

FILE NAME: Lockheed (LKH)

DATE: 1945 July

DOC#: LKH009

DOCUMENT DESCRIPTION: US Navy - Industrial Health and Safety Re-Survey of the Puget Sound Bridge & Dredging Co.

U. S. NAVY - U. S. MARITIME COMMISSION - WAR SHIPPING ADMINISTRATION
INDUSTRIAL HEALTH AND SAFETY PROGRAM

INDUSTRIAL HEALTH AND SAFETY RE-SURVEY
of the
PUGET SOUND BRIDGE AND DREDGING COMPANY
Formerly the
ASSOCIATED SHIPBUILDERS
HARBOR ISLAND
SEATTLE, WASHINGTON

July 21 - 25, 1945

- References:
- (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 Associated Shipbuilders, Harbor Island, Seattle, Washington dated June 7-14, 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 Associated Shipbuilders, Harbor Island, Seattle, Washington dated January 13-14, 1944, conducted by F. W. Johnson, Regional Safety Consultant R. S. Poos, Lt. Comdr. (MC), USN James F. Morgan, Lt. (j.g.) H-V(S), USNR

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In the course of this survey the following persons were interviewed:

Mr. Ballaine	Administrative Manager
• Lt. Comdr. Lyons, USNR	Assistant Supervisor of Shipbuilding
Mr. Nolan	Director of Personnel
Mr. Cousins	Ass't Personnel Director in charge of security and safety
Dr. Ripple	Women's Counselor
Mrs. O'Brien	Ass't Women's Counselor
Mr. Redman	Chief Safety Inspector

Consultative services may be obtained by addressing the Regional Director of Construction, United States Maritime Commission, Financial Center Building, 14th and Franklin Streets, Oakland, 12, California

This yard now employs 4,000 workers, of whom 3,500 are engaged in production. 840 of the total are women, of whom 600 are engaged in production.

At present the yard is engaged in construction of AFL barracks, barges and YR yard repair barges, as well as general ship repair. Repair is conducted in one floating drydock, in the graving or construction docks, and at pier side both at the yard and at various piers in the Seattle Harbor area.

The principal labor affiliation is the American Federation of Labor.

The insurance for industrial claims incurred ashore is carried by the State of Washington Department of Labor and Industries, while corresponding service for off-shore claims is provided by the United Pacific Casualty Company.

The present survey was conducted to determine the progress on the recommendations of references (b) and (c) and to make any further recommendations on conditions arising due to changes in the shipyard.

New recommendations are listed on pages 6-10. of this report.

Previous recommendations are quoted below and progress noted under the heading, "Comment."

MEDICAL DEPARTMENT

"1. Provide services of a full time physician on the day and swing shift to provide medical care and supervise activities of First-Aid Department, do physical examinations and make sanitary inspections as described in Sections H-6 and H-9 of 'Minimum Requirements for Safety and Health'."

Comment: This has not been done. At present the physician devotes even less time to the yard than previously. He is at the yard on Tuesdays and Fridays between the hours of 1300 and 1445.

"2. Encourage employees to report to First-Aid before visiting private physician for treatment of industrial injury or condition."

Comment: There has been some improvement in this respect.

"3. Eliminate congestion in first-aid by rearrangement and addition of space to present facilities or provide another first-aid station."

Comment: This condition has been alleviated by the decrease in the number of employees. Facilities are adequate for the present operations.

"5. Provide clerical help as needed to relieve nurses of excessive clerical duties."

Comment: This has not been done. All clerical work is still being accomplished by the nurses.

SAFETY DEPARTMENT

- "1. That the 'Minimum Requirements for Safety and Industrial Health in Contract Shipyards' be followed insofar as possible in the organization of the Safety Department and the Safety Program in effect in the yard.
- "3. Continue and expand the Safety Training in the Vocational Classes and Induction hours to include a program for Safety Training for Leadermen and Foremen."

Comment: The steps taken have been neither adequate nor satisfactory. In order to have a successful accident prevention program, top management must take an active, conspicuous part; management's policy with respect to accident prevention should be clear and consistent, so that supervisors will fully recognize their responsibility in this regard. Further recommendations and discussion of this problem will be found on pages 7 - 10 of this report.

VENTILATION

- "1. A group of men should be organized to take over as their full time duty the providing of adequate temporary ventilation. This shall be in accordance with 'Minimum Requirements', Section H-14.3 and H-14.5."

Comment: The organization of the ventilation department remains as before, except that safety and ventilation duties are performed by separate crews working under the same leadmen. This is unsatisfactory.

- "3. An educational program to teach welders the proper use of local exhaust hose should be begun."

Comment: At the present time there is no such program.

PAINT DEPARTMENT

"2. Adequate washing facilities should be provided the painters."

Comment: There has been no change in facilities, which are still inadequate.

ELECTRICAL DEPARTMENT

"1. Initiate precautions for men regularly working with MHFA and MDGA cable. When men are regularly handling that cable which has excessive wax on the conductors, this is very important."

Comment: No satisfactory precautions have been initiated.

"2. Make periodic (3-4 weeks) medical examination of the skin of those electricians regularly assigned work in the Inter-Communication Room to detect first signs of skin eruption."

Comment: This has not been done.

FOOD HANDLING

"1. Maintain adequate sanitary standards and assign responsibility as described in Section H-9 in 'Minimum Requirements for Safety and Health'."

