision of this Order or who by any act or omission facilitates records to be kept or information to be furnished pursuant to this Order, or who obstructs the execution of this Order, be prohibited from receiving further deliveries of any material subject to allocation, and further action may be taken as is deemed appropriate, including an action for prosecution under Section 35 A of the Criminal Code (18 U.S.C. 80).

Effective Date. This Order shall take effect immediately and shall continue in effect until Dec 31, 1943.

J. S. Lowles
Acting Director of Priorities

Acting Director of Priorities

This 10th day of January, 1943.
## RAW MATERIALS DATA SHEET

**Commodity:** Asbestos (Crude)

### Canadian and African Critical Grades

#### 1. DESCRIPTION, GRADES:

**Description:** "Asbestos" is a commercial term applied to fibrous varieties of several minerals differing widely in composition, the fibre being diverse in strength, flexibility, and consequent usefulness. The three varieties of asbestos in greatest use commercially are: (a) Chrysotile, a highly fibrous material employed in the manufacture of asbestos textiles, compressed asbestos packing, asbestos-cement materials, and other asbestos products; (b) Amosite, a coarse, long, resilient fibre used principally for insulations; (c) Crocidolite (Blue), a fibre with high tensile strength used mainly in asbestos-cement pipes and also, because of its acid-resistant qualities, in certain packings. Chrysotile comprises the major portion of the world production and consumption of both long and short fibres.

The United States produces only about 25 percent of its present required supplies of asbestos. Domestic production is chiefly chrysotile, mined principally in Vermont and Arizona. The Vermont fibre is short and is comparable to short Canadian fibres. Arizona production includes some long fibres which can be substituted for low iron imported types. Canada accounted for about 80 percent of all asbestos imported in 1945. Imports from Canada are chrysotile and now average 3 percent in crude and spinning or textile fibres, the remainder being shorter, nonspinnable fibres. The supplies of these short fibres are adequate. The major source of imports other than Canada is South Africa, which produces Blue, Amosite, and the bulk of the Critical grades of low iron chrysotile.

**Critical Grades:** African fibres (Chrysotile Grades C, D 1, 2, 3, and 4; Amosite B-1, B-2, or B-3, 5/6 and 1, and Blue asbestos) are essential for direct and indirect military use and cannot be replaced to any great extent by the spinning grades of Canadian fibre, the supply of which is also limited. African chrysotile grades, chiefly from Rhodesia, have relatively low iron content and are required to meet Navy specifications for essential types of electrical insulation. Amosite, found only in the Union of South Africa, is essential for the manufacture of certain types of insulation for the Navy and the U. S. War Activities Commission. Blue asbestos is produced principally in the Union of South Africa, although some of inferior quality is found in the Transvaal. The Blue is used because of its high tensile strength in asbestos-cement pipes and also, owing to its acid-resistant qualities, in packings, filter cloths, etc. Canadian spinning fibres represent the three highest groups of Canadian chrysotile, and are used principally in the manufacture of asbestos textiles.

#### 2. BASIC STATISTICS:

<table>
<thead>
<tr>
<th>1942 U. S. SITUATIONa</th>
<th>Consumptionb</th>
<th>Supplies</th>
</tr>
</thead>
<tbody>
<tr>
<td>Military</td>
<td>Stocks 1/4/42</td>
<td>52,046</td>
</tr>
<tr>
<td>Civilian</td>
<td>U. S. prod.</td>
<td>22,473</td>
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<tr>
<td>Exports</td>
<td>Imports</td>
<td>84,028</td>
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<tr>
<td>Total req.</td>
<td>Canadian</td>
<td>26,420</td>
</tr>
<tr>
<td></td>
<td>Total sup.</td>
<td>77,813</td>
</tr>
<tr>
<td>Govt. stocks:</td>
<td>Industry stocks:</td>
<td>1/1/43</td>
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<tr>
<td>Objective:</td>
<td>None</td>
<td></td>
</tr>
</tbody>
</table>

Military and Civilian requirements for crude asbestos are negligible. Requirements of military and civilian use for crude asbestos is not available. Consumption of asbestos grade was 1,173. Current total 125,710.

### U. S. IMPORTS

<table>
<thead>
<tr>
<th>Source</th>
<th>1937-39 average</th>
<th>% of total 1942</th>
<th>% of total</th>
</tr>
</thead>
<tbody>
<tr>
<td>Africa</td>
<td>8,620</td>
<td>40.1</td>
<td>26,401</td>
</tr>
<tr>
<td>Canada</td>
<td>12,880</td>
<td>59.9</td>
<td>27,637</td>
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<tr>
<td>Total</td>
<td>21,500</td>
<td>100.0</td>
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</table>

*Includes S. W. Africa 1941-1942: 31,044.

### U. S. PRODUCTION AND CONSUMPTION

<table>
<thead>
<tr>
<th>Source</th>
<th>1937-39 average</th>
<th>1941</th>
<th>1942</th>
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</thead>
<tbody>
<tr>
<td></td>
<td>Production</td>
<td>None</td>
<td>None</td>
</tr>
<tr>
<td></td>
<td>Consumption</td>
<td>None</td>
<td>None</td>
</tr>
<tr>
<td></td>
<td>Total</td>
<td>82,045</td>
<td></td>
</tr>
</tbody>
</table>

(Continued on other side)

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US 11241

APRIL 25, 1942

DECLASSIFIED

Authority: CONFIDENCE GUIDANCE 5/1952

BY: L. Jones, NARA Date: 7/1965
Asbestos (Crude); Canadian and African Critical Grades—Continued

3. USES, SUBSTITUTES, RESTRICTIONS:

Uses: The white, highly fibrous, chrysotile from Canada and Southern Rhodesia is used in the production of textiles (including brake linings and clutch facings) and certain grades of building materials. The brownish gray coarse fibred amosite from the Union of South Africa is used in the production of fireproof board, high temperature insulation, pipe covering, blankets for insulating turbines on combat ships.

The blue crocidolite from the Union of South Africa is used in the production of acid packings, filter cloth, asbestos cement and pipe, because of its resistance to acids.

Substitutes: There is no generally acceptable substitute for asbestos in specific applications where resistance to heat, electricity, acid erosion are prime considerations.

Mineral wool, glass wool and the shorter fibres have been utilized for insulation in some instances in lieu of the critical grades. Asbestos is, however, being used in the war program as a substitute for other materials, e.g., asbestos pipe is being used in some applications in lieu of cast iron and steel pipe. Short fibre in some instances is being used as a substitute for critical grades of long fibre.

Restrictions: Conservation Order No. 79, as amended June 19, 1942, restricts the use of fibre from South Africa to priority rated orders and confines certain grades and types to specific uses. Asbestos from the Union of South Africa and Rhodesia was placed under General Import Order W-03, January 10, 1942. Conservation Order M-123, as amended December 14, 1942, prohibits the use or delivery of asbestos textiles for certain nonessential uses. Conservation Order W-283 provides for the allocation of asbestos textiles.

4. PRICES AND STOWAGE:

Prices (March 18, 1943):

Canadian grades:

- Crude No. 1: $850-$1750
- Crude No. 2 and sundry crudes: $165-$285
- Spinning fibres: $124-$223
- Per ton, f.o.b. Quebec Mines, tax and bags included (Quotations in U.S. funds):

African grades:

- Crocidolite crudes: $105-$136
- Amosite crudes: $100-$132
- Rhodesian chrysotile: $75-$128
- Per ton, f.o.b. African port:

Stowage: Crude asbestos is packed in cloth bags with no inner liner; gross weight 101 pounds, tare one pound. Cubic measurement, 1.6 cubic feet; stowage factor 34. Some grades occupy 3.4 cubic feet per bag of 99 pounds gross weight and have stowage factor of 78. Stowage factors for crude asbestos from Africa vary from 78 to 90 depending upon the degree of fibre concentration from crude rock.

5. SPECIAL PROBLEMS:

Since only African varieties of asbestos satisfy certain critical military requirements, the essential problem is that of maintaining uninterrupted imports from Rhodesia and Union of South Africa.

FEDERAL REGISTER, Saturday, August 30, 1941

$0.50  akum, $0.85; Young, $0.43; Zapa-
ta, $0.83; and Zavala, $0.80.
Wisconsin: Adams, $0.88; Ashland, $1.03;
Brown, $1.32; Buffalo, $1.35; Burnett,
$1.09; Calumet, $1.42; Chippewa, $1.22;
Clark, $1.22; Columbia, $1.27; Crawford,
$1.33; Dane, $1.27; Dodge, $1.50; Door,
1.13; Douglas, $1.22; Dunn, $1.28; East
Claire, $1.26; Florence, $1.03; Fond Du
Lac, $1.42; Forest, $1.13; Grant, $1.41;
Green, $1.40; Green Lake, $1.32; Iowa,
$1.36; Iron, $1.13; Jackson, $1.21; Jeffer-
son, $1.46; Juneau, $1.13; Kenosha, $1.41;
Kewaunee, $1.25; La Crosse, $1.32; La-
ayette, $1.36; Langlade, $1.20; Lincoln,
1.14; Manitowoc, $1.43; Marathon,
1.18; Marinette, $1.08; Marquette, $1.04;
Milwaukee, $1.46; Monroe, $1.31; Oconto,
1.14; Oneida, $1.05; Outagamie, $1.38;
Ozaukee, $1.45; Pepin, $1.30; Pierce,
1.32; Polk, $1.25; Portage, $1.03; Price,
1.14; Racine, $1.48; Richland, $1.33;
Rock, $1.36; Rusk, $1.24; St. Croix, $1.30;
Sauk, $1.25; Sawyer, $1.11; Shawano,
1.25; Sheboygan, $1.44; Taylor, $1.23;
Trempeleau, $1.27; Vernon, $1.33; Vilas,
1.04; Walworth, $1.40; Washburn, $1.09;
Washington, $1.30; Waukesha, $1.43;
Vauka, $1.29; Waushara, $1.02; Win-
nebago, $1.38; and Wood, $1.15.

Wyoming: Campbell, $0.61; Converse,
0.61; Crook, $0.77; Goshen, $0.74; Jon-
son, $0.86; Laramie, $0.56; Niobrara,
0.55; Platte, $0.72; Sheridan, $0.53; and
Yoston, $0.78.

