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DATE: 1944-1966

DOC#: JMA061

DOCUMENT DESCRIPTION: Bath Iron Works Shipyard-Asbestos Hazards
with Letters, Memos & Test Results

File Name Bath Iron Works Shipyard: Asbestos Hazards

Scanned ? yes

Source JMA: JMA: 04-1160

Start Year 1944

Stop Year 1966

Contents letter, memo, test results

Notes

McConkey

December 15, 1944.

J.M. Pettingell
201 Devonshire St.
Boston 10, Massachusetts.

Dear Mr. Pettingell:

This is in answer to your letter of December the 11th.

Our dust problem in the Pipe Coverers Shop has become quite serious. It is quite difficult to allocate the source of trouble to certain machinery, and we feel that the most satisfactory method of handling the situation is to have some one from your office come to Bath and see the conditions first hand.

After you people have investigated the problem we would like to have you furnish us with a proposal, as to a method of solving the problem. We have told the employers of the Union Shop Committee that we will engage the services of a competent consultant, who will visit our plant and submit a proposal. Our Purchasing Department will provide the necessary purchase order to cover these services.

Should the solution of this problem result in our purchasing equipment from you people, the cost of the consulting service can be at that time adjusted as you may see fit.

We will appreciate hearing from you at your earliest convenience.

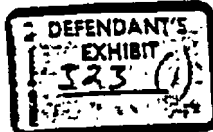
Very truly yours,

000583

A.H. Horton
ASSISTANT PLANT ENGINEER

AMK:JAI

PRODUCED
- 23



March 20, 1945

Independent Brotherhood of Shipyard Workers
Attention: Ralph A. Mulligan, President
Bath, Maine

Subject: Communication from Brotherhood Committee in
Department 11, Re: Dust Situation Existing
in That Department.

Gentlemen:

I beg to acknowledge the above subject communication
channelled through this office in accordance with Article 6,
Section 2, of the Agreement signed between the parties on November
22, 1944.

I note with interest that the Brotherhood appreciates what the
Company is attempting to do to diminish the possibilities of dust
conditions among the Pipe Coverers Department which is in line with
requests made by the Shop Committee of Department 11 for an investiga-
tion of dust conditions. The Brotherhood takes the position that the
dust will always be a hazard from the health standpoint; this is
possible, yet it is the belief of this office that corrective measures
can be taken and the situation may be overcome so that exposure
to the health of employees in Department 11 will not be prevalent.
We do not comprehend the Brotherhood's request for a bonus of 15%
in addition to the hourly rate for all time spent on work in the
Pipe Coverers Department in view of the fact that the terms of the
Agreement are fixed from year to year and negotiating of Wage Pro-
visions is definitely not a matter for negotiation until the expiration
date of the Agreement on June 23, 1945, at which time the proper com-
mittee for the Brotherhood may meet with Management representatives
for any amendments or new Agreements of the collective bargaining
nature affecting the Plant as a whole and all employees in their
entirety who are within the bargaining unit of the Brotherhood as
contained in Article I of the Agreement.

Very truly yours,

PRODUCED
JM - 83

BATH IRON WORKS CORPORATION

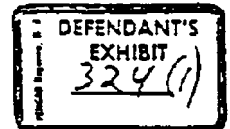
J. M. Conley, Jr.
Director of Personnel

J.M.C.
CCT J.B.P. E.P.S.
J.P.C. E.A.B.

507848

INDEPENDENT BROTHERHOOD
OF SHIPYARD WORKERS

Room 2, 72 FRONT STREET
BATH, MAINE



20 February 1946.

Dr. E. M. Fuller, Jr.
C/O Mr. E. A. Stover
Bath Iron Works Corporation
Bath, Maine

Dear Dr. Fuller:

We are writing to inquire as to what the present situation may be in regard to the X-Rays taken of various employees of Department # 11. We would like to know when reports may be expected showing the result of the X-Rays taken.

We understood that the question of finding some solution for the difficulty in Department #11 was in your hands for attention, and we shall appreciate your advice as to what may be, or what has been done to correct the dust condition in that department.

Trusting that we may have this information at an early date, we remain

Very truly yours,

INDEPENDENT BROTHERHOOD OF
SHIPYARD WORKERS

By Harold Chubb
President

James J. [Signature]
Chairman of the Negotiating
Committee

507852

PRODUCED
IN

DEFENDANT'S
EXHIBIT

8 (2)

BATH IRON WORKS CORPORATION
MEMORANDUM

DATE JUNE 1, 1952

FROM— John M. Conley, Jr., Director of Personnel
TO— Mr. John B. Newell, President

SUBJECT— Memorandum from Dr. Edward L. Kinder, Jr., Medical Director,
concerning BW employees and reference (a) memorandum from
Harold L. Adams, reference (b) memorandum attached to memo
of Dr. Kinder

At your convenience I would appreciate it if you would read
the attached memorandum and the references above referred to.

I think Dr. Kinder's observations are well thought out. How-
ever, I do not concur with any program involving safety hats,
except as a last resort after a poor experience in relation
to head injuries.

I think any head injuries have to be considered in relation
to our safety program and its experience. I don't believe
the experience is such that it should be considered poor in
terms of manhours or days lost. I think we should exert every
effort through our safety meetings with supervision and the
Personnel and Safety Departments to try to bring this type of
injury down to a lower experience and I believe it can be done.

My reasons for not recommending safety hats are much the same
as Harold Adams' reasons. As near as I can find out from
other shipyards, the men will not wear them voluntarily or
purchase them at their own expense. It has been very diffi-
cult to enforce the rule to wear them and the companies which
have such a rule buy these hats. I don't think the expense
justifies our taking such action at this time.

It would appear to me that any recommendation for an extended
policy concerning the use of safety glasses would have to be
all-inclusive and for all departments using power or hand
tools. The Shipyards Department is now required to use
safety glasses. This department appears to be the one which
has had the most difficult experience regarding objects
striking the eyes as a result of the use of hammers, chisels
or hand tools. I don't believe an over-all rule would be the
answer to this problem. I think we can only hope for im-
provement on this type of injury by concentrating on the de-
partments which are the biggest offenders.

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JMS - 82

June 1, 1943

Mr. John R. Howell

As to the asbestos material and dust, I am certain because of various studies made, that we are purchasing the most practical respirator which can be bought for these employees. I know that this respirator is efficient and if the man would use them, they would have nothing to fear as to the absorption of dust particles containing asbestos which would injure them physically. Apparently aboard ship there are positions when it is impractical for an employee to use a respirator at all times.

We have attempted to do everything possible to improve the construction of our Pipecovering Shop. This problem has been with us since World War II and hence the Drinker report (see attached).

To date I don't know of any employee who has worked in the Pipecovering Department who has been affected by silicosis and I hesitate to recommend the adoption of an X-Ray policy (as I have expressed to Harold Adams in the past) for these employees as I think it would be very upsetting and undoubtedly would lead to requests for premium rates for employees who are exposed to dust by the handling of asbestos material. However, if medical opinion states it is a necessity, I think we should do it.