Comment: The system of feeding at this time is much the same as previously reported. However, work is in progress on a cafeteria which, when completed, should provide excellent feeding facilities.

NEW RECOMMENDATIONS

1. A clerical employee should be assigned to the dispensary to obtain and maintain the medical records.

Although the records are good, their maintenance requires much of the nurses' time and would be greatly facilitated by clerical help.

Management should be able to make much better use of these records and the information contained in them in checking and controlling the accident prevention program.

2. A program for the prevention of chlorench among electricians working with MHFA and MDGA cables should be initiated, as previously recommended (reference (b)). Such employees should be examined periodically for signs of skin eruption.

3. As required by the state law, physical examinations should be made available to crane operators semi-annually.

4. Blowers of capacity intermediate between the 1 HP and the 7-1/2 HP machines on hand should be provided.

Much power is wasted when the larger unit is operated for the benefit of a single welder or two, but the smaller blowers are often inadequate for either air supply or local exhaust in inaccessible places.

5. All personal protective equipment should be dispensed from a centrally located station, under the supervision of the safety department, by attendants trained to know the proper type of equipment for the various jobs requiring it and proficient in the fitting of goggles.

This is particularly important for the prevention of eye injuries. The random passing-out of goggles has never successfully prevented eye injuries; employees cannot be expected to wear them conscientiously if they are not comfortable and well fitted when issued. Any of the optical equipment companies will be very cooperative in training personnel for the fitting of goggles. No new employees will be necessary, as the present tool room attendants could be trained for this work. (The activity should, however, be separate from the regular functions of the tool room.)

6. The safety and medical departments should familiarize themselves with all solvents and chemicals (paint thinners, paint removers, cleaning compounds, adhesives, etc.) used in the yard and with the possible effects of these substances on workers exposed to them. A program for the control of issue and prevention of undue exposure should be initiated. Control measures to be considered include limitation of issue, substitution of non-toxic solvents, provision of special ventilation and wearing of personal protective equipment.

At the time of this survey, the lack of a comprehensive program was very evident. Information concerning the hazards involved in using carbon tetrachloride has been circulated and some shops have eliminated its use. However, results have not been uniform or consistently satisfactory; solvents of various types are to be found in miscellaneous containers, often unlabelled or mislabelled; commercial products are widely used with, apparently, no knowledge of their constituents and no measures to minimize exposures.

7. Safety bulletins should occasionally be issued over the signature of yard managers in order to acquaint all members of the supervisory force with the company's policy regarding accident prevention.

Supervisors should be advised in writing that management holds them responsible for the prevention of accidents and that disciplinary action will be taken in case of failure to accept such responsibility. It should be made clear that the safety program is to receive the same supervision as any other yard activity.

8. Management should institute a program of compulsory safety training for all supervisory employees, to give them the knowledge necessary to prevent accidents by correcting their causes.

With the exception of emergency situations, accident prevention, that is, the correction of unsafe work practices and physical conditions should be done by supervision and not by the safety department. No number of safety inspectors could adequately police the whole yard for safety. For this reason all instructions, including those bearing on safety, should come to the individual worker through his leadman and supervisors.

9. Management and Supervision should wear hard hats and other protective equipment in production areas where their use is mandatory for employees, in order to set a good example. (After all, it is at least as important to protect supervisors as laborers.)

10. A full time safety director should be appointed and provided with an adequate staff, as specified in Section 3.2, reference (a). Other activities and responsibilities should be separated from the safety department to enable the director to keep management fully informed as to what is causing accidents and measures necessary to prevent their recurrence.
11. A central safety committee should be organized, to hold meetings at least once each month . Membership should include the Production Manager, who should act as chairman, the executive assistant, the safety engineer, and a number of top supervisory personnel, the latter to be rotated so that all will have opportunities to serve. This committee should carry out the duties outlined in Sections S-5.11 and S-5.12 of reference (a).

Considerable progress can also be made in accident prevention by setting up craft safety committees to meet at least once each month under the chairmanship of the craft superintendent. The superintendent, being fully informed by the safety department as to accident causes and means for their prevention, will be enabled to present the pertinent facts to his supervisory staff. This system has produced very gratifying results in shipyards where it is in practice.

In-job training should also be considered. Leadmen should be able not only to lay out the work but also to instruct craftsmen in the efficient and safe methods of performing it. It is usually found that efficient methods and safe methods are the same.

12. Leadmen should instruct women workers as to the proper types of clothing and protective equipment (hard hats, safety shoes, etc.) to be worn. The wearing of jewelry near machinery is exceedingly dangerous and should be prohibited.

13. Following is a partial list of unsafe working practices and physical conditions existing in the yard, each indicating specific points of attack for the safety program.

Plate Shop:

Poor housekeeping
Unsafe rigging practices
Unguarded machinery
Unguarded trolley wires
Unsafe ladders
Unsafe plate storage

Ways and Graving Docks:

Very poor staging (does not comply with reference (a))
Sandblasting not isolated
Poor housekeeping

Cranes (Whirley):

Lack of clearance between crane and materials
Lack of clearance between craneway and shacks
Unsafe rigging practices (improper clamps, hemp slings)
Inadequate inspection

General:

Points and edges of plates projecting into roadway
Unguarded deck openings
Inobservance of load lines in storing materials
Defective and unsecured ladders
Unsafe material storage
Unprotected acid tanks
Failure to wear personal protective equipment