Done at Washington, D. C., this 20th
day of August, 1941. Witness my hand
and the seal of the Department of Agri-
culture.

[SEAL]

CLAUDE R. WILKINSON,
Secretary of Agriculture.

F. R. Doc. 41-6516: Filed, August 29, 1941;
11:18 a. m.]

TITLE 32—NATIONAL DEFENSE
CHAPTER VI—SELECTIVE SERVICE SYSTEM

[Amendment No. 105]

N AMENDMENT TO AUTHORIZE STATE
MEDICAL OFFICERS TO CONDUCT PHYSI-
CAL EXAMINATIONS IN EMERGENCIES

By virtue of the Selective Training and
Service Act of 1940 (64 Stat. 885) and the
authority vested in me by the rules and
regulations prescribed by the President,
hereby authorize effective fifteen (15) days
after the filing hereof the Division of the
Federal Register, the Selective Service Regu-
lations, Volume One, Section IV, by stri-
king out the present Paragraph 123 and
inserting the following therefor:

123. State medical officers. a. In each
one or more medical officers of the
rty, Navy, National Guard, Naval Re-
erves, or Organized Reserves shall be
sired by the President, upon recom-
entation of the Governor. Medical

15 P. R. 3770.

(b) “Defense Order” means:
(1) Any contract or order for material
or equipment to be delivered to, or for
the account of:
(i) The Army or Navy of the United
States, the United States Marine
Commission, the Panama Canal, the
Coast and Geodetic Survey, the Coast
Guard, the Civil Aeronautics Authority, the
National Advisory Commission for Aeronautics,
the Office of Scientific and Research
and Development;
(ii) The government of any of the fol-
lowing countries: The United Kingdom,
Canada and other Dominions, Cen-
Colonies and Protectorates of the British
Empire, Belgium, China, Greece, the
Kingdom of the Netherlands, Norway,
Poland, Russia and Yugoslavia.

(2) Any contract or order placed by
any agent of the United States Govern-
ment for material or equipment to be
delivered to, or for the account of, the
government of any country listed above,
or any other country, including those in
the Western Hemisphere, pursuant to
the Act of March 11, 1941, entitled “An
Act to Promote the Defense of the United
States,” (Land-Lease Act).

(3) Any other contract or order to
which the Director of Priorities assigns
a preference rating of A-10 or higher.

(4) Any contract or order for material
or equipment required by the Person
placing the same to fulfill his contracts
or orders on hand, provided such mate-
rial or equipment is to be physically
incorporated in material or equipment
to be delivered under contracts or orders
included under (1), (2) or (3) above.

(c) “Material” means any commodity,
equipment, accessories, parts, assemblies
or products of any kind.

15 P. R. 3770.

(b) “Defense Order” means:
(1) Any contract or order for material
or equipment to be delivered to, or for
the account of:
(i) The Army or Navy of the United
States, the United States Marine
Commission, the Panama Canal, the
Coast and Geodetic Survey, the Coast
Guard, the Civil Aeronautics Authority, the
National Advisory Commission for Aeronautics,
the Office of Scientific and Research
and Development;
(ii) The government of any of the fol-
lowing countries: The United Kingdom,
Canada and other Dominions, Cen-
Colonies and Protectorates of the British
Empire, Belgium, China, Greece, the
Kingdom of the Netherlands, Norway,
Poland, Russia and Yugoslavia.

(2) Any contract or order placed by
any agent of the United States Govern-
ment for material or equipment to be
delivered to, or for the account of, the
government of any country listed above,
or any other country, including those in
the Western Hemisphere, pursuant to
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or equipment required by the Person
placing the same to fulfill his contracts
or orders on hand, provided such mate-
rial or equipment is to be physically
incorporated in material or equipment
to be delivered under contracts or orders
included under (1), (2) or (3) above.

(c) “Material” means any commodity,
equipment, accessories, parts, assemblies
or products of any kind.

15 P. R. 3770.
64 References to the Director of Priorities.

64.14 Records. All Persons affected by any Order of the Director of Priorities shall keep and preserve for a period of at least two years accurate and complete records of their inventories of the Material covered by each Order, and of the details of all transactions in the Material covered by such Order. Such records shall include the dates of all contracts or purchase orders accepted, the delivery dates specified in such contracts or purchase orders, and the delivery data, if any, for each Preference Rating Certificate issued under such Order.

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**Footnotes:**

64.14 (b) Deliveries of imported material to any Person importing the same, either directly or through an agent.

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**References:**

64.4 Assignment of preference ratings. Preference ratings may be assigned to contracts, purchase orders or deliveries by means of Preference Rating Certificates issued by the Director of Priorities, or by regulations or Orders issued by the Director of Priorities assigning ratings to particular deliveries or to specified classes of deliveries. Such ratings may be assigned to deliveries under accepted contracts or purchase orders, and also, in the case of Defense Orders, to purchase orders which have not been placed or accepted at the time the rating is applied for. The Director of Priorities may also issue specific directions as to particular deliveries, without assigning ratings thereon.

64.5 Sequence of preference ratings. Preference Ratings, in order of precedence, are: AA, A-1, A-2, A-3, A-4, A-5, A-6, A-7, A-8, B-1, B-2, B-3, B-4, B-5, B-6, B-7, B-8, B-9, B-10, BB, B-1, B-2, B-3, etc. AA being the highest rating presently assigned.

64.6 Doubtful cases. Whenever there is doubt as to the preference rating applicable to any delivery, or as to whether a particular delivery is or is not an Order, the matter is to be referred to the Division of Priorities for determination, with a statement of all pertinent facts.

64.7 Sequence of deliveries. (a) Every delivery under a Defense Order shall be made in accordance with the Direction of Priorities under all other contracts or orders whenever, and to the extent necessary, to fulfill the delivery schedule provided in the Preface Rating Certificate covering such delivery, or in the contract or purchase order if no Certificate has been issued. Deliveries bearing no preference rating or lower preference ratings shall be deferred to the extent necessary to assure those deliveries bearing higher preference ratings. Whenever such deferment may cause defaults under other contracts or purchase orders. Each Person who has Defense Orders on hand must schedule his production and deliveries that deliveries under Defense Orders will be made on the dates required, giving precedence, in case of unavoidable delay, to deliveries bearing the higher preference ratings.

(b) The sequence of deliveries shall be determined by the delivery dates specified in their respective Preference Rating Certificates, or if the ratings were assigned by the Director of Priorities, but no Certificates were issued, then by the dates specified in the contracts or purchase orders. In any case where both preference ratings and delivery dates are the same, and it is impossible to make all deliveries on schedule, the matter is to be referred to the Division of Priorities for instructions as to sequence.

64.8 Delivery schedules. No earlier delivery date shall be specified in any Defense Order than required by the production or delivery schedules of the Person placing the Defense Order. No preference ratings shall be assigned to any contract or purchase order specifying delivery dates earlier than required by the production or delivery schedules of the Person placing the contract or purchase order.

64.9 Deferred deliveries. When deliveries under Defense Orders have been unreasonably or improperly deferred, the Person entitled to delivery may file with the Division of Priorities a verified report in form to be prescribed, setting forth the facts in connection with the alleged deferment. When the facts set forth justify such action, the Director of Priorities will suspend the Director of Priorities against whom complaint is made to submit a sworn statement, setting forth the circumstances concerning the alleged deferment of deliveries. Thereafter, such action will be taken by the Director of Priorities as he deems appropriate.

64.10 Allotments. When specific allocations of Material are made by the Director of Priorities, such allocations may, in the discretion of the Director, be made without regard to any preference ratings which have been assigned to deliveries under particular contracts or purchase orders.

64.11 Use of material obtained under allocation or preference rating. Any Person who obtains a delivery of any Material under an Order or specific direction of the Director of Priorities, or a delivery of Material bearing a preference rating, must use such Material, or an equivalent amount therefor, for the purpose specified in connection with the Order, in the order of deliveries, and in the order of the Division of Priorities.
after regulate and control all matters embraced herein, except where inconsistent with the specific provisions of any existing or future Order or direction of the Director of Priorities. All existing Orders, directions and actions of the Director of Priorities are hereby ratified and confirmed and shall remain in full force and effect until they expire by their terms or are specifically revoked or amended.

Issued August 27th, 1941, effective immediately.

E. R. Stebbins, Jr.,
Director of Priorities.

Approved:

WILLIAM S. KNUDSEN,
Director General,
SIDNEY BELLMAN,
Associate Director General.

[F. R. Doc. 41-6902: Filed, August 28, 1941; 1:45 p.m.]

CHAPTER XI—OFFICE OF PRICE ADMINISTRATION AND CIVILIAN SUPPLY

PART 1337—RAYON

AMENDMENT OF CIVILIAN ALLOCATION PROGRAM FOR RAYON YARN

It is hereby directed that the amendment to § 1337.1 which was issued August 15, 1941, be amended by deleting the expiration date “August 31, 1941”, and substituting in lieu thereof the expiration date “September 30, 1941.”

It is further directed that the amendment to § 1337.1 which was issued August 15, 1941, be amended by deleting the expiration date “August 31, 1941”, and substituting in lieu thereof the expiration date “September 30, 1941”, and it is further directed that such amendment be amended by deleting the figure “95%” and substituting in lieu thereof the figure “100%.”

Section 1337.1, as amended, is also hereby further amended by adding at the end thereof the following:

§ 1337.1 Allocation of materials.

Provided further, That the rayon yarn expressly required by this program to be made available to the holders of this permit for the purpose of filling their permit for the purpose of filling their permit shall be used only to replace silk, and the amount thereof shall therefore be computed apart from the amounts available for the purpose of filling the permit.

Issued this 28th day of August 1941.

LEON HENDERSON,
Acting Administrator.

[F. R. Doc. 41-6932: Filed, August 29, 1941; 11:16 a.m.]

