

## SECTION 4 RADIOLOGICAL HEALTH PROGRAM

## TABLE OF CONTENTS

<u>Subsection No.</u>	<u>Title</u>	<u>Page No.</u>
A.	Designation of Radiological Health Officer	13 - 14
B.	Coordination with Radiological Defense Officer	14
C.	Liaison with Dental Officer	14
D.	Physical Examinations	14 - 15
E.	Photodosimetry Film Badges; issuing of	15
F.	Records, Reports and Returns	15
G.	Radiological Hazards	15 - 16

A. Designation of Radiological Health Officer

1. The Industrial Medical Officer has been designated as the Shipyard Radiological Health Officer. As such, he is the principal advisor to the Commander on matters involving the Radiological Health and Photodosimetry Program of the Shipyard other than in Naval Radiological Defense Laboratory. His duties are as follows:

- a. Develop plans for safeguarding the health of the Shipyard personnel engaged in operations involving exposure to radiological hazards;
- b. Prepare Radiological Health Regulations for the Shipyard, and submit them to the Commander for promulgation, if approved;
- c. Evaluate all radiological health hazards caused by close contact with operations involving radioactive material, and thereafter inspect and review all radiological safety arrangements to insure that the Radiological Health Regulations are being complied with;
- d. Conduct medical examinations of all personnel prior to their assignment to operations involving radiological hazards; observe the health status of personnel while so employed, and require re-examination as often as is deemed necessary;
- e. Provide essential health monitoring, including photographic dosimetry, to ascertain the degree of actual or potential radiological exposure of personnel;
- f. Provide required medical supervision in effecting decontamination of personnel who have been in contact with radio-active material and of their clothing and individual equipment;
- g. Provide immediate care for personnel who may incur radio-

logical injuries, and make arrangements for further medical care and treatment as required;

h. Report to the cognizant head of department, division or office any serious infractions of Radiological Health Regulations;

i. Make inspections, maintain suitable records, and forward to the Bureau of Medicine and Surgery the required reports concerning radiological safety;

j. Collaborate with the Industrial Relations Officer and Radiological Defense Officer in preparation of training courses.

B. Coordination with Radiological Defense Officer

1. The Radiological Health Officer shall keep the Radiological Defense Officer informed of all matters of importance arising in connection with his duties, including furnishing him with copies of reports submitted to higher authority; also advise him of measures requiring coordination with another department or division. In the event he considers it necessary, he may take direct action; but shall keep the Radiological Defense Officer informed of his action in all cases.

C. Liaison with Dental Officer

1. He shall maintain liaison with the Dental Officer, and shall obtain from that Officer such services as may be required for making dental inspections, and obtaining adequate treatment when indicated.

D. Physical Examinations

1. In accordance with Subsection A-1-d above, the Radiological Health Officer is responsible for the following in connection with the physical examinations of personnel who are repeatedly exposed to radioactive material:

a. Conduct medical examinations of all personnel prior to their assignment to operations where they are repeatedly exposed to radioactive material;

b. Obtain two complete sets of fingerprints, and forward one set to the Bureau of Medicine and Surgery and retain the other for the files;

c. Conduct laboratory examinations which shall include a complete blood count, blood sedimentation rate, and a routine microscopic urine examination;

d. Obtain chest x-ray examinations, which shall be taken prior to commencing work;

- e. Make frequent examinations of personnel for wounds, ulcers, etc.;
- f. Conduct annual examinations, including blood tests on all personnel exposed to x-ray radiation, and other workers who come in contact with luminous paint.

2. In addition to the general physical requirements of the preceding paragraph, anyone whose film badge records greater exposure than the accepted tolerance limit of 0.3 rem per week shall be referred to the Medical Officer for physical evaluation.

E. Photodosimetry Film Badges; issuing of

- 1. In accordance with Subsection A-1-e of the foregoing, the Radiological Health Officer is responsible for:
  - a. Issuing Photodosimetry Film Badges when requested by the Shipyard Radiological Defense Officer, and at other times when indicated;
  - b. The delivery of exposed film badges to the Radiological Health Laboratory for processing, reading and filing.