And when there should ever be any change of quarters for the Pipecovering Department, I think we should make a very comprehensive study of a new location with the thought in mind of setting up ventilation improvements to eliminate as much of these dust particles as possible. I think such a move would ~~only~~ be helpful from a health standpoint, but also from a production standpoint.

We have also checked with Fore River, which appears to be handling comparable material when building destroyers as B&W, and they do not have any compulsory X-Ray plan for their employees in the pipecovering department. They do, however, X-Ray employees if they ask for it and the company absorbs the expense. We must consider that they have X-Ray facilities in their industrial health department.

With all due respect to Dr. Kinder's opinion, I think if we were to compel the pipecoverers to have X-Rays, we would have to do the same for welders, grinders in the Paint Shop, etc.

John R. Howell
Director of Personnel

JRH:efh

PRODUCED

August 24, 1966

Eastern Refractories Co., Inc.
60 Holland St.
Lewiston, Maine

Attn: Mr. Ted Collins

Gentlemen:

As discussed with you by telephone and during your recent visits it is a general trend in our plant to eliminate the use of asbestos insulation products for health reasons. Non-asbestos products have been evaluated for possible replacements. In some areas nothing, as yet, has been found. However, in the area of thermotapes and amosite blankets a substitute will be made.

In view of this development we have the following items as manufactured by UNARCO Industries and purchased through Eastern Refractories which we would like to return for credit.

1. 2400 Lin. Ft. 4" x 1" thermo tape
2. 1950 Lin. Ft. 5" x 1" ditto
3. 2100 Lin. Ft. 5-3/4" x 1" ditto

The above to Mil-I-15091A and
Mil-I-15349A.

4. 600 Lin. Ft. 7" x 1" Asbestos water repellent stripes
5. 150 Lin. Ft. 8" x 1" ditto
6. 300 Lin. Ft. 9" x 1" ditto
7. 450 Lin. Ft. 11" x 1" ditto
8. 150 Lin. Ft. 13" x 1" ditto
9. 300 Lin. Ft. 16" x 1" ditto
10. 150 Lin. Ft. 17" x 1" ditto
11. 150 Lin. Ft. 19" x 1" ditto
12. 300 Lin. Ft. 23" x 1" ditto
13. 150 Lin. Ft. 27" x 1" ditto

The above to Mil-I-15091A, Type B.

PRODUCED
JM - 83

506359

Eastern Refractories Co.

-2-

August 24, 1966

14. 2250 Sq. Ft. 60" x 1" water repellent
asbestos felt.

The above to Mil-I-15091A, Type B.

15. 40,000 Sq. Ft. amosite blanket
60" wide some 1" thk., some 3/4" thk.

The above to Mil-I-15091A, Type A.

We realize that this is a unusual request but hope you will bear with us. At this time we can only say that because of excellent business relations with Eastern Refractories over the years we intend to favor Eastern in our procurement of insulation items.

Please advise your position in this matter and the possibilities of our above request being granted.

Very truly yours

BATH IRON WORKS CORP.

R. L. Lebel, Buyer

RLI/lmk

CC: Stan Roberts

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JM - 83

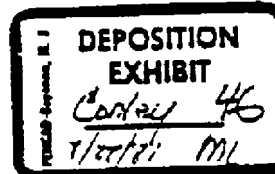
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BATH IRON WORKS CORPORATION
MEMORANDUM

DATE April 17, 1972

FROM- Edward L. Kinder Jr., M.D.

TO- Mr. John M. Conley Jr.



SUBJECT- Survey of Employees - Department # 11

It has now been six years since the Pipecoverers have been surveyed by the Harvard School of Public Health.

Among one hundred and one men surveyed, thirteen were found to have moderately advanced or advanced asbestosis. Followup has shown many of these have become disabled, retired with disability or died. Counting the original thirteen and adding those who have progressed from the category of slight to moderately advanced, the following is illustrative:

- Dead from pulmonary fibrosis, mesothelioma, or heart failure sometimes secondary to asbestosis - 5
 - Retired due to disability - 2
 - Retired due to pulmonary impairment - 2
 - Disabled due to pulmonary insufficiency - 2
 - Transferred to other work due to impaired pulmonary function - 3
 - Progressed to moderately advanced status - 6
- 20

These figures are based on findings of the 1966 - 1967 survey along with function studies last done in 1969. The high mortality and disability we have seen among these men and will possibly see in the six now showing evidence of some progression, during a period dust exposure has been at or below the allowable limits indicates careful followup is necessary.

For these reasons, it is my strong recommendation a repeat survey be done this year as a formal periodic review of the employees and repeated at intervals of five years. This should be continued as long as there continues to be exposure to asbestos or the employees continue to show significant progression.

Dr. Raymond Murphy, now Assistant Clinical Professor of Public Health at Harvard, outlined such a survey for us on the attached proposal. This will include the following tests for employees of Dept. # 11 and again controls in Depts. # 15 and # 50:

- History (interval)
- Physical examination of the chest
- X-Rays (two)
- One second timed vital capacity
- Single breath diffusing test at rest
- Ultrasonic measurement of pleural thickness

All studies included have been computerized for optimal brevity in gathering information and to yield conclusions quickly.

50511⁵ PRODUCED
JM - 83

APR 18 1972

April 17, 1972

Others involved in the survey would be the following:

- Benjamin Ferris, M.D. Harvard
- Mr. William Burgess, Harvard. Aerometric studies
- Edward Gaensler, M.D. Boston University Medical Center
- Two or three technicians with Dr. Gaensler for function tests
- The Draper Laboratory of M.I.T., to analyse recorded breath sounds

All the above physicians, engineers, and technicians would be paid under existing grants from their own universities; thus would carry out the study at no expense to B.I.W.

Dr. Murphy estimates the time involved in this longitudinal or continuing study would be about thirty minutes away from his job, exclusive of X-Rays at the Bath Hospital. X-Rays of employees in Dept. # 11 are now planned for this fall as current policy. These would be advanced to be taken near the time of the proposed survey the week of June 5, 1972. No additional cost to B.I.W. is involved for this item. Dr. Murphy has applied for funds from the School of Public Health to cover X-Ray expenses for men in Depts. # 15 and # 50 who would not ordinarily be X-Rayed. Time involved for the X-Ray would be one hour per employee. It is planned to examine all men included in 1966 - 1967 who do not at present work at B.I.W. Dr. Murphy plans to call these men after their working hours at other employment; and has funds to pay for their X-Rays and travel expenses.

No clerical work would be expected of B.I.W. other than a compilation of men in the involved departments and notification of the time of testing. This could be done by my secretary.

Dr. Murphy has an interest in diagnosis of pulmonary fibrosis as early as possible. He feels he can do so before X-Ray changes occur and hopefully before the disease becomes established then possibly irreversible. He has experimented with recorded breath sounds subjected to sound spectral analysis on a quantitative scale. These would be measurable on equipment at M.I.T.'s Draper Laboratory, now under contract to N.A.S.A. The recordings could be a permanent record on a quantitative basis and a good measure of each man's status at any given time. A similar record could be made and utilized by all observers as a standard to obviate interpretive terms as a few, some, or many as used to date.