[Schedule No. 25]

PART 1343—FATS AND OILS AND THEIR PRODUCTS

ELIMINATION OF SPECULATIVE AND INFLATIONARY PRICE PRACTICES WITH RESPECT TO FATS AND OILS AND THEIR PRODUCTS

The Office of Price Administration and Civilian Supply is charged with the maintenance of price stability and civilian supply. Present stocks and production of fats and oils and their products are ample. However, during the past few months, speculation in and hoarding of fats and oils and their products has created the impression of a shortage, and has imposed an artificial influence upon prices detrimental to the public interest and national defense.

The Office of Price Administration and Civilian Supply has taken an exhaustive investigation of this Office by the Trade, has established the necessity for, and the willingness of the Trade to cooperate in, the elimination of certain of these speculative and inflationary price practices.

Therefore, under the authority vested in me by Executive Order No. 8734, it is hereby directed that:

§ 1343.1 Elimination of speculative sales.

No person shall buy or offer to buy, and no person shall sell or offer to sell, fats or oils or their products for the purposes of reselling them at a profit without either (a) further processing them or (b) performing some other recognized function in the distribution or manufacture thereof.

Any purchase or sale of a future contract made on an organized commodity exchange to hedge a position, or any purchase or sale made to fill an order on hand, to avoid transportation expenses, or to facilitate any other recognized
Section 1. Purpose:

.01 The purpose of this Order is to regulate the compliance activities of the War Production Board, and to establish rules and procedures for the taking of administrative action and the institution of civil or criminal proceedings in cases of noncompliance with orders and regulations issued by or under the authority of the Chairman of the War Production Board.

Section 2. Responsibility for Compliance:

.01 Responsibility for obtaining compliance with orders and regulations of the War Production Board is vested in the Director of the Compliance Division, the General Counsel and (subject to policy direction from either of them) in the Regional Directors and Regional Compliance Chiefs.

.02 All officials of the War Production Board shall promptly refer to the Compliance Division all cases of violation of an order or regulation which involve a substantial diversion of material or productive capacity, or which appear to be wilful or the result of gross negligence.

.03 The Director of the Compliance Division shall have sole authority and responsibility for authorizing and conducting investigations and surveys relating to compliance with orders and regulations. Such authority and responsibility may be delegated by the Director of the Compliance Division to Regional Directors with authority to redelegate with the consent of the Director of the Compliance Division to other regional officers. Until otherwise ordered all employees of the Compliance Division, all regional employees assigned to compliance activities in their respective offices, and all employees of other agencies of the United States who may be requested by the Director of the Compliance Division or by a Regional Director to assist in War Production Board compliance activities may, in the course of their official duties, exercise the authority conferred upon the President by the Second War Powers Act to make inspections and investigations in connection with the enforcement or administration of said Act.

.04 Except as otherwise provided in this Order, no official of the War Production Board shall deal with any violation either by the taking of administrative action or by the adjustment of a case unless under specific delegation from the Director of the Compliance Division.

Section 3. Compliance Procedures:

.01 Compliance with orders and regulations of the War Production Board may be enforced by criminal prosecutions and civil injunction proceedings under the Second War Powers Act, or by the taking of administrative action against persons violating such regulations and orders, including the issuance of suspension orders in proper cases.

.02 Criminal or civil prosecution under the Second War Powers Act shall be the customary method of enforcing compliance. All wilful and substantial violations of the War Production Board orders or regulations are to be referred to the Department of Justice for criminal or civil prosecution in lieu of taking administrative action against the violator, unless the General Counsel determines that such prosecution is impracticable or inappropriate.

Section 4. Institution of Civil or Criminal Proceedings:

.01 In any case where it appears to the Director of the Compliance Division or to a regional compliance chief that the institution of civil or criminal proceedings for violation of orders and regulations or for misrepresentations to the War Production Board is proper, such case shall be immediately referred to the Office of the General Counsel for appropriate action. (The Office of the General Counsel as used in this Order includes the regional attorneys.)

.02 The decision of the General Counsel as to the necessity for such proceedings shall be final, unless overruled by the Chairman of the War Production Board.
The General Counsel may recommend the institution of civil or criminal proceedings on his own initiative in any case where he deems it appropriate to do so.

Except as authorized by this Section 4, no officer or employee of the War Production Board, except members of the Office of the General Counsel, shall take any action with respect to current or contemplated civil or criminal proceedings alleged violations of WPB regulations or orders.

Administrative Action in Cases of Noncompliance:

Suspension orders may be issued in the name and under the authority of the War Production Board, in cases of violations of WPB regulations or orders resulting from misconduct or gross negligence of the person or firm involved, and in cases where presentations to the War Production Board in connection with operations under investigations, orders, or directives.

Suspension orders may:

1. Withdraw or withhold priority assistance from a respondent;
2. Withdraw or withhold allocations or allotments of scarce materials or products from a respondent;
3. Prohibit or restrict a respondent in the acquisition, delivery, production, use or disposition of scarce materials or products;
4. Otherwise regulate the business conducted by respondent in order to assure future compliance by him.

Compliance Commissioners:

The Chairman of the War Production Board will appoint persons to act as compliance commissioners. The Chairman will also appoint a Chief Compliance Commissioner. The Chief Commissioner, the Deputy Chief Compliance Commissioner, and all other compliance commissioners shall be responsible solely to the Chairman of the War Production Board and shall have no other duties than those specified by the Director of the War Production Board. The Chairman of the War Production Board shall report to the Director through the Office of the Executive Director.

Compliance commissioners will consider all charges of violation presented to the War Production Board or to the Regional Compliance Chiefs, will make, hear and determine such charges, and shall have the right to issue orders for the suspension of, or to revoke and rescind, any such orders issued by the War Production Board, except as provided in this Order.

Compliance commissioners will also preside at hearings held in connection with investigations of alleged violations, though no specific charge has been made.

For the purpose of obtaining any information, verifying any report received, making any investigation concerning the violation of any order or regulation, a compliance commissioner may administer oaths and affirmations and may require by subpoena the attendance and testimony of witnesses, the production of any books, records, or any other documentary or physical evidence, which may be relevant.

All subpoenas shall be returnable before a compliance commissioner, and if prior to the return date specified in the subpoena, the person against whom the subpoena is issued fails to furnish the compliance commissioner with a true certified copy of the subpoena, records, or other documentary evidence, then the production of such orders or evidence shall not be required at any place other than the place where the subpoena is issued resides or transacts business.

The Chief Compliance Commissioner will hear and determine appeals from decisions of compliance commissioners, and will perform the duties specified in this Order. He will also exercise general supervision over the work of compliance commissioners, subject to direction of the Chairman. He may establish policies, standards, and procedures to be followed by the commissioners, not inconsistent with this Order; policies, standards, and procedures must be approved by the General Counsel.

The Chief Compliance Commissioner will hear and determine such appeals, and if the Deputy Chief Compliance Commissioner may be referred to him from time to time by the Chief Compliance Commissioner, so himself act as compliance commissioner from time to time.
Section 7. Administrative Proceedings:

.01 When the Director of the Compliance Division, a regional director, or a regional compliance chief, after investigation, has reason to believe that there has been a violation of any order or regulation which in his opinion warrants criminal, civil, or administrative proceedings, he will refer the case to the Office of the General Counsel (or to the regional attorney). If the Office of the General Counsel determines that administrative proceedings should be instituted, a charging letter or telegram will be prepared for the signature of the Director of the Compliance Division or the regional compliance chief, advising the respondent of the specific violations charged and the administrative action that may be taken against him. The respondent will be afforded an opportunity to offer a written explanation of the charges, or to appear at a hearing when the charges against him are considered by a compliance commissioner. No suspension order (except a temporary order referred to in paragraph .05) will be issued except after such a hearing.

.02 Upon reasonable notice to the respondent, the hearing will be held on the charges against him. The commissioner will consider all of the facts relevant to the violations charged submitted by the Compliance Division and the respondent, including oral testimony, written statements and exhibits. After considering the facts submitted at the hearing, the compliance commissioner will file his report and recommendation with the regional office of the War Production Board. The report will contain a statement of the facts found relative to the violations charged, together with the commissioner’s conclusion as to whether or not such facts constituted a violation of the orders and regulations of the War Production Board, and if so, whether or not the violation was willful or the result of gross negligence. The report will be accompanied by a separate recommendation of the administrative action to be taken or for the closing or other disposition of the case, including, where appropriate, a recommendation for transmission of the case to the Department of Justice for civil or criminal proceedings. Instead of filing a recommendation, the commissioner may direct that no final disposition be made of the case for a specified period of time pending a determination of the possibility of continuing violations in the future. The report of the commissioner as to the facts found shall be binding upon the Compliance Division for the purpose of the compliance proceeding, but may be reviewed by the Chief Compliance Commissioner on an appeal filed by the respondent.

.03 If the compliance commissioner concludes that the facts found do not constitute either a willful violation or a violation caused by the gross negligence of the respondent, he will close the case with a letter to the respondent.

.04 When the compliance commissioner recommends the taking of administrative action, his recommendation shall be incorporated in a proposed suspension order and submitted to the Office of the General Counsel and to the Director of the Compliance Division, upon whose approval such order shall issue in the name of the War Production Board, witnessed or attested by the Executive Secretary or the Recording Secretary. The Office of the General Counsel and the Director of the Compliance Division may also jointly direct the issuance of a suspension order differing from the suspension order proposed by the compliance commissioner only in that the terms of the suspension are less, or the restrictions imposed are less severe. No suspension order is effective unless approved by both the Office of the General Counsel and the Director of the Compliance Division, unless otherwise directed by the Chairman.

.05 The Director or Deputy Director of the Compliance Division may at any time, with the approval of the Office of the General Counsel, direct the issuance of a temporary suspension order with or without notice. In all such cases, however, the respondent will be informed of the charges against him and a hearing will be held as soon as practicable after the issuance of the temporary suspension order, and in any event before such order is made permanent.

.06 The Director or Deputy Director of the Compliance Division may at any time, with the approval of the Office of the General Counsel, direct the issuance of a suspension order upon the consent of the respondent, and the issuance of specific exceptions or authorizations under suspension orders; this authority may be delegated by the Director to other officials of the War Production Board.