F. Records, Reports and Returns

- 1. In accordance with Subsection A-1-i of the foregoing, the Radiological Health Officer is charged with the responsibility for the following:
  - a. Maintenance of permanent x-ray, laboratory and photodosimetry logs;
  - b. Submission of a roster of all Medical Department personnel on duty with the Radiological Health Section to the Bureau of Medicine and Surgery;
  - c. Making appropriate entries in the health records of service personnel and/or Radiological Jacket of civilian personnel;
  - d. Preparation and forwarding of required reports and returns as necessary.

G. Radiological Hazards

- 1. In accordance with Subsection A-1-c of the foregoing, the Radiological Health Officer shall review all radiological safety arrangements to determine if:
  - a. All personnel, engaged in operations involving exposure to radiological hazards, are properly clothed;

b. Proper disposal is made of all canvas materials (gloves, etc.) which have been worn, and that other clothing is properly and safely laundered.

- f. Provide required medical supervision in effecting decontamination of personnel who have been in contact with radio-active material and of their clothing and individual equipment;
- g. Provide immediate care for personnel who may incur radiological injuries, and make arrangements for further medical care and treatment as required;
- h. Report to the cognizant head of department, division or office any serious infractions of Radiological Health Regulations;
- i. Make inspections, maintain suitable records, and forward to the Bureau of Medicine and Surgery the required reports concerning radiological safety;
- j. Collaborate with the Industrial Relations Officer and Radiological Defense Officer in preparation of training courses.

B. Coordination with Radiological Defense Officer -

1. The Radiological Health Officer shall keep the Radiological Defense Officer informed of all matters of importance arising in connection with his duties, including furnishing him with copies of reports submitted to higher authority; also advise him of measures requiring coordination with another department or division. In the event he considers it necessary, he may take direct action; but shall keep the Radiological Defense Officer informed of his action in all cases.

C. Liaison with Dental Officer -

1. He shall maintain liaison with the Dental Officer, and shall obtain from that Officer such services as may be required for making dental inspections, and obtaining adequate treatment when indicated.

D. Physical Examinations -

1. In accordance with Subsection A-1-d above, the Radiological Health Officer is responsible for the following in connection with the physical examinations of personnel who are repeatedly exposed to radioactive material:

- a. Conduct medical examinations of all personnel prior to their assignment to operations where they are repeatedly exposed to radioactive material;
  - b. Obtain two complete sets of fingerprints, and forward one set to the Bureau of Medicine and Surgery and retain the other for the files;
  - c. Conduct laboratory examinations which shall include a complete blood count, blood sedimentation rate, and a routine microscopic urine examination;
  - d. Obtain chest x-ray examinations, which shall be taken prior to commencing work;
  - e. Make frequent examinations of personnel for wounds, ulcers, etc.;
  - f. Conduct annual examinations, including blood tests on all personnel exposed to x-ray radiation, and other workers who come in contact with luminous paint.
2. In addition to the general physical requirements of the preceding paragraph, anyone whose film badge records greater exposure than the accepted tolerance limit of 0.3 rem per week shall be referred to the Medical Officer for physical evaluation.
- E. Photodosimetry Film Badges; issuing of -
1. In accordance with Subsection A-1-e of the foregoing, the Radiological Health Officer is responsible for:
    - a. Issuing Photodosimetry Film Badges when requested by the Shipyard Radiological Defense Officer, and at other times when indicated;
    - b. The delivery of exposed film badges to the Radiological Health Laboratory for processing, reading and filing.
- F. Records, Reports and Returns -
1. In accordance with Subsection A-1-i of the foregoing, the Radiological Health Officer is charged with the responsibility for the following:
    - a. Maintenance of permanent x-ray, laboratory and photodosimetry logs;