Dr. Murphy has asked us for \$5,270.00 needed for such equipment to be purchased for the Harvard School of Public Health as a research tool. It would later be used in surveys of other groups with and groups without pulmonary fibrosis.

I feel the company owes Dr. Murphy and Harvard a great deal for the survey already done by them and their continuing interest in our problem of asbestosis. The surveys done to date have been carried out with no direct charges from Harvard. The report Dr. Murphy has made has been very fair to us and of great value to all the men involved. It is my recommendation we furnish this amount of money, as a grant to Harvard and Dr. Murphy as a measure of our continuing interest in this problem.

505146 PRODUCED
100 - 82

D R A F T

September 22, 1970
2 p.m.

L. A. Beers
E. W. Morse
F. H. House
E. L. Kinder, Jr., M.D.
L. E. Temple

Trap Assemblies

Procedure for removing asbestos covering from pipe (trap) assemblies.

I. Removal from Ship

- a. Department 11 to remove a sufficient amount of covering to facilitate removal of assembly as requested by lead trades.
- b. Respirators are to be worn at all times during stripping of asbestos materials on shipboard.
- c. Asbestos material removed from the ship will be disposed of in garbage vans lined with plastic liner and sealed tightly when full.
- d. Department 27 will dispose of the sealed containers in a covered dumpster and buried at the dump area.
- e. Department 15 will remove the trap assemblies from the ship to the South Pipe Shop.

II. Shop Removal of Asbestos Covering from Assemblies.

- a. Soak assemblies in water for a minimum of 8 hrs.
- b. Strip asbestos covering from assemblies immediately upon removal from the water. Use oscillating cast saw.
- c. Wash off all residue from the assemblies by water hose.

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JM - 83

Ideas

Other Assemblies (at North Flat)

1. Isolated Area Enclosed shed - Crane service tarpaulins.
2. Respirators Wet down area or underlay with plastic tarpaulin and forced exhaust ventilation dumping into a covered dumpster or water trap or filter bag similar to dock shop ventilation.
3. Disposal Garbage Cans - plastic lined - covered - buried.

Note: Explore using plastic underlayment in shipboard removal areas.

Kalo vs Unibestos

Treat the same

PRODUCED
JM - 83

EATH IR J WORKS CORP. NON
MEMORANDUM

DATE March 17, 1967

FROM- A. L. Haskins

TO- E. O. Tukey

SUBJECT- Calcium Silicate Pipe Covering, MIL-I-2781, DDG 28-30

1. As a result of using a calcium silicate insulation listed to MIL-I-2781, on the DDG Contract, it appears that calcium silicate costs more to apply than unibestos insulation. However, when considering the men's health, calcium silicate with its lower percentage of asbestos fibers is a less hazardous product for the men to work with.

2. Of the two calcium silicate insulations being used in the yard, Kaylo and Thermobestos, Kaylo has been found to be the easier of the two to use and has the least amount of breakage. For these reasons it is recommended that Kaylo manufactured by Owens Corning be used on the DDG 28-30 Contract.

A. L. Haskins

cc: AHH
MIL
SSR
HRP
F. House

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JM - 83

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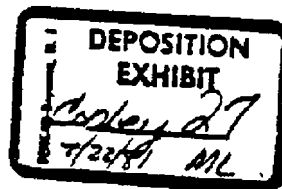
BATH IF IN WORKS CORPORATION
MEMORANDUM

DATE May 28, 1968

FROM- J. M. Conley, Jr.

TO- J. Harvie

SUBJECT- Respirators and Conversion Work



As you are aware, we are using Unibestos cloth on the pipecovering repairs necessary for the completion of conversion work.

The pipecoverers, some of whom have lung functional problems, will be required to use air-powered respirators both while ripping out the old material and installing the new containing Unibestos cloth covering.

All other employees from other trades working in the area where this pipecovering work is being performed during the conversion work will be required to wear dust respirators. Employees having lung functional problems from these trades, if any, should be reassigned to other work.

The respirators that will be used will be ordinary dust respirators, and a supply of them will be kept in the Outfitters office near the Main Dock.

It is recommended that with any long lines of pipe that need to be covered, other than general patching, a substitute material rather than Unibestos cloth be used.

JMC:S

cc: FMB
AF
LJD
WEH
LAB
FHH

506559 PRODUCED
JM - 83

DAVID BROWN WORKS CORPORATION

MEMORANDUM

FM-257/HDH:mp

7:43 September 22, 1970

FROM- H. Hatch

TO- J. P. Montgomery

SUBJECT- Asbestos Covering, Use of

1. Because of the health problems encountered in the use of asbestos pipe covering materials, I feel it is now time to take the final step to terminate its use and request the following actions be taken by the Drawing Room:

- a) H-1015 - The pipecoverers will use the asbestos covering as specified on 2131-01, sheets 1, 2, and 3 of 9. All future material ordered must be ordered as a non-asbestos material.
- b) H-1016 - H-1016 - All manufacturing be for a non-asbestos material. We should dispose of any material being held for possible use on these walls.

H.D. Hatch

Distribution:

LEG
RER
RVL
EASCOVER
AMM
ELM
JMB
RLG
JMR
FHM
JMS
LAB

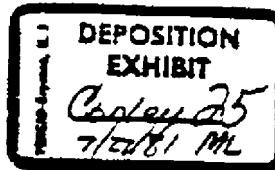
PRODUCED
JM - 83

505181

BATH IRON WORKS CORPORATION
MEMORANDUM

DATE February 10, 1967

FROM- J. M. Conley, Jr.
TO- OFFICE MEMORANDUM



SUBJECT- Transfers from Department 11 to Department 7, Effective
February 14, 1967, of Earl L. Griffin, 14177
Roland R. Luce, 2434
Russell E. White, 1041
and,
as of February 21, Forrest M. Drake, 13869

In connection with the pulmonary survey for pipecoverers using asbestos materials and, in the case of the above employees, a complete physical examination by the Massachusetts General Hospital under direction of Dr. Kenneth T. Bird, Dr. Bird determined that these employees should not be exposed because of their pulmonary condition to any dust aboard the ships.

Although the last year has brought about the deletion of much of the asbestos material used aboard ship that has been replaced by Fibreglas material, these employees, most of whom have had difficulty using a respirator, were still suffering some exposure. Therefore, it is determined by the Management--Mr. Donald Burkhardt, Assistant Works Manager; Mr. Arthur Haskins, Machinery Superintendent; Dr. Kinder, Medical Director; and the writer--that they should be transferred away from ship work completely.

It was hoped that a free-flow respirator, which was under experimentation by the Harvard Hygiene Department, might be of the type that these men could wear aboard ship, and although the development of this particular respirator has been slow in process, it was determined, since the outcome of the success of the respirator was unknown, in the best interest of these men-employees, that they should be transferred.