.07 Any person affected by the provisions of a suspension order issued in accordance with a report of a compliance commissioner may appeal from any or all of the provisions of the order to the Chief Compliance Commissioner. An appeal is from a decision of the Chief Compliance Commissioner acting as a commissioner, the appeal shall be to the Deputy Chief Compliance Commissioner. The appeal must be taken in accordance with the rules and procedures laid down from time to time by the Chief Compliance Commissioner, and his decision thereon shall be final. In determining such appeals, the Chief Compliance Commissioner may direct the closing of the case or the modification of the order in any respect, including an increase of the suspension period or the restrictions imposed, subject, however, to the approvals specified in paragraph .04 above.
.08 Pending the determination of an appeal from the provisions of a suspensive order, the Chief Compliance Commissioner or his Deputy, upon a showing of irreparable injury, may direct the issuance of an order staying the operation of the suspension in any case in which an appeal is taken from a decision of the Chief Compliance officer acting as a commissioner, a stay may be issued by the Deputy Chief Commissioner.

.09 The Chief Compliance Commissioner may also, at any time, with the consent of the General Counsel, revoke or modify any suspension order by diminishing the period of suspension or the restrictions imposed though no appeal from the order taken by the respondent.

.10 The Director of the Compliance Division shall prepare and transmit to the Attorney General's Office in the booklet "Priorities", a list containing names of persons, firms, and corporations against whom suspension orders have been issued and the provisions of such orders.

.11 No preference rating certificates, orders, allocations, allotments, or other suspensions shall be issued by any employee of the War Production Board when prohibited by the provisions of any suspension order.

8. Closing Compliance Cases:

.01 Prior to submission of a case to the Office of the General Counsel, it lodged or a warning letter may be issued to the respondent at any time by the Regional Director or the Regional Compliance Officer.

.02 After a case has been submitted to the Office of the General Counsel, it may be closed only by or with the consent of that Office.

.03 After a hearing has been held in a case before a compliance commissioner, it may be closed only by the commissioner.

9. Orders Superseded:

.01 This Order supersedes General Administrative Order No. 8-39 as amended 10, 1942.

10. Effective Date:

.01 This Order will be effective on and after August 20, 1943.

I certify that the original of this Order duly approved and signed by the appropriate Executive was filed with me on the 21st day of August, 1943.

[Signature]

Donald M. Nelson
Chairman

[Stamp]
Priorities
and Industry

DIVISION OF INFORMATION
WAR PRODUCTION BOARD
WASHINGTON, D.C.
AUGUST, 1942
PART I

THE OVERALL PATTERN

The Priorities System is the primary method of controlling the flow of materials and finished products in the war economy. It has grown from small beginnings, just as war production has grown from a defense program of less than $100,000,000 in the Spring of 1940 to a giant which will be larger next year than the total national income of the depression years.

In the early days of the defense program, priorities simply meant putting first things first—giving a preference to military orders when they conflicted with ordinary civilian production. That was sufficient when military production was only a small part of the total national output. It is obviously not enough now that direct spending for war amounts to more than all of the rest of the economic activities of the United States put together.

The easiest way to understand the priorities system as it exists today is to look back on how it has grown. It would have been impossible a year ago to devise a system to meet today's needs, and by the same token it has not been possible at any time during the last year to take time out for the development and application of a wholly new system based on today's conception of war requirements. The development of priorities has necessarily been a continuous adaptation of controls to a situation which changed with disconcerting rapidity, and it will clearly be necessary to keep on changing the system until the war is over. Constant change may be inconvenient but rigidity under the conditions of modern war would be fatal. There are, however, a few basic instruments of the priorities system which have been used in one form or another virtually from the beginning and which are likely to remain in use as long as priorities are necessary.

The first of these is the priority rating or preference rating. These ratings, expressed in a continuous series from AAA to B-8, indicate the relative importance of various uses of materials in the war economy. An order which has been assigned an AAA rating is of the utmost urgency, followed in importance by those in the AA series, the A-1 series and ratings of A-2, A-3, A-4, etc. This pattern of ratings is established with the full force of law by Priorities Regulations No. 1, which says that any purchase order bearing a preference rating must be accepted and given its proper place in production and delivery schedules. The preference rating, in other words, is the tag on a purchase order which governs the place that order will take in the war economy.
Preference ratings are assigned by authority of the War Production Board in a number of different ways which will be described in greater detail later on in this booklet. Briefly, the principal methods used to assign preference ratings are as follows:

Individual preference rating certificates, PD-IA's and PD-3A's.—These certificates are used by the War Production Board and by procurement officers of the Army, Navy, and other authorized Government agencies, to assign ratings to orders for specific quantities of material or equipment for a specific purpose. These individual certificates were used very extensively in the earlier days of the priorities system but their importance has been diminishing since it has become necessary to schedule the flow of materials on a broad basis over a longer period of time.

Limited blanket rating orders, "P" orders.—These orders permit the use of preference ratings without further authorization by certain companies, industries or groups of industries for specified purposes, both to obtain production materials and materials for maintenance, repair, and operating supplies. Most of these orders have been canceled or allowed to expire, because they did not provide a sufficiently tight control over the quantity of materials to which ratings could be applied under their terms. A few of them remain in effect, however, especially for the use of smaller companies and companies to which no other form of priority assistance is appropriate.

Project ratings.—These are a special type of limited blanket rating used for construction projects. A manufacturer putting up a new plant, for example, can be granted a project rating. This rating can be applied to all the orders for materials going into the project, but when the project is finished the rating expires. Because materials needed for new construction projects have become scarce, the kinds of new construction projects which may be undertaken have been strictly limited, particularly by a “Directive for War-Time Construction” issued jointly by the War and Navy Departments and WPB.

Production Requirements Plan.—This is a combined preference rating and allocation system. Under it WPB determines the amount of material available and allocates it on the basis of an industry’s importance to the war effort. With a few exceptions, PRP is mandatory for all concerns using $5,000 worth of metal a quarter, which means approximately 90 percent of all metal used.

Manufacturers operating under PRP are assigned preference ratings for definite quantities of material to be purchased during a 3-month period. The grade of the preference rating still depends on the importance of the product, but the amount of material the manufacturer may obtain with his rating depends also on how much of that material is available. A significant feature of PRP is that no company operating under it is permitted to use or extend any other form of preference rating for material used in production.

These are the principal methods by which priority assistance is extended. There is also a special form of assistance granted occasionally for capital equipment, and a special distributor’s form, PD-IX. Provisions also are made for appeals for releasing frozen inventories.
Finally, priorities enter into the field of foreign trade, where assistance is given for Land-Lease and other foreign requirements.

The priorities system, however, is concerned with more than assistance. The other side of the picture is the rules and regulations which insure that the system works—in a word, control. Of course, these two factors overlap frequently, but there are certain clearly distinguishable types of priorities control which may be covered briefly here.

Priorities Regulation No. 1—Mention already has been made of Regulation No. 1, the basis of the priorities system. This regulation does more than merely set up a system whereby companies can obtain materials. It specifically states what producers and suppliers can and cannot do under the priorities system. Probably its most important provision is that all rated orders, civilian as well as war, must be accepted. Delivery dates must be specified, and no one is permitted to ask for delivery any sooner than required by his own production or delivery schedule. Regulation No. 1 also forbids the building up of excessive inventories.

Materials control, the "M" orders.—The purpose of these orders is to bring certain raw materials under the control of WPB. Usually this is done by simply forbidding delivery of the raw material to the manufacturer unless it is to be used for specified war purposes. In other cases the same end is accomplished by asking that producers of certain raw materials submit their shipping schedules to WPB for approval.

Machine tools, "E" orders.—These are like M orders, except that they apply to the distribution of equipment, chiefly machine tools and cutting tools. These are subject to E orders, in exactly the same manner as raw materials are subject to M orders. Close control is kept over allocation of new machine tools among purchasers in this country and abroad, and also over the sale and delivery of second-hand machine tools.

End products, "L" orders.—This type of regulation is issued to prohibit or curtail production of key essential goods which use up large quantities of scarce raw materials. In addition, stoppage or limitation of production through an L order often makes more production facilities available to the war effort. Production of automobiles was stopped by the issuance of an L order.

Enforcement, "S" orders.—A special Compliance Branch, with investigative and legal sections and an extensive field organization, is charged with enforcement of priorities orders. By means of industry-wide surveys, spot checks and individual investigation of apparent violations it maintains a constant watch over the use of critically needed scarce materials. Under the Second War Powers Act priorities violators are subject to severe penalties, ranging from a fine of $10,000 up to imprisonment of 1 year, or both.

Requisitioning.—In addition to the above controls, WPB also has the authority to requisition idle material and equipment essential to the war effort. So far, most requisition orders have been issued to acquire valuable material held in warehouses and other storage places for the accounts of European firms on orders placed before the outbreak of war.
Three, then, are the chief controls and the chief methods of granting assistance in the priorities system. But priorities cannot be thought of as simply a series of orders and controls superimposed on our normal business life. They are today the basis of our entire economy, because our entire economy is devoted to the war effort.

One way of defining the priorities system is to say that its primary function is to schedule deliveries of materials and products in such a way as to bring about the maximum production of war and absolutely essential products which the United States with all its vast resources is capable of supplying.

Every worker and every factory, every bit of material and every machine is now a part of the war program. No use of material is unimportant and no company has a right to think of its own operations except in connection with the war program. Priorities must be accepted on this basis, and a strict observance, not only of the letter but also of the spirit of the priorities system, is a high patriotic duty.

There are no longer distinctions between soldiers and civilians when the bombs fall, and there likewise are no distinctions between soldiers and civilians in meeting the forces of the Nation for total war.

Material has become just as important as fighting man power, and any failure to produce material which might help to win a battle is just as serious as failure of soldiers under fire.