## SECTION 5 INDUSTRIAL PHYSICAL EXAMINATION PROGRAM

## TABLE OF CONTENTS

<u>Subsection No.</u>	<u>Title</u>	<u>Page No.</u>
A.	Scope of Industrial Physical Examination Program	17
B.	Purpose	17
C.	Responsibility for Determining Exposure	17
D.	Scheduling of Examinations	17 - 18
E.	Procedure	18 - 19
F.	Occupations Considered Hazardous	19 - 20
		21
A.	<u>Scope of Industrial Physical Examination Program</u>	

1. All employees subject to exposure to any occupational health hazard and those in whom physical defects may endanger the health or safety of themselves or others shall be given a prescribed physical examination at the time of employment, or upon assignment, and at prescribed intervals. These examinations shall be frequent enough to insure that the necessary precautions are taken to maintain and improve the health and efficiency of employees concerned.

2. All employees, now or hereafter assigned to occupations listed in Subsection F of this section, or subsequently included in this classification, shall be required to report, as directed, to the Medical Department for the prescribed examination. Any employee who fails to do as directed in this matter shall not be permitted to begin or continue in such occupations.

B. Purpose

1. The purpose of this procedure is to establish the methods which the physical examinations of workers engaged in work hazardous to themselves or others may be accomplished.

C. Responsibility for Determining Exposure

1. The responsibility for determining which of their employees are exposed to the various hazards will lie with the masters and senior civilian supervisors of the various shops and offices. The information as to the number of employees so exposed is to be supplied to the Medical Administrative Officer (Code 730) upon request in order that proper preparations for the examinations may be made.

D. Scheduling of Examinations

1. The Medical Administrative Officer shall notify personnel supervisors when the examinations are due and shall make appointments for the

necessary examinations. All physical examinations shall be accomplished by the Shipyard Medical Department.

E. Procedure

1. Each worker, required to have an examination, shall report at the appointed time to the Medical Administrative Officer (Building 210), where he will receive any forms required in the examination. These forms include Special Physical Examination cards in duplicate for use in physical examinations, laboratory examination forms for any laboratory work required, and dental examination forms (stamped on the back of the special physical examination cards when required) for dental examinations.

2. Any laboratory work required by the examination shall be performed by the Shipyard Dispensary Clinical Laboratory, or the Industrial Hygiene Laboratory.

3. When a physical examination is scheduled the employee shall report with his special physical examination cards to the Industrial Medicine Office located in the Shipyard Dispensary, (Building 210). If a dental examination is required, he shall further report to the Shipyard Dental Clinic (Building 520).

4. In cases where dental examination is not required, the Special Physical Examination cards are to be returned by the employee concerned to the Medical Administrative Officer. In the event that a dental examination is required the employee shall retain his Physical Examination card to present to the examining dentist. The Shipyard Dental Clinic after completion of the examination shall forward these cards to the Medical Administrative Officer for disposition.

5. The Industrial Medical Officer shall examine all reports to determine whether any rechecks or additional laboratory examinations are advisable or indicated, or whether the employee should be referred to his or her private physician or dentist for such advice or treatment that may be indicated.

6. In the event that clinical evaluation by the employee's doctor or dentist is considered advisable, the employee shall be instructed to report to the Medical Administrative Officer where he will receive a form letter to be delivered to his private physician or dentist. Any laboratory reports or other findings considered to be of significance shall be attached to the form letter. The employee shall be instructed to consult his private physician or dentist where there is reasonable doubt as to his physical fitness for working in a hazardous occupation. He shall be advised to consult his private physician or dentist when the examination reveals a pathological condition which is not disqualifying, but is considered to be detrimental to the physical well being of the employee.

7. After completion of the examination by the private physician the

employee shall return to the Medical Administrative Officer with a letter from his physician or dentist, showing the results of the examination, which shall be reviewed by the Industrial Medical Officer, and follow up physical examinations shall be initiated if indicated.

8. The final decision as to the physical fitness of the employee to continue his employment in a hazardous occupation shall be made by the Industrial Medical Officer, who shall notify the master or senior civilian supervisor of the results of the examination, and shall state the types of duty for which the employee is considered to be qualified.