Robert MacDougall, the shop steward of Department 11, representing the Industrial Union of Marine and Shipbuilding Workers of America, AFL-CIO, and its Local 6, was informed of the Company's intentions. We later told him that we had found jobs for them in the Machine Shop doing assembly work and possibly, in some cases, machine work later, on the day shift.

Mr. MacDougall advised the men that he thought their transfers to this work would be a good move and that the shop would be a good place to work.

505954

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JM - 83

February 10, 1967

I also told these men that I could find no other places in the yard where they might work and be free of dust exposure, and if they did not accept these jobs, the Company would not accept any responsibility for their refusal to take them. However, I made it very clear to these men, in the presence of Cy Beers, that if they accepted these transfers, they would be doing so on a voluntary basis, and if they refused them, we would still look about the yard for any other opportunities to transfer that might be in the best interest of their health.

Today, all these men, with the exception of Drake, accepted the transfers to Department 7, Machine Shop, on the day shift. Incidentally, they were all adverse to any night work whatsoever.

Note: Drake was advised on Monday, February 20, that he likewise could transfer to Department 7, and he accepted the transfer, effective February 21, 1967.

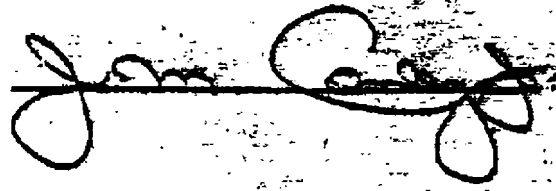
These men were all told that they would be classified as second class semi-skilled machinists and would receive an adjustment between the second class semi-skilled machinist rate of \$2.41 an hour to \$3.08 an hour, the rate they enjoyed as first class pipecoverers. This adjustment will be made on a weekly basis for all hours worked.

Their vacation, holiday, pension and insurance status shall be based on the rate of \$3.08 per hour, or the equivalent first class mechanic's rate.

Prior to the assignment of these men to their new jobs in the Machine Shop, Mr. Linwood Temple conducted dust surveys in the Machine Shop and immediate areas where they would be working, and by written report to Cy Beers on Monday, February 13, assured him that these men would be working in areas which were within safe limits in respect to any dust particles.

Mr. Victor Leask, president of Local 6, has been advised of these transfers and approved of such transfers to me on the telephone as of this date.

JMC:S

cc: REC
PEAPRODUCED
JM - 83

505955

BATH IRON WORKS CORPORATION

MEMORANDUM

DATE December 2, 1966

FROM- W. Gower

TO- E. O. Tukey

SUBJECT- Insulating Cement

Johns Manville's "Superex" insulating cement, SS-C-160, has not proven satisfactory for use with calcium silicate covering.

For D.E.G. 4-5-6, please replace present stock with Johns Manville's #301 finishing cement, MIL-C-2908.

The remainder of Johns Manville's Superex insulating cement is to be held in stock until further notice.

*Used for Unibestos, Hold until disposition of
Unibestos is determined.*

W. L. Gower

W. Gower, Foreman

Pipe Covering Dept.

Copy

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JM - 83

506427

STAN ROBERTS
COPY

JOHNS-MANVILLE

SALES CORPORATION

INDUSTRIAL INSULATIONS DIVISION

150 CAUSEWAY STREET • BOSTON, MASS. 02114 • TELEPHONE: CAPITOL 7-0400 • AREA CODE 617



November 15, 1966

Bath Iron Works
Bath
Maine

ATTENTION: J. Torrey

Re: Return of Superex Cement

Gentlemen:

Confirming our phone conversation of Tuesday, November 8th, this letter authorizes you to return approximately 7-1/2 tons of Superex Cement to Military Specification SS-C-160.

This return is subject to the following conditions:

1. There will be a 10% handling charge on the material value of the returned cement.
2. Shipment is to be prepaid to our plant.
3. Previous freight allowances on this material when originally shipped to you will be deducted from the material value after the 10% deduction noted above. In the event this material is shipped collect to our plant, the inbound freight will also be deducted.
4. The material is subject to inspection and credit will be given for material in salable condition only.

Please return the material to:

Johns-Manville Products Corporation
Waukegan,
Illinois
Att'n: Mr. Sherman

It will also be necessary to reference this returned material with each J-M Invoice number against which this cement was shipped.

As soon as this return is accepted by our plant, we will issue you a credit.

Very truly yours,

G. McDermott
G. McDermott

PRODUCED
JM - 83

506432

NEGOTIATIONS
1966

Box 76

1966 LABOR NEGOTIATIONS
BETWEEN BIW & IUMSWA,
AFL-CIO, AND ITS LOCAL #6

10/19/66

SUMMARY OF BIW PROPOSAL TO THE UNION
COMPARED WITH PRESENT LABOR AGREEMENT

The following summary of the BIW proposal to the Union has been prepared for your information. Article headings preceded by an * indicates that the article has been tentatively agreed to by the Union Negotiating Committee.

* PREAMBLE

Same as the present Labor Agreement

* I. RECOGNITION

Same as the present Labor Agreement except to specifically exclude Hyde Division employees from the bargaining unit.

II. MANAGEMENT FUNCTIONS

Same as the present Labor Agreement.

III. UNION PERIODIC DUES, INITIATION FEES AND CHECKOFF

Same as in the present Labor Agreement except for a minor change requested by the Union.

* IV. UNION REPRESENTATION

Revised as requested by the Union to provide for more Shop Stewards in the larger departments.

* V. UNION REPRESENTATIVES LEAVING THEIR JOBS

Minor change as requested by the Union.

* VI. CLASSIFICATIONS

Minor change as requested by the Union.

VII. APPRENTICES

Changed to require meetings of the Apprentice Committee of the Union and the Company at least once every two months, if requested by either party.

The hiring of apprentices in any one year has been reduced from 7% to 5%.

VIII. PROBATIONARY PERIOD

Same as present Labor Agreement.

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JM - 83

IX. WAGE AND PIECEWORK SCHEDULES

This article is the same as in the present Labor Agreement. Schedule "A" rates have been increased as follows:

EFFECTIVE 24 OCTOBER 1966

ALL RATES INCREASE BY 5% OF PRESENT RATES WITH A MINIMUM INCREASE OF 12¢ PER HOUR.

EFFECTIVE 23 OCTOBER 1967

ALL RATES INCREASE BY 3.25% OF PRESENT RATES WITH A MINIMUM INCREASE OF 8¢ PER HOUR.

EFFECTIVE 21 OCTOBER 1968

ALL RATES INCREASE BY 3.25% OF PRESENT RATES WITH A MINIMUM INCREASE OF 8¢ PER HOUR.