Priorities orders are the basis for production of planes and ships, and a day's delay in carrying out orders on the home front may mean a day's delay in achieving final victory.
UNIVERS STATES NAVY DEPARTMENT
BUREAU OF MEDICINE AND SURGERY

ANNUAL REPORT OF THE
SURGEON GENERAL, U.S. NAVY
CHIEF OF THE BUREAU OF MEDICINE AND SURGERY
TO THE SECRETARY OF THE NAVY
CONCERNING
STATISTICS OF DISEASES AND INJURIES
IN THE UNITED STATES NAVY
FOR THE CALENDAR YEAR
1939

UNITED STATES
GOVERNMENT PRINTING OFFICE
WASHINGTON : 1941
Industrial Medicine

Long term of the high

Infectious diseases and acute and chronic

Health of the Navy

21
Health of the Sump

Preventive Maintenance

Daily Checks
- Check oil level
- Check sump temperature
- Check sump pressure
- Check sump noise

Weekly Checks
- Check sump filter
- Check sump valves
- Check sump belts

Monthly Checks
- Check sump pumps
- Check sump bearings
- Check sump lubrication

Quarterly Checks
- Check sump wear parts
- Check sump gaskets
- Check sump alignment

Annual Checks
- Check sump repairs
- Check sump overhaul
- Check sump replacement
Hepatitis and Salivary Glands / Head and Neck

The liver is an important organ located in the upper right portion of the abdomen. It plays a crucial role in maintaining overall health and is responsible for various functions such as detoxification, protein synthesis, and production of bile. Hepatitis refers to inflammation of the liver, which can be caused by several factors, including viruses, alcohol, drugs, and autoimmune conditions. Salivary glands, which are located in the mouth, produce saliva that helps in digestion, hydration, and protection against infections. Infections of the salivary glands can cause swelling, pain, and difficulty in swallowing.

The text continues with detailed information on these topics, including symptoms, causes, and treatments for both hepatitis and salivary gland infections.

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Health of the Nay

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Subject Matters, Publications, Print-Write, Committee, and News

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Editor's Note

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Statistics and Facts

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The dedication and hard work of the staff are commendable.
MEMORANDUM FOR ADMIRAL McELHINEY:

Subject: Notes for consideration when you call on Assistant Secretary Bard.

1. He asks specifically what the policy is concerning invitation of such people as Mr. Zimmer of the Bureau of Labor Standards, Labor Department into the Navy Yards to make a survey of the welding and other hazards. I told him that we had never done that sort of work and recommended against it, as I knew that Mr. Zimmer intends to send in if it should be done.

2. My meeting with Mr. Bard was specifically due to the fact that Captain Fisher had written a letter to Dr. Salby inviting him to make a survey of Navy Yards, with particular reference to health hazards, and make recommendations to the Bureau of Establishments Division.

I gave Mr. Bard and the two officers present a complete story of the beginning of this controversy from the Federal Administrator's letter: that is, that the United States Public Health Service had four teams of traveling scientists alleged to be able to make surveys of all of the Navy Yards and make recommendations for the correction of such hazards as were discovered. I told Mr. Bard that this was not considered the best policy, due to the fact that we had medical officers in the Yards and that in practically all instances recommendations of sound character had been made by medical officers. We saw no need of inviting the United States Public Health Service on its own initiative to do this job.

3. Likewise, I told him that I had spoken to you and that you had indicated that President Roosevelt thought that this might not be the best policy, due to the fact that they might cause disturbance in the labor element.

4. Points of great interest:

(a) Such health hazards as silica in our foundries. None of our foundries would pass the necessary inspection to obtain workers' compensation insurance from any of the insurance organizations. I doubt if any of our foundries would be tolerated if the State industrial health people were to make surveys of them. Repeated recommendations have been made by the medical officers attached to these Yards that studies be made on dust concentrations and steps be taken to remedy this condition.
(b) Sand blasting. Several recommendations have been made with reference to sand blasting and the danger from this hazard: with particular reference to the production of silica dust. Since these recommendations have come in, we now are using steel shot rather than sand in sand blasting but this is still a hazardous trade and might be restudied.

(a) Welding. Welding is a hazard under certain circumstances; that is, if nitric fumes are encountered and these can be completely abated by reasonable exhaust ventilation. However, several people have complained that we are doing welding under dangerous conditions. I frankly admitted that we had no data on which to make a considered opinion, but we would immediately start out with a view of determining the concentration of fumes of toxic metals or substances that might be in the welding rod.

(d) Solvents. Too little is known on the question of solvents and since there is a controversy between the toxicologists and industrial hygienists on this point, it will be necessary to do a very careful survey to determine whether we are in trouble.

(a) Hydrocarbon hydrocarbons. This is a matter of considerable concern in industry and we may be getting damage from some of these, but no surveys have been made to tell us the concentration of these compounds.

(b) Eye flashes from unprotected electric arcs, such as welding and forging. This can be completely abated by using screens for the workmen.

(a) Cadmium dust, smoke and fumes. If we are doing as much cadmium welding as is indicated by unofficial information from the field, we may be in a position to be seriously criticized about this. It is also necessary to determine the concentration.

(b) Chromium trioxide. Chromium plating is one of the serious occupations in that people frequently have performed from irritation from chromium trioxide. Such plants as I have seen doing plating in the Navy appear to be fairly well utilized, but there is evidence that a considerable number of people have been damaged from this hazard.

(c) Asbestosis. We are having a considerable amount of dust in asbestos and from my observations I am certain that we are not protecting the men as we should. This is a matter of official reports from several of our Navy yards.

We are not doing a very bad job of safety as we have wanted, but there will be a tremendous increase in the number of non-
fatal accidents, some of which will be lost time and some of which will be non-lost time, with the increase in personnel. This is already apparent from the reports from the Yards. If this is not enough to hold them down, I will give you all the additional information you need.

G. S. Stephenson,
Commander (NC), U. S. Navy,
In Charge, Div. of Preventive Medicine.
U.S. Navy - U.S. Maritime Commission - War Shipping Administration

Safety and Industrial Health Program

Report on Investigation

of

Asbestosis from Amosite Pipe Covering at Bath Iron Works

Bath, Maine

December 19, 1944

References: (a) Report of Industrial Health Survey of Sept. 24, 1942.
(b) " " " " Re-survey of April 9, 10, 1943.
(c) " " " " Sept. 26-23, 1944.
(d) "Minimum Requirements for Safety and Industrial Health in Contract Shipyards" approved by U.S. Navy, U.S. Maritime Commission and War Shipping Administration.

This document contains information affecting the national defense of the United States within the meaning of the Espionage Act 50 U.S.C. 31 and 32. Its transmission or the revelation of its contents in any manner to an unauthorized person is prohibited by law.

BY

J. C. Drescher, Surgeon, U.S. Public Health Service, Bethesda, Maryland

H. E. Fleischer, Lt. Co ndr. MC, USNR, Health Consultant
Office of the Regional Director of Construction
U. S. Maritime Commission, East Coast

DECLASSIFIED

Authority FEDERAL MARITIME COMMISSION 1982

BY L&T, NASA, June 15/85
This investigation was made at the direction of the Chief Health Consultant of the U.S. Maritime Commission, inasmuch as we had heard that there was concern among the pipe covering crews who feared that the amosite was causing some respiratory troubles.

Medical

There are about 120 workers engaged in handling asbestos in the Pipe Coverer's Shop and on board ships under construction. Chest X-rays are being taken first on those with the longest exposure, i.e., over two years, of which it is estimated that there are about 50 workers. In the near future all of the 120 will have a chest plate taken.

Of the 50 workers 38 have already been X-rayed and all of this group have been handling asbestos pipe covering from 2 to 9 years. It was interesting to note that the two individuals with the longest exposures of 5 and 9 years were in the older age group, being 59 and 65 years of age respectively. All of the 38 films were reviewed and 12 of these patients showed significant X-ray changes consistent with exposure to a dusty environment. History and physical examination by Dr. Fuller indicated that in all of the 38 patients respiratory symptoms and physical signs were minimal.

On X-ray interpretation these 38 patients could be divided into four groups:

1. The two older workers referred to above, the appearance of whose chest X-rays was consistent with the diagnosis of well established asbestosis. These plates also showed signs typical of advanced a.s., such as cardiovascular changes, etc.
2. A group of four workers whose exposure was from two and a half to
four years whose chest X-ray appearances were consistent with a
diagnosis of asbestosis.

3. A group of six workers whose exposure was from two to two and a half
years and whose chest films showed minimal changes but not sufficient
for a definite diagnosis of asbestosis.

4. A group of 23 workers whose exposure was from two to two and a half
years and whose chest films were considered negative.

It was considered significant that those workers with the most marked X-ray
changes were those who presumably were exposed to the heavier concentrations of
dust, such as operators of the band saw and small rotary power driven saws.

In those workers whose X-rays were consistent with a diagnosis of asbestosis,
the changes consisted of bilaterally symmetrical increased reticulon of the
lung fields resembling a ground glass appearance. Such lung field markings are
indistinguishable from those induced by chrysotile asbestos. No evidence of
active tuberculosis was noted on any of the films.

Description of Pipe Coverer's Shop

This shop occupies about half of a loft and is partially segregated from
sheet metal workers at the other end of the loft. The more dusty phases of the
work such as band saw cutting and the mixing troughs are located at the far end
of the loft. Local exhaust ventilation was installed on the band saw several
months ago and removes some of the dust arising during the cutting of pipe
insulation. Respirators were being worn by several workers using the small
rotary saws. It is anticipated in the near future, that the insurance carrier,
American Mutual Liability Insurance Co., of Boston, Mass., will take dust samples
throughout the shop. We know the personnel of the insurance carrier, have dis-
cussed the problem with them and would have complete confidence in their ap-
praisal of this job.
Recommendations:

1. It is recommended that all of the remaining asbestos workers be given a chest X-ray in the near future.

2. Unless the dust exposure is controlled as outlined below, the workers in groups 1 and 2 above, should be transferred to a non-dusty occupation.

3. Groups 1, 2 and 3 should have a chest X-ray at yearly intervals.

4. If the dust exposure is not controlled all asbestos workers should have a chest X-ray at yearly intervals.

5. While the local exhaust on the band saw removes a considerable proportion of the dust, it is not considered adequate. This ventilation should be corrected so that the dust is removed.

6. Unless properly ventilated the band saw and mixing trough operations should be isolated from each other and from the rest of the shop. All workers on these operations should wear either approved air line respirators or respirators approved for pneumoconiosis-producing dusts.