9. After completion of the physical examination and review of the findings, by the Industrial Medical Officer, the original Special Physical Examination card shall be retained by the Medical Administrative Officer in a current file as an aid in scheduling future examinations. The duplicate copy of the Special Physical Examination card shall be filed in the employee's medical folder.

#### F. Occupations Considered Hazardous

1. The following is a list which may serve as a guide of the occupations now considered to entail hazards to the personnel involved. It is not necessarily complete. Examination intervals indicated are approximate and will vary depending on the degree of exposure as determined by the Industrial Medical Officer.

##### Occupation or Character of Work

##### Examination Interval

a. Handling radium or radioactive luminous compounds.

a. Complete medical and dental examination every six months including breath samples for radon.

b. X-ray operators.

b. Complete medical examination yearly. Complete blood examinations every three months.

c. Cutting and welding painted or coated materials containing lead.

c. Basophilic aggregation test quarterly.

d. Spraying lead pigmented paint.

d. Basophilic aggregation test quarterly.

e. Foundry workers and sandblasters (silicosis exposure)

e. Chest X-ray every six months.

- f. Non-ferrous Foundry workers (Lead and Manganese alloys exposure)
- g. Crane operators. Operations on scaffolding.
- h. Locomotive Engineers
- i. Enginemen (hoisting and portable)
- j. Firefighters
- k. Benzol Processes.
- l. Cable splicers, solderers, linotype operators and remelt men.
- m. Lead azide workers and others engaged in handling of explosives
- n. Strippable coating application.
- o. Chlorinated hydrocarbons processes.
- p. Waxes - pitches and tars.
- q. Pipe coverers (asbestos exposure).
- r. Magnoflux operators.
- f. Physical examination yearly (reflexes) and basophilic aggregation test.
- g. Complete medical examination yearly - should include history and urinalysis. (Epilepsy) (Diabetes) (Hypertension), etc.
- h. Complete medical examination yearly.
- i. Complete medical examination yearly.
- j. Complete medical examination yearly.
- k. Complete blood count every six months.
- l. Basophilic aggregation test every six months.
- m. Complete medical examination yearly - specific examination for absorption of explosive in question and test for usual pathology.
- n. Complete blood count quarterly.
- o. Complete physical examination yearly. Liver function test, C.B.C.
- p. Complete medical and physical examination and x-ray of lung-fields yearly. Special attention should be given to skin.
- q. Chest x-ray yearly (asbestosis).
- r. Chest x-ray yearly.

## SECTION 6 ANNUAL CHEST X-RAY PROGRAM

## TABLE OF CONTENTS

<u>Subsection No.</u>	<u>Title</u>	<u>Page No.</u>
A.	Purpose	22
B.	Dates for the Program	22
C.	Equipment and Supplies	22
D.	Clerical Assistance	22
E.	Charges to Leave	23
F.	Scheduling	23
G.	Participation	23
H.	Publicity	23
I.	Forms	23
J.	Preparation and Handling of Forms	23
K.	Stragglers	24
L.	Retakes	24
M.	Follow-up Action	24
N.	Notification of Results	24
O.	Filing of Results	25
P.	Results to be Held Confidential	25

A. Purpose

1. A chest x-ray examination of all persons employed within Naval Shore Establishments is required at least once a year, if practicable. This section is promulgated to set up the method of accomplishing the examinations of Shipyard employees, to fix the responsibility for carrying out the various phases of the program, and to insure that adequate follow-up action is taken.

B. Dates for the Program

1. The approximate dates of accomplishing the Annual Chest X-Ray Survey shall be set by the Shipyard Medical Officer, contingent upon the approval of the Shipyard Commander.

C. Equipment and Supplies

1. The necessary x-ray equipment and supplies and the personnel required for technical services shall be provided by the Shipyard Dispensary Photofluorographic Unit.

D. Clerical Assistance

1. Clerical assistance, as required, shall be provided by the Individual Shop or Office being x-rayed.