THIS WAGE PROPOSAL RESULTS IN THE FOLLOWING SCHEDULE FOR THE BASIC CLASSIFICATIONS:

CLASSIFICATION	EFFECTIVE DATE			TOTAL
	10/24/66	10/23/67	10/21/68	
1st CLASS SKILLED	15¢	10¢	10¢	35¢
2nd " "	14¢	9¢	9¢	32¢
3rd " "	13¢	8¢	8¢	29¢
1st CLASS SEMI-SKILLED	12¢	8¢	8¢	28¢
2nd " " "	12¢	8¢	8¢	28¢
UNSKILLED & LABORERS	12¢	8¢	8¢	28¢
PROBATIONER	12¢	8¢	8¢	28¢

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JM - 83

Minor adjustment has been made to a few classifications permitting a higher rate than the overall wage increase would allow. The top rate for Toolkeepers has been set at the equivalent of 3rd class skilled. Any toolkeepers now on the payroll with a higher classification will retain the higher classification.

Employees of Dept. 11, Pipecoverers, shall receive a rate of 20¢ per hour above their regular hourly base rates while engaged in the shipboard installation of asbestos insulation containing over 50% asbestos, asbestos tape, asbestos cloth and asbestos pads, but excluding the shipboard installation of asbestos cement.

Piece work rates will be adjusted upward at the same time as hourly rates so as to result in the same proportionate increase.

* X. HOURS OF WORK AND OVERTIME

Same as present Labor Agreement

* XI. SECOND AND THIRD SHIFT PREMIUMS

Same premium percentage as specified in present Labor Agreement.

X
Revised 9/23/66
Revised 9/26/66
Revised 10/22/66
10/24/66

AGREEMENT
between
BATH IRON WORKS
CORPORATION
and
INDUSTRIAL UNION OF
MARINE AND SHIPBUILDING
WORKERS OF AMERICA,
AFL-CIO, and its
Local No. 6

Dated 24 OCTOBER 1966
Effective 24 OCTOBER 1966
Expiring 26 APRIL 1970

509178

NOTE: Dates of tentative agreement are entered
here on each sheet.

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10/24/66

(Continued) Schedule A - Effective October 25, 1965								
Laborers	L2	1.89	2.13	-----	-----	-----	-----	-----
Lay Out (from templates)	L4	1.89	2.13	2.29	2.45	-----	2.59*	2.70*
Loftsmen (see Note No. 1)	L6	1.89	2.13	2.29	2.45	2.59	2.70	2.93
Machine Operators	M2	1.89	2.13	2.29	2.45	2.59	2.70	2.93
Machinists	M4	1.89	2.13	2.29	2.45	2.59	2.70	2.93
Maintenance Carpenters	M6	1.89	2.13	2.29	2.45	2.59	2.70	2.93
Maintenance Electricians	M8	1.89	2.13	2.29	2.45	2.59	2.70	2.93
Maintenance Mechanics	M10	1.89	2.13	2.29	2.45	2.59	2.70	2.93
Maintenance Pipefitters	M12	1.89	2.13	2.29	2.45	2.59	2.70	2.93
Material Checkers	M14	1.89	-----	-----	-----	2.13*	2.24*	2.45*
Material Clerks (Produc- tive departments only)	M16	1.89	2.13	2.29	2.45	-----	2.59*	2.70*
Material Handlers	M18	1.89	-----	-----	-----	2.13*	2.29*	2.45*
Motor Winders (only while engaged)	M20	-----	-----	-----	-----	-----	-----	3.09
Outfitters, Stores (aboard ship only)	O2	1.89	2.13	2.29	2.45	-----	2.59*	2.70*
Outside Machinists	O4	1.89	2.13	2.29	2.45	2.59	2.70	2.93
Paint Sprayers (see Notes No. 4 and No. 5)	P2	-----	-----	2.45	2.59	2.70	2.93	3.01
Painters	P4	1.89	2.13	2.29	2.45	2.59	2.70	2.93
Painters, Sign	P6	-----	-----	-----	-----	2.70	2.93	3.01

509104
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JM - 83 -

10/24/66

(Continued) Schedule A - Effective October 25, 1965								
Passers	P6	1.89	----	----	----	----	----	2.13*
Patternmakers (see Note No. 1)	P10	1.89	2.13	2.29	2.45	2.59	2.70	2.93
Picklers	P14	1.59	----	----	----	2.13*	2.29*	2.45*
Pipecoverers	P16	1.59	2.13	2.29	2.45	2.59	2.70	2.93
Pipefitters	P18	1.89	2.13	2.29	2.45	2.59	2.70	2.93
Plant Firemen	P20	1.89	----	----	----	2.13*	2.29*	2.45*
Plant Firemen and Maintenance Patrolmen (Harding Plant only)	P22	1.89	2.13	----	----	2.29*	2.45*	2.59*
Riveters	R2	----	----	2.29	2.45	2.59	2.70	2.93
Safety Inspectors	S2	----	----	----	----	2.29*	2.45*	2.59*
Safety Patrolmen	S4	1.89	----	----	----	----	2.13*	2.29*
Sand Blasters (only while engaged)	S6	----	----	----	----	----	----	3.01
Saw Filer (only while engaged)	S8	----	----	----	----	----	----	2.93
Ship Cleaners (see Note No. 2)	S10	1.39	2.13	----	----	----	----	----
Shipfitters	S12	1.89	2.13	2.29	2.45	2.59	2.70	2.93
Ship Fitters	S14	1.59	2.13	2.29	2.45	2.59	2.70	2.93
Shovelloader Operators (only while engaged)	S16	----	----	----	----	----	----	2.70*

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10/24/66

(Continued) Schedule A - Effective October 25, 1965

Stagebuilders	S18	1.89	----	----	----	2.29*	2.45*	2.59*
Steam Hammer Operators (Blacksmith Shop only)	S20	----	2.13	----	----	2.29*	2.45*	2.59*
Store Clerks	S22	1.89	2.13	----	----	2.29*	2.45*	2.59*
Stores Riggers	S24	----	----	----	----	2.45*	2.59*	2.70*
Straddle Truck Operators (only while engaged)	S26	----	----	----	----	----	2.70	2.93
Straighteners	S28	1.89	2.13	2.29	2.45	2.59	2.70	2.93
Strikers	S30	1.89	----	----	----	----	2.13*	2.29*
Tank Testers	S32	1.89	2.13	2.29	2.45	2.59	2.70	2.93
Blacksmiths	S34	1.89	2.13	2.29	2.45	2.59	2.70	2.93
Toolmakers (Machine Shop only)	S38	----	----	----	----	----	----	3.00
Truck Drivers	S40	1.89	----	----	----	2.29*	2.45*	2.59*
Utility Men, Yard Power	S42	----	----	----	----	----	----	2.93
Ventilation Men	V2	1.89	----	----	----	2.13*	2.29*	2.45*
Warehouse Leaders (Stores Department only)	S42	----	----	----	----	----	2.45*	2.59*
Weld Cleaners	S44	1.89	----	----	----	2.13*	2.29*	2.45*
Weld Heat Treat Man	S46	1.89	2.13	2.29	2.45	2.59	2.70	2.93
Weld Machine Testers	S48	1.89	2.13	2.29	2.45	2.59	2.70	2.93

Toolkeepers S6 1.89 2.13

2.29* 2.45* 2.59*

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10/24/66

(Continued) Schedule A - Effective October 25, 1965

Weld Sequence Men	W10	1.89	2.13	2.29	2.45	2.59	2.70	2.93
Welders (see Note No.3)	W12	1.89	2.13	2.29	2.45	2.59	2.70	2.93
Wire Room Clerks	W24	1.89	----	----	----	----	2.13*	2.29*
Yard Riggers	Y2	1.89	2.13	2.29	2.45	2.59	2.70	2.93

Note No. 1-Boatmen and Patternmakers assigned to work requiring greater than the usual skill and ability, who efficiently perform such work, shall receive rates as follows:

Special Skilled	Grade A	\$3.25
18-P12	Special Skilled	Grade B 3.07

Note No. 2-Ship Cleaners who receive an unskilled rate, excluding Probationers, shall receive \$2.29 per hour while engaged in power brush grinding.