7. If the dust counts taken by the insurance show, that after isolation of the above operations, the amount of asbestos dust in the general shop is sufficiently high to produce an asbestosis hazard, then the general ventilation of the shop should be improved.

Note: Reference (a) recommended as follows:

"The conditions in this shop present a very real asbestosis hazard and immediate steps should be taken to segregate the most dusty processes into a well ventilated area. Local exhaust systems of proper design should be installed; however, if conditions cannot be completely controlled in this manner, then suitable dust respirators should be worn by the workers. Periodic physical examinations of the chests of all workers should be made."
It was decided by the M.C. and the Navy that an industrial health survey of selected yards should be made. In order that the plan should be carried out as expeditiously as possible the Navy loaned the M.C. two M.D.'s with industrial experience (from Norfolk and Philadelphia yards) and four ensigns, graduate engineers and chemists, who had been specialized also in industrial hygiene and ventilation.

In addition, Mr. John Roche of the National Safety Council was asked to inspect the safety engineering set-ups in many of the yards but there were several we covered which Mr. Roche has not seen.

Our schedule included visits varying from one to three days to six yards under Navy operation, eleven under M.C., and three doing work for both M.C. and Navy.

Gulf Shipbuilding Corp.  Mobile, Ala.  Navy
Houston Shipbuilding Corp. Houston, Tex.  M.C.
California Shipbldg. Corp. Terminal Island, L.A.  M.C.
Los Angeles Shipbldg. Corp. San Pedro, L.A.  M.C.
Western Pipe & Steel Corp. So. San Francisco  M.C.
Moore Bros.  Oakland  M.C.
Kaiser  Richmond  M.C.
Kaiser Corp.  Portland, Oregon  M.C.
Seattle-Union Shipbldg. Corp. Puget Sound, Wash.  M.C.
Grumman Engineering Co. Akron, Ohio  M.C.

Latham & Smith Shipbldg. Co. Sturgeon Bay, Wis.  M.C.
American Shipbldg. Corp. Lorain, Ohio  M.C.
South Portland Shipbldg. Corp. South Portland, Me.  M.C.
Tedder & Enos Shipbldg. Corp. South Portland, Me.  M.C.
Bath Iron Works  Bath, Maine  M.C.
Electric Boat Co.  Groton, Conn.  M.C.
Rhoss Manufacturing Co. Providence, Rhode Is.  M.C.
Bethlehem-Fairfield Shipbldg. Co. Baltimore, Md.  M.C.
Tampa Shipbldg. Corp. Tampa, Florida  Navy
In general, medical set-ups in the M.C. yards were better than in the Navy operated yards although several experienced firms on Navy contracts had good medical protection. The MD's staffs in at least two of the Navy operated yards were way below the caliber of those one sees today in Navy yards like Boston, Philadelphia, and Norfolk where they have anything from twelve to twenty-five MD's for 15,000 to 40,000 employees.

The M.C. yards generally had good medical personnel and often had them in sufficient numbers, but a few yards are short of MD's and it would be to the M.C.'s interest to see that this situation is corrected quickly. Similarly, we believe the Navy should help out in some of the Navy operated yards by drawing the necessary personnel from elsewhere.

We believe that these yards whether M.C. or Navy operated should have at least three doctors for a yard of six thousand men and one doctor for each additional five thousand.

Inspectors and Visits: In many of the yards— but by no means all— both management and medical personnel felt that the doctor's job was to remain in the yard dispensary and to treat the patients brought to him. Few of the doctors had the remotest idea what work in double bottoms was like. They could give no firsthand advice on preventing flash burns, had no idea what men ought to wear safety shoes, and in one very well-run yard had not the slightest idea what solvents were used in paints or how one of the men could possibly have been made ill by carbon tetrachloride. That point of view in industrial medicine is entirely out-of-date. We can show you manufacturing plants in all parts of the United States where the industrial physician is a competent physician yet inspects the entire plant.
several * times a week. He thereby learns what the men are doing and the men see him and know he is looking after their health and welfare. The effect of morale is excellent.

We have seen only two yards in which the medical staffs had the slightest idea how medical problems were met in other yards. The Navy has, in my opinion, been particularly remiss in not requiring its medical officers to visit other yards and especially to visit civilian operated yards. For instance, Bethlehem Steel Corporation for some years has had large yards in various parts of the United States. So far as I can find by asking the doctors at the yards belonging to Bethlehem they have never been visited by Navy doctors, yet the Navy suddenly has been forced to become one of the largest industrial employers in the country.

In short, we think M.C. and the Navy should require occasional inter-yard visits by the medical personnel and these visits should include men from the Navy yards such as Boston and Norfolk. They should see each other's set-ups, records, methods of handling patients and they should see something of the yards.

**Provision for Women:** Very few yards have made medical provisions for employing women although most of them realize fully that women are certain to be employed extensively in the very near future. It is, of course, obvious that dispensaries must be enlarged in order to take care of this new class of employees.

**Air Raid Precautions:** Very few yards have provided emergency first aid depots against air raids. We believe a national plan should be made so that no yard will be caught with all its medical supplies in one building.
Co-operative Hospital Plan: In the Kaiser yards at Richmond, Portland and Vancouver, Dr. Sidney Garfield has organized a medical insurance scheme which goes a good deal further than the Blue Cross plan which is in such wide use now throughout the country. These yards, for fifty to sixty cents weekly, will give shipyard employees complete medical and hospital care. If the man is too ill to come to the hospital himself they send a doctor to him and bring him to the hospital if necessary. Garfield expects to expand this service to include care of the workers' families. The effect on stabilizing the laboring population is very good. We have seen nothing in the yards in other parts of the country in any way comparable and recommend the scheme for serious consideration.

Turnover and Overtime Work: We do not believe either M.C. or the Navy is strict enough about requiring a day off regularly every week, including executives, for all employees. Men in all salaried groups are ready enough to work seven days a week and foremen are particularly eager to do it because of the extra pay. The arguments against continuous work leave no ground on which the practice can be supported and we urge in the strongest terms that a day off in every six or seven be required of all persons. A day off scheduled in advance is one of the best preventatives against migration and turnover.

Accident Records: I do not consider the present M.C. accident report adequate. We think it should be made a little more complete so that one can tell from time to time how many flash burns of the eye occur, how many broken toes, and the like. You can get such information from the forms used in the Navy yards like Boston's but you can't get it from M.C. yards.
You now can find out easily the number of accidents causing absences of seven days or more but can't tell how many accidents causing a few hours lost time or a few days occur. MC should know the score from anything which makes men go to the dispensary -- such trips cause lost time. The MC can get such information easily with very little change over the record system now in use.

Safet y Departments and Accident Insurance: In most of the yards visited the Safety Department is short on personnel and has not enough authority. In some of the M.C. yards the safety engineer from the insurance carrier has an office adjoining that of the yard and they work together. In other M.C. yards the insurance man was looked upon as an unmitigated nuisance and had little or no authority.

We are far from satisfied with the present insurance set-up in M.C. yards. Unlike other items which ought to enter into the cost estimates on ship construction, insurance against accidents and health in M.C. yards comes in under cost plus. The private manufacturer or mining company on the other hand, properly charges accidents and industrial disease against costs of production. The result is, in the M.C. work, it is not worth cash to anyone to reduce accidents and lost time. The private manufacturer, on the other hand, has to keep down accidents whether he is insured or not because adverse results appear very promptly in his production costs. At the present time the inducement to keep down industrial accidents and ill health is entirely that of plain decency and common sense. We believe very strongly that conditions can be improved greatly if it is made financially attractive both to men and management to do so. We suggest
a bonus and penalty arrangement for lost time for all causes and suggest that the arguments pro and con be put before appropriate labor-management committees and handled through them. We do not imply any criticism of the insurance carriers because of the present situation. Definitely it is not their fault and has come about largely because of the great haste necessary to get our national shipbuilding program under way.

Physical Exams: On the west coast the labor contract includes a very unfortunate stipulation that no physical exams of any kind are to be given men either pre-employment or check-up. From the health standpoint it would be hard to devise an item which will do more harm to labor. Admitting the misuse of such exams in the past by a few thoroughly stupid employers and insurance carriers it does not follow that all employers and all insurance carriers are bad. We saw in one very well run yard on the west coast men exposed to dangerous amounts of asbestos dust used in pipe coverings and on breechings. These men should be examined every six months but now cannot be because of the labor contract. In all yards locomotive operators, painters, and certain others should be examined periodically. A failure to do so is dangerous to the man himself and often to his fellow workers.

Respirators: On the east coast but not on the west red lead paint is sprayed. We approve of this and, if properly done, do not consider it a health risk, but greater care should be exercised in the east coast yards than now is in effect or lead poisoning will certainly occur. Most of the yards on all coasts are either careless or ignorant or both in the use of respiratory protective equipment. This situation should be corrected and
corrected promptly by having occasional shipyard safety meetings (which are held frequently) devoted to the use of respiratory protective equipment.

**Ventilation:** The ventilation of ships under construction is handled differently in every yard. Few of them appear to have any appreciation of the fact that the same problems occur in all yards. In general, it seems to us that the best results are attained when the ventilation department comes under "safety" although we have heard very convincing arguments that ventilation belongs properly to the electrical department or to the welding department. We saw but one yard with a man who really knew any ventilation engineering and was applying his knowledge to make conditions comfortable for the men. In most yards, fans and duct work were handled about as our office stenographers would handle common desk fans.

Practically no yards have taken any trouble to educate the men, especially welders and painters in the use of local exhausts. On many occasions we saw welders in double bottoms failing entirely to use good equipment intelligently. Men doing spray painting and sandblasting generally have no conception of what respiratory protection they should have, and often we found that the foremen and leadermen understood the risks of the job no better. The correction of such ignorance can only be brought about gradually by safety meetings with appropriate short talks. We feel confident that the personnel we suggest for a permanent M.C. medical organization will be entirely competent to give such talks in each of the yards as they visit them.

Several of the yards had devised various ways of improving ventilation of fore and after peaks during prefabrication. Certain plates are left off.
In one Navy operated yard, permission had been given to leave out a plate while installing a prefabricated forepeak. The result was excellent ventilation. In our opinion, a uniform policy in regard to such matters should be formulated in which it should be possible to state what ventilation in c.f.m. is required for specific jobs and what plates are to be left off during construction. As M.C. knows, there are frequent complaints about the lack of ventilation in various welding jobs, especially on G.I. and in many cases, the complaints are justifiable. In one of the labor contracts, it is stated that workers are to get pay and a half on jobs in which the conditions are unsatisfactory. In our opinion, it is no longer excusable to have such conditions.

**Goggles:** The use of anti-flash goggles (shade 2 or 2½) beneath welding shields of 10 shade is practiced in some yards, but most of them have no clear cut policy. Both M.C. and Navy are very lax in preventing eye flashes, the commonest trouble encountered in ship yards. The use of portable welding screens around welding jobs, especially in prefabrication work, is very sketchy in both M.C. and Navy yards. This is the safety departments' job, but the results will remain at their present unsatisfactory level unless the safety departments are given more authority and unless much more is expected of them.

**Unknown Chemicals:** There is no systematic labeling of solvents used for paint spraying, brush cleaning and the like in any yard, and no one now is held responsible for seeing that proper precautions are taken in using toxic solvents. Industry - and M.C. belongs - no longer can order and get just what it wants. It uses what is available. But the medical and safety departments in all yards should be held accountable for the
toxicity of anything used in the yard. In private manufacturing plants, this responsibility is thus assigned, and the purchasing department notifies the medical and safety departments when any new substance is to be used. Makers of solvents must state the chemical names of these ingredients, but there is no reason why they should not use their special trade names which usually are a lot simpler than the chemical names.

Safety Stores: The dispensing of special equipment like safety shoes, goggles and gloves, is handled differently in each yard. While we approve of such autonomy, we insist that safety equipment ought to be made available with the minimum of inconvenience to the men. You cannot expect the average workman to go to the trouble of going downtown to a shoe store to get a pair of safety shoes. He simply won't do it, human nature being what it is. The stores should be in the yard. We don't blame M.C. or the Navy for keeping out of the shoe business, but if toe accidents reach the levels in certain Navy yards where they now are, the Navy and no one else is accountable. (I am aware of the Federal law which prevents a yard granting an exclusive sale right to one shoe manufacturer.) In some yards the management sells the shoes at cost, but I know of one private manufacturer who subsidizes each pair of shoes to the tune of one dollar, and then fires any workman who fails to wear safety shoes when required. So far as our opinion goes, it makes no difference how the problem is handled, but I think we have every right to insist that safety shoes, hard hats, and goggles be worn on special jobs. A great many yards now are very backward in these safety measures and attempt to pass the buck to safety equipments manufacturers who cannot keep up with the demand. We inspected safety supplies in every yard we visited, and in
many cases saw abundant supplies when the men in the yards were not using them.

G.I.: Metal fume fever is a temporary illness which results from breathing zinc oxide evolved when G.I. is welded by either gas or electricity. It is known to any man who works in G.I. The effects are not cumulative, like lead poisoning, but they are undeniably unpleasant. In our opinion, both the Navy and the M.C. would build ships faster and have less trouble all around if they reduced to the absolute minimum the amount of G.I. now being used, especially on destroyers.
now being used, especially on deck edges.

Welding Painted Surfaces: In every MC yard visited and in some Navy operated yards, we noted apparent lack of coordination between the inspection and the paint departments. It is the usual practice to paint all surfaces, including seams and edges, as soon as possible after erection is complete, and even before erection. Then the inspector chalks off a place which has to be rewelded. The welder picks up the mark and does the job, always without cleaning off the lead paint. He simply boils it off with his electric arc. We would call attention to the fact that one of the worst epidemics of lead poisoning our country experienced was from following out the provisions of the ship dismantling treaty when we cut up some of our old ships with acetylene torches. Lead poisoning resulted from volatilizing lead paint on pipes, deck plates, girders, and the like. We have not seen a single yard taking proper precautions to prevent lead poisoning from welding painted surfaces, although some of the East Coast yards now are doing routine examinations of the men to detect early lead absorption. What we urge then, is that MC require painting after welding jobs are done and not before.

Open Air Sandblasting: In the Portsmouth and Norfolk Navy yards, and in two Gulf coast yards, we have seen sandblasting done out doors in order to clean surfaces for galvanizing and one West Coast and two Great Lakes yards, we have seen ship bottoms sandblasted prior to painting. It is easy enough to protect the sand blaster so that he runs no danger of getting silicosis from breathing excessive amounts of silica (sand), but it is difficult to protect the helper and the men who must see to the sand supply. When the wind is favorable, there probably isn’t much danger to others but as we have seen the operation carried out, it is unquestionably a silicosis risk to several men.
as well as an eye hazard. If the Navy eliminates or reduces greatly, galvanizing, there probably will be much less sandblasting and our criticisms then will not apply, but as things were being done at the time of our visits, silicosis is well nigh certain. If sandblasting is to be continued, it should be enclosed in a modern sandblasting chamber. The argument that such chambers are not large enough to take destroyer hull plates is refuted by the fact that the Pullman Company today sand blasts an entire railroad car indoors, while sandblasting freight cars is practiced by several of the railroads in their repair shops.

**Salvage:** With two exceptions — and these were privately operated yards on Navy contracts — the salvage programs in all yards visited left much to be desired. It is our opinion that failure to salvage and re-use paint cans, nuts, bolts, rivets, and the like is more the fault of MC and the Navy than of the contractors. With metal shortage now playing such a vital part in our national program, it is hard to excuse present wasteful methods.

**Housekeeping and Sanitation:** The new yards which are not cramped for space generally are neat and ship-shape, especially those to which Navy Engineers are detailed. We found no yard that had a cafeteria or canteen which compared at all with those one can see in many large plants throughout the country. Some MC contractors stated flatly that either they were going to run a shipyard or a series of cafeterias, but not both.

We sympathize with the yard managers, but we doubt if the answer to the difficulty consists in getting rid of the cafeterias. Good food,
decently served, is one of the best labor stabilizers known.

We suggest that both the M.C. and the Navy should consider this problem fully and take action together. There are several possible courses: (1) Hire experienced caterers in each district to run the cafeterias, (2) Have local caterers each day stock canteens placed around the yards and sell milk, hot coffee, and possibly soup, (3) Have a local caterer outside the gates sell wrapped sandwiches to men who now have no way of getting their own lunches, (4) Do nothing whatever except to see that local health authorities exert reasonable control over lunch wagons and small restaurants which spring up outside the yard.

We would point out that firms like General Electric, General Motors, and American Viscose now operate cafeterias on a very large scale. The food is so good that the men are very apt to take their principal meal at the plant, and many of the plants have such cafeterias open 24 hours daily and serve the meals to men and women who have only 20-30 minutes available.

General clean-ups of lunch scraps were good in most yards but very sloppy in others. In a few yards, especially in the warm climates along the gulf, rats became more than just a nuisance and the board of health was asked to clean them out, but this was unusual.

Most yards are near large cities which often dump their untreated sewage into the harbor near the yards. Naturally, the yards dispose of their sewage similarly. In one yard, we suggested that the plant doctor's program of typhoid inoculations of men working near the water be carried out, but we rather doubt if sewage, water supply, or mosquito will prove a health menace in shipyards. In general, these items have received proper consideration.
Permanent Industrial Medical Set-up for MC and Navy Operated Yards:

In our opinion a permanent industrial medical and industrial hygiene set-up for MC is desirable. From talks with AFL and CIO officials it was clear that both unions would welcome such action. It would, in our opinion, be a serious mistake to create a large office or to centralize and coordinate medical control through a single bureau. But many of these yards need help and some of them soon are going to get lead poisoning and other industrial disease cases in fair number.

We suggest the following:

A full time medical director taken from industry.
An assistant medical director taken from the Navy Medical Corps with the rank of lieutenant or Lt. Commander.
At least six engineers trained in industrial hygiene taken either from the Navy, the Army, or from industry.

We need at least two laboratories to handle the chemical and medical work which will result. One available lab is at the Harvard School of Public Health while we are confident suitable arrangements for another can be made with the California State Industrial Hygiene Bureau at Berkeley, California. It will be necessary to hire one chemist, preferably a woman, for each of these labs for analyses just as such samples are now handled by many of the state hygiene bureaus and by several of the insurance companies.
TO THE MARITIME COMMISSION
WASHINGTON, D. C.

INDUSTRIAL HEALTH SURVEY
of the
SOUTH PORTLAND SHIPBUILDING CORPORATION
and the
TODD - BATH IRONWORKS
SOUTH PORTLAND, MAINE
September 18, 19, 22, 1942.

Philip Drinker, Harvard School of Public Health
H. K. Sessions, Lt. Cdr., (MC) U.S.N.
T. P. Connelly, Lt., (MC) U.S.N.
Kenneth W. Nelson, Ensign H-V(S) U.S.N.R.
Norwick Ross, Ensign H-V(S) U.S.N.R.
L. H. Woodman, Ensign H-V(S) U.S.N.R.
Water Supply: The water supply of the city of Portland is furnished to both of these yards. An elevated tank containing city water is provided for fire protection. No health hazards are involved.

Sewerage: All sewage from the yards is disposed of by discharge directly into the ocean. The city of Portland disposes of its wastes in this manner, and the yards merely follow suit. Adequate toilet facilities, conveniently located, are provided for both yards.

Cafeterias: The major defect in both of the cafeterias was the entire lack of control of flies. They were extremely numerous in all parts of the cafeterias. A detailed inspection of the South Portland Yard's cafeteria has been made by the Maine State Health Department officials, and the report shown to us. It is planned to have the cafeteria at the Todd-Bath yard inspected also.

Housing: There is a housing shortage, but apparently it is gradually being solved without involving any health hazards.

Mosquito Control: No mosquito control program for health reasons is necessary.

Housekeeping: The general housekeeping in these two yards was poor. The ships were especially dirty with chippings, shavings, nuts, bolts, etc. all over the decks. The appearance of the yard grounds was also messy.

Pipe Covering Shop: Both yards had shops where asbestos coverings were made for the pipes in the ships. The work involved was the cutting and pounding of the asbestos matting into the desired shapes. The process
created a very real asbestos hazard, as the dust and fibers were found all over the shops on rafters, machines, benches, and on the workmen's clothing. The most dusty processes should be segregated into a well ventilated room and periodic examinations of the worker's chests should be made.