Note No. 3-Welders shall receive 12 1/2% in addition to their regular hourly rate while:

- a) Performing welding of joints and flanges of piping systems aboard ship
- b) Performing welding of joints and flanges of piping systems in the shop

Note No. 5-An employee not classified as a Paint Sprayer who may be temporarily assigned to such classification shall receive a rate within the rate range of the Paint Sprayers' classification while so engaged on work aboard ship.

Note No. 4-Employees of Dept. 11, Pipecovers, shall receive a rate of 20¢ per hour above their regular hourly base rates while engaged in the shipboard installation of asbestos insulation containing over 50% asbestos, asbestos tape, asbestos cloth and asbestos pads, but excluding the shipboard installation of asbestos cement.

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10/24/66

(Continued) Schedule A -Effective October 25, 1965

Note No. 6-An employee who is assigned to work as a Paint Sprayer, after being assigned for a period of more than ten (10) consecutive work days, shall be classified as a Paint Sprayer within the rate range of the Paint Sprayers' classification, starting on the commencement of the subsequent payroll period.

Note No. 7-Hourly Rates for Apprentices:

1st 1,000 hours-\$1.95 per hour
2nd 1,000 hours- 2.02 per hour
3rd 1,000 hours- 2.08 per hour
4th 1,000 hours- 2.15 per hour
5th 1,000 hours- 2.25 per hour
6th 1,000 hours- 2.35 per hour
7th 1,000 hours- 2.45 per hour
8th 1,000 hours- 2.55 per hour

Note No. 8-In deemed advisable by SW, Work Leaders may be appointed in any department. A Work Leader shall receive a rate ten cents (10c) above that of any other employee in his work group.

Note No. 9-Effective October 24, 1966, the piecework rates then in effect shall be increased by

509188

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JM - 83

BATH IRON WORKS CORPORATION
MEMORANDUM

DATE December 2, 1966

FROM- W. Gower
TO- E. O. Tukey

SUBJECT- Insulating Cement

Johns Manville's "Superex" insulating cement, SS-C-160, has not proven satisfactory for use with calcium silicate covering.

For D.E.G. 4-5-6, please replace present stock with Johns Manville's #301 finishing cement, MIL-C-2908.

The remainder of Johns Manville's Superex insulating cement is to be held in stock until further notice.

*Used for Asbestos, held until designation of
Asbestos is determined.*

W. L. Gower
W. Gower, Foreman

Pipe Covering Dept.

Copy

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JM - 83

506427

BATH IRON WORKS CORPORATION
Bath, Maine
TECHNICAL DEPARTMENT
Chemical and Metallurgical Laboratory

Report of Analysis
#15768

Date: 30 August 1966

To: A. L. Haskins

Subject: Dust Survey - Piping Insulation Materials

REF: (a) BIW Lab Report of Analysis No. 15755 dated 8/19/66

1. The Laboratory has tested two samples of piping insulation materials to determine the total airborne dust present when handling and sawing the materials under identical controlled conditions. The same procedure and conditions were used as in reference (a).

Samples were identified as:

No. 1 - Calsilite - 2-1/2" ID x 4-1/2" OD x 36" lg.

No. 2 - J. M. Thermobestos - 2-1/2" ID x 4-1/2" OD x 36" lg.

2. Test results in millions of particles per cubic foot (MPPCF) of total airborne dust are tabulated below:

I. Calsilite (tested with cloth removed) 7-27-66

1. Ambient - 9.1
2. 3rd cut - 49.8
3. 6th cut - 47.8
4. 1 min. after 6th cut - 13.5

II. J. M. Thermobestos (tested with cloth removed) 10-2-66

1. Ambient - 9.3
2. 3rd cut - 10.9
3. 6th cut - 14.5
4. 1 min. after 6th cut - 4.2

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JM - 83

L. E. Temple
L. E. Temple
Chief Chemist & Metallurgist

LET:R

CC:

ALH(2)

T. A. Roers

506415

(DIST. SAMPLES)

BATH IRON WORKS CORPORATION
BATH, MAINE

August 31, 1966
9:30 A.M.

MEETING NOTES

Subject- Substitution of Calcium Silicate covering for Unibestos

Attendees- A. L. Haskins, E. O. Tukey, R. R. Powers, R. L. Lebel and S. Roberts.

From the results of the data obtained in the laboratory on a dust comparison of calcium silicate versus Unibestos it was decided by A. L. Haskins that the drawing room should be notified of the results.

A. L. Haskins reviewed with E. O. Tukey and above persons the graphical representation of the data and it was concluded that Thermobestos and Kaylo were the best products, considering exposure to dust and asbestos concentration only.

The laboratory is going to perform another set of test on these materials to check the validity of the first set of readings. However, BIW will proceed with the purchase of Thermobestos or Kaylo (Kaylo preferred) since laboratory testing will take a week or more and covering will be needed for DEG's by mid-September and requires two to three weeks for delivery of covering.

Ray Lebel to write letter to Pittsburgh Corning telling them that BIW wishes to return all the Unibestos covering. S. Roberts to get list of Unibestos available in yard.

Ray Lebel to call Owen Corning to check on delivery and complete price list. Bob Powers to get list of calcium silicate covering needed, today if possible.

It was mentioned by Bob Powers that the Bondmaster Cement being used by Pipecoverers on Armaflex does not meet spec requirements. Drawing room to try and get approval for Bondmaster for foam plastic. S. Roberts to see if any Armstrong Cement available at yard.

Reviewed thickness problem on non-irrating temp-mat. E. O. Tukey to call ~~Kenny~~ Wild to find out latest information on his trying to get weight restriction changed in spec requirement. MIL-I-16411

It was decided to wait on ordering calcium silicate for DDG's until one ship of the DEG class has been covered.

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[Signature]

BATH IRON WORKS CORPORATION

MEMORANDUM AND DETERMINATION

DATE: September 13, 1966

FROM: A. L. Haskins

TO: R. L. Lebel

SUBJECT: Unibestos Pipe Covering, MIL-I-2781

1. Due to the desire to use alternate materials for asbestos products to reduce the hazards of exposure to asbestos dust, a calcium silicate covering will be substituted for Unibestos pipe covering, starting with the DEG contract.

2. The substitution of a calcium silicate covering will cause a surplus of approximately \$27,000 worth of Unibestos pipe covering.