Rubbish and Garbage Disposal: The yards incinerate all rubbish while the garbage is collected and hauled away by an outside contractor. Perhaps an inadequate number of rubbish containers contribute to the poor housekeeping in the yards.
Yesterday I received a long distance call from Mr. W. G. Hazard, Industrial Hygiene Division of New Jersey, Trenton, New Jersey, in which Mr. Hazard stated that the union men at New York Shipbuilding Co. had asked their help regarding the use of Amosite for pipe insulation on Navy vessels they are constructing.

I happen to know the union official, McCloskey, who is not easily put off and who is distinctly on the reasonable side. They ask: (1) how generally is Amosite used, (2) will the Navy allow the use of anything else, and (3) what protection, if any, is needed.

It seems to me these are reasonable questions and should be answered. I know Hazard very well - he is a U. S. Public Health Service officer assigned to New Jersey for the duration. His only desire is to help the company get on with its job and do it without damaging anyone's health.

Hazard stated that Dr. Goldman of the Bethesda Labs (U.S.P.H.S.) found the Amosite to be mostly asbestos. Dust counts in the room where the men were working were very much higher than anyone would recommend - they ran up to 25 million. A figure of 5 million for asbestos is recommended.

If this material must be used, I suggest the men be required to wear Bureau of Mines dust respirators approved for the nuisance dusts, or else that the material be applied wet. If the latter expedient is impracticable the job ought to be ventilated.

We would point out that we had some bad spots in baby aircraft carrier construction at our Kaiser Vancouver yard. After a little bit of work with the Labor-Management group we got the men to wear air line respirators and they now use them without making any objection. The use of dust respirators in both Navy and Maritime yards is sketchy. Both organizations could save a lot of trouble by having them used more - just as the mining industry has done.
Please write or telephone as soon as possible as the matter is urgent. We can easily have a labor disturbance, especially if we ignore the complaint. It may be better to handle it verbally - hence the request that you telephone me (ONGwood 2330). I will then phone Hazard at once or you can.

Sincerely yours,

Philip Drinker
Chief Health Consultant

Cc: Comdr. H. K. Sessions
U. S. Maritime Commission
Philadelphia, Penna.
Safety and Industrial Health Program

Report on Investigation

of

Asbestosis from Amselite Pipe Covering at Bath Iron Works

Bath, Maine

December 19, 1944

References:

(a) Report of Industrial Health Survey of Sept. 24, 1942.
(b) Re-survey of April 9, 10, 1943.
(c) Sept. 20-23, 1944.

(d) "Minimum Requirements for Safety and Industrial Health in Contract Shipyards" approved by U.S. Navy, U.S. Maritime Commission and War Shipping Administration.

This document contains information affecting the national defense of the United States within the meaning of the Espionage Act 50 U.S.C., 31 and 32. Its transmission or the revelation of its contents in any manner to an unauthorized person is prohibited by law.

BY

W. C. Drexler, Surgeon, U.S. Public Health Service, Bethesda, Maryland

E. Fleischer, Lt. Comdr. MC, USNR, Health Consultant
Office of the Regional Director of Construction
U.S. Maritime Commission, East Coast

DECLASSIFIED

Authority: NAR 15/315

By: LPA, AAR, Date 9/5/65
personnel interviewed:

Dr. E. U. Fuller, Jr. ......................... In charge of pre-employment and periodic check-up physical examinations

This investigation was made at the direction of the Chief Health Consultant of the U. S. Maritime Commission, inasmuch as we had heard that there was concern among the pipe covering crews who feared that the asbestos was causing some respiratory troubles.

Medical

There are about 120 workers engaged in handling asbestos in the Pipe Coverer's Shop and on board ships under construction. Chest X-rays are being taken first on those with the longest exposure, i.e. over two years, of which it is estimated that there are about 50 workers. In the near future all of the 120 will have a chest plate taken.

Of the 50 workers 38 have already been X-rayed and all of this group have been handling asbestos pipe covering from 2 to 9 years. It was interesting to note that the two individuals with the longest exposures of 5 and 9 years were in the older age group, being 50 and 65 years of age respectively. All of the 38 films were reviewed and 12 of these patients showed significant X-ray changes consistent with exposure to a dusty environment. History and physical examination by Dr. Fuller indicated that in all of the 38 patients respiratory symptoms and physical signs were minimal.

On X-ray interpretation these 38 patients could be divided into four groups:

1. The two older workers referred to above, the appearance of whose chest X-rays was consistent with the diagnosis of well established asbestosis. These plates also showed signs typical of advanced age, such as cardiovascular changes, etc.
2. A group of four workers whose exposure was from two and a half to four years whose chest X-ray appearances were consistent with a diagnosis of asbestosis.

3. A group of six workers whose exposure was from two to two and a half years and whose chest films showed minimal changes but not sufficient for a definite diagnosis of asbestosis.

4. A group of 25 workers whose exposure was from two to two and a half years and whose chest films were considered negative.

It was considered significant that those workers with the most marked X-ray changes were those who presumably were exposed to the heavier concentrations of dust, such as operators of the band saw and small rotary power driven saws.

In those workers whose X-rays were consistent with a diagnosis of asbestosis, the changes consisted of bilaterally symmetrical increased reticulation of the lung fields resembling a ground glass appearance. Such lung field markings are indistinguishable from those induced by chrysotile asbestos. No evidence of active tuberculosis was noted on any of the films.

**Description of Pipe Coverer's Shop**

This shop occupies about half of a loft and is partially segregated from sheet metal workers at the other end of the loft. The more dusty phases of the work such as band saw cutting and the mixing troughs are located at the far end of the loft. Local exhaust ventilation was installed on the band saw several months ago and removes some of the dust arising during the cutting of pipe insulation. Respirators were being worn by several workers using the small rotary saws. It is anticipated in the near future, that the insurance carrier, American Mutual Liability Insurance Co., of Boston, Mass., will take dust samples throughout the shop. We know the personnel of the insurance carrier, have discussed the problem with them and would have complete confidence in their appraisal of this job.
Recommendations:

1. It is recommended that all of the remaining asbestos workers be given a chest X-ray in the near future.

2. Unless the dust exposure is controlled as outlined below, the workers in groups 1 and 2 above, should be transferred to a non-dusty occupation.

3. Groups 1, 2 and 3 should have a chest X-ray at yearly intervals.

4. If the dust exposure is not controlled all asbestos workers should have a chest X-ray at yearly intervals.

5. While the local exhaust on the band saw removes a considerable proportion of the dust, it is not considered adequate. This ventilation should be corrected so that the dust is removed.

6. Unless properly ventilated the band saw and mixing trough operations should be isolated from each other and from the rest of the shop. All workers on these operations should wear either approved air line respirators or respirators approved for pneumoconiosis-producing dusts.

7. If the dust counts taken by the insurance shop, that after isolation of the above operations, the amount of asbestos dust in the general shop is sufficiently high to produce an asbestosis hazard, then the general ventilation of the shop should be improved.

Note: Reference (a) recommended as follows:

"The conditions in this shop present a very real asbestosis hazard and immediate steps should be taken to segregate the most dusty processes into a well ventilated area. Local exhaust systems of proven design should be installed; however, if conditions cannot be completely controlled in this manner, then suitable dust respirators should be worn by the workers. Periodic physical examinations of the chests of all workers should be made."
U. S. NAVY - U. S. MARITIME COMMISSION - WAR SHIPPING ADMINISTRATION
INDUSTRIAL HEALTH AND SAFETY PROGRAM

INDUSTRIAL HEALTH AND SAFETY RE-SURVEY
of the
TODD PACIFIC SHIPYARDS INC.
SEATTLE DIVISION
formerly the
SEATTLE TACOMA SHIPBUILDING CORPORATION

JULY 12 - 20, 1945

Reference: (a) "Minimum Requirements for Safety and Industrial Health in Contract Shipyards"
Approved by the U. S. Maritime Commission and U. S. Navy, February 9, 1943

(b) Industrial Health and Safety Survey of the Seattle-Tacoma Shipbuilding Corp.
Plant "A" and "B", Seattle Division
Seattle, Washington
dated July 2 - 7, 1943, conducted by
F. W. Johnson, Regional Safety Consultant
Robert S. Poos, Lt. Comdr. (MC) USN
James F. Morgan, Lt. (j.g.) H-V (S) USNR

(c) Industrial Health and Safety Survey of the Seattle-Tacoma Shipbuilding Corp.
Plant "A" and "B", Seattle, Washington
dated January 11 - 13, 1944, conducted by
Harry G. Beck, Comdr., (MC) USNR
Ass't Chief Health Consultant
John F. Ege, Jr., Lt. (j.g.) H-V(S) USNR
Norwick Ross, Lt. (j.g.) H-V(S) USNR
Regional Health Consultants

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Lt. Lowell G. Wayne H(S), USN
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Authority FEDERAL MARITIME COMMISSION, 1982
By: LRT, NARA, Date 03/10/65
VENTILATION (cont'd)

"3. In shop installations seek to replace flexible metal hose that is in use as permanent duct work with sheet metal."

Comment: No substantial progress has been made toward the realization of these recommendations. In general, provisions for the air supply on the hulls are quite effective, but local exhaust arrangements are poor. This is a serious handicap to the ventilation program as much of the welding in this yard is done on galvanized material. A great deal of flexible metal tubing of 2-1/2" diameter is in use, most of it strung together in lengths long enough to be practically ineffective. No flanges or hoods are in use, and metal fume respirators of proper shape to fit under welders' helmets are not available. The recommendations of references (b) and (c) on this subject are still applicable.

ASBESTOS AND FIBERGLAS INSULATION

"1. Institute regular clean-up of Asbestos Shop.

"2. Provide satisfactory dust collection hood over the saws.

"3. Make use of water spray to keep down the dust when cutting amosite on the tables.

"4. Arrange to have respirators sterilized, cleaned and repaired and provide clean place for their storage."

Comment: There has been no satisfactory compliance with any of these recommendations.