3. You are authorized to proceed with the disposal of this surplus material in the manner that is the most beneficial to the BATH IRON WORKS.

A. L. Haskins

cc: CAM
HRH
ROT
EOB
WLG
ALH
SSR
JML
LMG
ADC

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50439

UNIBEST

BATH IRON WORKS CORPORATION
MEMORANDUM

DATE September 30, 1966

FROM- A. L. Haskins

TO- E. O. Tukey

SUBJECT- Calcium Silicate Pipe Covering, MIL-I-2781

1. Due to the results of the dust sampling tests conducted by the laboratory on calcium silicate and unibestos pipe coverings and to confirm our verbal agreement of August 31, it is recommended that starting with the DDG 4-6 contract that a calcium silicate covering meeting the requirements of MIL-I-2781 be substituted for Unibestos pipe covering.

2. Of the five calcium silicate coverings tested two were found to be more dust free than the rest. The two coverings were Laylo made by Owens-Corning and Thermobestos made by John-Manville. It is suggested that Laylo be used on the DDG 4-6 contract and that Thermobestos be used on maintenance work.

3. Until we have had an opportunity to compare the workability and handling of both calcium silicate coverings, it is recommended that no calcium silicate be ordered for the DDG 28-30 contract.

ALH:dkk

cc: WLD
SSR
RLI

PRODUCE
JIN-8

August 22, 1966

American Asbestos Textile Corp.
Meredith
New Hampshire

Attn: Mr. J. L. Rainey

Gentlemen:

There is a general trend in our plant to eliminate the use of asbestos insulation products because of health reasons. We have been evaluating various non-asbestos products to use in place of asbestos. In some areas nothing has been found. However, in the area of one style asbestos cloth we will resort to a substitute.

In view of this development, we have approximately 78 rolls of Grade UG, Style 6 (1.40 Lb.) cloth meeting SS-C-00466D which we desire to return to you for credit.

We realize that this is an unusual request but hope you will bear with us. At this time, we can only say that because of excellent business relations and high quality cloth supplied by American we would continue to favor American for any future cloth requirements in other styles.

Please advise your position in this matter and the possibilities of your granting our request.

Very truly yours,

BATH IRON WORKS CORPORATION

R. L. Lebel, Buyer

RLI/lmk

cc: Stan Roberts

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JM - 83

506361

BATH IRON WORKS CORPORATION
Bath, Maine
TECHNICAL DEPARTMENT
Chemical and Metallurgical Laboratory
Report of Analysis

Handwritten: 80-7-10-11
DFB

Date: 19 August 1966 *37*

To: A. L. Haskins

Subject: Dust Survey - Piping Insulation Materials

REF: (a) BIW Lab No. L5755

1. The Laboratory has tested three samples of piping insulation materials to determine the total airborne dust present when handling and sawing the materials under identical controlled conditions, as per reference (a).

Samples were identified as:

- No. 1 - Unibestos - 2-1/2" ID x 4-1/2" OD x 36" lg.
- No. 2 - Thermosil - 2-1/2" ID x 4-1/2" OD x 36" lg.
- No. 3 - Kaylo - 2-1/2" ID x 4-1/2" OD x 36" lg.

2. Testing was performed in an open front box approximately 27 cu. ft. in volume. Six complete crosscuts were made on each sample, using an ordinary carpenter's handsaw. Dust samples were collected and counted using the "Konimeter" technique.

3. Test results in millions of particles per cubic foot (MPPCF) of total airborne dust are tabulated below:

I. Unibestos

- 1. Ambient - 7.0
- 2. 3rd cut - 33.4
- 3. 6th cut - 31.2
- 4. 1 min. after 6th cut - 4.0

II. Thermosil (tested with cloth removed)

- 1. Ambient - 4.0
- 2. 3rd cut - 61.0
- 3. 6th cut - 67.0
- 4. 1 min. after 6th cut - 32.2

NOTE: Removal of the cloth facing on this sample would probably produce 30 MPPCF per 3 ft. length minimum.

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506420

19 August 1966

III. Kaylo (tested with cloth removed)

1. Ambient - 10.0
2. 3rd cut - 16.2
3. 6th cut - 13.6
4. 1 min. after 6th cut - 9.0

4. Comments:

Thermosil is a much more "dusty" material than either Unibestos or Kaylo. The total airborne dust count is high, and the dust stays in suspension for a much longer period of time. Mechanical irritation of the throat was experienced by Laboratory personnel while handling this material.

Bearing in mind that the "Kcnimeter" technique is at best a spot check of a very small portion of the atmosphere being tested, at least ten duplicate tests should be run to establish the relative merits of Unibestos and Kaylo.

The relative hazards of asbestos dust and calcined diatomaceous earth dust should be discussed with knowledgeable people, Dr. Kinder for example, for Unibestos and Kaylo apparently contain definite percentages of each of these substances.


L. E. Temple
Chief Chemist and Metallurgist

LET:F

CC:

ALH(2) —
L.A. Beers
LET

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JM - 83

June 20, 1966

E. O. Tukey

FILE

DEC4-6, DDG28-30; Insulation and Lagging - Substitution of Materials for Asbestos, Johns-Manville Co. - Minutes of Meeting

1. Subject meeting was held at 1:30 P.M. on June 16, 1966 in the Work Manager's Conference Room with the following in attendance:

A. L. Haskins - BIW

R. L. Lebel - BIW

R. R. Powers - BIW

John Nelson - Johns-Manville Co.

2. Mr. Haskins briefly outlined our problems to Mr. Nelson in regard to the substitution of materials for asbestos. He mentioned the fact that we were pioneering in many of these areas without too much success to date. Mr. Haskins stated he felt the company who came up with acceptable substitutes for asbestos would be in a very good competitive position, in that other shipyards as well as ourselves are also interested in the elimination of asbestos due to it being a health hazard.

3. Mr. Nelson mentioned some of the special products they have developed for the missile and aircraft industries, but felt their application for the marine field was not practicable from a cost standpoint. He then described a glass thermal tape, which they make called MIN-K. This tape is very flexible and good for mean temperatures up to 700°F. They also have a high temperature glass cloth good for temperatures up to 1800°F. This cloth is soaked in acids to remove silicates by a special process and is very expensive.

4. Another product made by Johns-Manville which Mr. Nelson felt we might be interested in is their felted fiberglass blanket, commercial name E-Glass. This blanket is good for temperatures up to 1200°F, made in thicknesses 1/2" and below, non-irritating, 99% glass whereas normal glass cloth is only 55% glass and can be developed to a quilted blanket or tape. It was felt that this material must be similar to "Temp-Mat" blanket being used now by BIW to MIL-T-16411.

475-OR-E-GLASS-13

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5. Mr. Haskins asked if any of their products contained diatomaceous substances. Mr. Nelson said they do and that their supply comes from Long Beach, California. He further explained diatomaceous earth as being a very stable substance composed of silicified skeletons of minute planktonic unicellular or colonial algae found in various parts of the world.

6. Mr. Nelson made the statement that he felt their calcium silicates were more dust free than their competitor's. He will send samples of their E-Glass and also investigate other products in which we might be interested in using.

7. Meeting was adjourned at 2:30 P.M.

B. O. TUKEY/cg

EOT/RRP:E

CC:

ALH

RLI

EOT

RRP

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THE EMPLOYERS' GROUP OF INSURANCE COMPANIES
INTER-OFFICE CORRESPONDENCE

FILE X
UNDER
JHC LF

To Mr. A. C. Hodson, Maine Engineering Department
From Home Office Engineering, V. Bohn
Subject BATH IRON WORKS CORPORATION, BATH, MAINE
ASBESTOSIS

Date June 21, 1965

Your Memo

Enclosed is some literature taken from the Industrial Hygiene Journal, Volume 25, No. 3, Page 264-268. Also included is a two-page report drawn up some time ago on the general subject.

Please note the following:

1)
Chest x-ray for new employees needed.

2)
Dust control is necessary by the use of wet methods or local exhaust with consideration for respirators a secondary method of control.

3)
If any material is questioned, the manufacturer should be contacted to determine just what is the composition of insulation, since it might be fibre glass, magnesium, diatomaceous earth, or other inert substance.

4)
Note that the long and short fibres may be the O. D. problem.

5)
Unlike silicosis, asbestosis does not tend to progress after exposure is stopped or markedly reduced.

6)
We have had cases in the past where silicosis developed in one or two years because of the heavy dust count. I mention this since it is also felt that silicosis is a disease resulting from long exposure. This might be the case in abestosis, if the dust concentration were heavy enough.

7)
Note in the Journal Article that the high exposure exists in the removal of dry insulation.

We include with this memo two copies of the Industrial Hygiene Guide Series on "Asbestosis." In regard to dust counts, it is my opinion that, if there is asbestosis present, engineering controls are a must since concentrations will vary and I should expect that the MAC at 5 mppcf will be reduced in the future.

VB:AK

Enclosure

CC HO File

CC Lab. File

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506202

ASBESTOSIS

Asbestosis is caused by the inhalation of asbestos, which is hydrated magnesium silicate. This material, because of its heat resistance and fire-proof nature, is used as an insulator and for the making of heat resistant clothing.

Prolonged exposure to asbestos dust causes pulmonary fibrosis, different from that produced in silicosis and is demonstrable for roentgenogram. There is also suspicion that lung cancer is occurring more frequently with Asbestosis cases in England. The cardinal symptom is dyspnea (labored breathing). Other symptoms of Asbestosis is cyanosis (bluish discoloration of the skin), anorexia, (absence of appetite), and clubbing of the fingers. The disease usually takes from 5 to 10 years to develop.

The allowable concentrations have been placed at 5,000,000 particles per cubic foot of air. This figure was set up, based on fibers with length of less than 10 microns, but since typical bronchiolar fibrosis is produced by fibers ranging from 20 to 50 microns in length, a new figure, based on the number of long fibers present, may have to be established, which has not been done to date.

For protective methods, the asbestos dust should be controlled at the point of origin by the use of local exhaust systems, or wet method. The operation dispersing the dust should be isolated or enclosed, or the operation so changed as to eliminate the dispersion of the dust. Approved dust-type respirators are recommended only as a last resort.

As in silicosis pre-employment physical examinations, including an X-ray of the chest, should be required of all employees where exposure to excessive dust will be encountered.

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Individuals with a history of tuberculosis should not be placed in a dusty atmosphere. Periodic physical examinations, including chest X-rays, should be required at least annually of all persons employed in dusty asbestos operations.

VB:MW

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JM - 83

506204

(380)
2 June 1966

BOSTON NAVAL SHIPYARD

Mr. Arthur L. Hastings
Bath Iron Corp.
Bath, Maine

Dear Mr. Hastings:

On May 31, 1966, you inquired about a band saw used by the pipe-covers at this shipyard. The unit is made up of a dust collector, and a saw which has a built-in plenum at the base of the machine.

A sheet metal duct was added by this yard to the upper wheel guard for attaching a suction hose to remove dust from the work area just above the upper blade guides. The specifications for these two units are as follows:

- + Note for price and delivery.*
- 1a. Band saw, light duty with 20"(in.) dia. wheels and a sliding table 44"(in.) x 54" (in.) with graduations for making elbow segments.
 - b. Electrical characteristics 1.5 H.P. 220/44 3 phase 60 cycle A.C. motor
 - c. Manufactured by Howard C. Forrest Co.
5631 Michell Dale
Houston, Texas
 - d. Price Approximately \$1,400.00
 - 2a. Dust Collector, Type 200 C.N.
Manufacture serial number CN 63215
 - b. Electrical Characteristics
 - (1) 1½ H.P. 208/220/240 volts - 3 phase 50/60 cycle A.C. 3495/2905 R.F.M.
 - (1) 1/3 H.P. 208/220/240 volts - 3 phase 60 cycles A.C. 1725/1425 R.F.M.
 - c. Manufactured by Pangburn Corp.
Pangborn, Blvd.
Hangerstown, Maryland
 - d. Price Approximately \$1,200.00

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JM - 83

Best Regards,

E.R. JOHNSON

6/3/66
BNSY Saw

Environmental Survey of Pipe Covering Operations
At The Bath Iron Works.

I. Introduction

This survey was requested by Dr. B. G. Ferris to complement a medical survey of a work population exposed to asbestos during pipe covering operations at the Bath Iron Works. A previous study of these operations had been carried out in the 1940's and reported by Fleischer et al⁽¹⁾.

This report covers the results of the present survey, suggests the value of additional environmental study, and presents broad recommendations for dust control on asbestos handling operations.

II. Operations

A. Materials

There has been little change in the material used in pipe covering operations since the previous survey. The common insulating felts are still based on amosite and chrysotile asbestos. Asbestos molded pipe covering is now commonly used. The most significant change in materials has been the greater use of fiberglass and the introduction of foam glass insulation. Neither of these latter materials are felt to constitute a health hazard and, therefore, have been given little attention during this survey.

A list of the materials now in use at this shipyard and a brief description of their composition is given in Table I.

B. Process

Although there has been little change in methods during the past twenty years, it is felt worthwhile to indicate the major work areas and those changes that have been made.

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prohibited. A vacuum cleaner station should be provided for this purpose.

9. Dust control measures during shipboard work requires major study. One method which should be considered is the use of portable exhausters ~~with integral air cleaning unit~~ could be utilized by personnel working with asbestos insulation.
10. The concentration of hydrogen sulfide noted during fabrication operations of foam glass should be checked. Studies in other shipyards have shown concentrations of hydrogen sulfide below the threshold limit value at 10 parts per million on such operations.
11. Periodic environmental surveys should be carried out in this shop.
12. A second survey should be conducted when fabrications and installation is underway on the major steam lines on a vessel.

(1) A Health Survey of Pipe Covering Operations in Constructing Naval Vessels. The Journal of Industrial Hygiene and Toxicology. Vol. 28, No. 1, January, 1946.

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