

FILE NAME: Rheem (RHM)

DATE: 1942 Dec

DOC#: RHM001

DOCUMENT DESCRIPTION: Minutes Before the US Maritime Commission - Meeting in Regard to Minimum Requirements for Industrial Health & Safety in Shipyards

454 17/73
STENOGRAPHERS' MINUTES

BEFORE THE

UNITED STATES MARITIME COMMISSION

NO.

MEETING IN REGARD TO MINIMUM
REQUIREMENTS FOR INDUSTRIAL
HEALTH AND SAFETY IN SHIPYARDS.

VS.

AT: Chicago, Ill.

DATE: December 7, 8, 1942.

ETHEL E. FISHER AND ASSOCIATES, INC.

OFFICIAL REPORTERS

304 ALBEE BUILDING

WASHINGTON, D. C.

NATIONAL 2327

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UNITED STATES MARITIME COMMISSION
AND
UNITED STATES NAVY

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MEETING IN REGARD TO MINIMUM :
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REQUIREMENTS FOR INDUSTRIAL :
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HEALTH AND SAFETY IN SHIPYARDS. :
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The first session of the Shipbuilding Health and Safety
Section of the United States Navy and United States Maritime
Commission, held in the Century Room, Hotel LaSalle, Chicago,
Illinois, on Monday, December 7, 1942, convened at 10 o'clock
a.m., Mr. Daniel S. Ring, Chief, Shipyards Labor Relations,
United States Maritime Commission, presiding.

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1 CHAIRMAN RING: Now as we start off, I guess we better
2 know who we are. My name is Ring. I am with the Maritime
3 Commission, in charge of the shipyard labor relations, and a
4 part of the function of the shipyard labor relations is that
5 of safety and health programs for contractors of the Maritime
6 Commission in the various yards all over the country.

7 This conference is being called jointly by the Maritime
8 Commission and the Navy in the interest of promoting standard-
9 ized programs to develop at least minimum requirements for the
10 two, safety and health, for the million people who will be in
11 the shipyards after the first of the year.

12 The invitations went forth to all of the contractors in
13 shipyards on the Atlantic, Pacific, Great Lakes, and Gulf
14 Coasts, and a response has been received which indicates
15 that there will be a far larger attendance here as the day
16 goes on than now. We received a number of wires this morn-
17 ing indicating that trains are late, planes have been delayed,
18 and that those who are intending to attend the conference will
19 be delayed.

20 We are afraid to hold things up any longer on account of
21 those with transportation delays, and felt if we were going
22 to get anywhere we might as well start now and let the late-
23 comers pick up as they come in.

24 This conference was set on foot after it was realized
25 that although during the last year tremendous strides had

1 been made with production in the fast and growing expansion
2 of all of the plants, too little attention had been paid to
3 the matters involving the health and safety of the employees.
4 We have had towns, and sizable towns, that have grown to
5 double their capacity, and to treble their capacity, during
6 the last year, and we have had yards that have mushroomed out
7 to such a degree that in the rush and bustle of getting pro-
8 duction going and putting the work in on the million tons of
9 shipping we expect to get in this year, that possible the
10 features of protecting the health of the men who are working
11 in the yards and their safety have not been emphasized on a
12 standardized basis and on a uniform basis as they should have
13 been.

14 Accordingly, the Maritime Commission and the Navy de-
15 cided that they would have a survey made in which facts would
16 be gathered whereby we could present to the industry and
17 those who are principally interested standards for the ob-
18 servation of rules governing the health of men working in the
19 yards and their safety. As a result of that, the services
20 of Mr. Drinker, who is the head of the Public Health, and a
21 group of men from the Bureau of Medicine and Surgery, of the
22 Navy, were detailed to take a tour in typical yards all over
23 the country to find out what the facts were. We felt that
24 before planning on any rules we had better get down to bed
25 rock and know exactly what conditions exist.

1 They made this tour and made specific records and re-
2 ports on each yard, transmitting the same to the yard for
3 their guidance. In addition to that, they were at all times
4 collecting data which would be in the nature of a common de-
5 nominator as far as everyone was concerned, so that at the
6 conclusion of the tour Mr. Drinker and his associates felt
7 that we would have enough facts at hand to be able to present
8 to the industry, through the Maritime Commission and Navy,
9 minimum standards as to the requirements for the protection
10 of the health of the men in the yards.

11 During this morning, Mr. Drinker will present to you
12 those minimum standards for health. At the same time Mr.
13 John Roche of the National Safety Council, also made a tour
14 of the principal shipyards in the country from the standpoint
15 of safety, and he has developed a number of facts which have
16 led him to believe that we can now have a sufficient factual
17 basis to prescribe minimum standards so far as the safety
18 factors in the yards are concerned.

19 In addition to that, Mr. Jack Wolf, who is in charge of
20 training for the Maritime Commission, has also made a number
21 of tours and he has some very decided ideas with respect to
22 the inculcation of the health hazards and the safety perils
23 in the minds of men who are just entering the industry. He
24 feels, and we all feel, that this can be very well made a
25 part of the training program, so that as the man walks in new

1 and green, into the industry, one of the very first things
2 that he gets along with the training as far as the skill of
3 the craft that he is going to work in is concerned, is a
4 knowledge of what he must do, and what he must observe to
5 protect his own health and to protect his own safety.

6 If you get that to the men when they are just coming in
7 the yard, why then you have started right at the foundation
8 to build up a respect for the health and safety program.

9 You will notice, among other things hanging around here,
10 a lot of empty suits which are designed for the use of women
11 coming into industry. We all know from recent reports that
12 there is going to be a tremendous influx of women in the in-
13 dustry, specialized attention therefore is being given along
14 those lines independent from the line that this conference
15 will proceed upon. However, we have felt in view of the fact
16 the manufacturers have moved toward the production of clothes
17 which will be safe for women to wear in the industry, you
18 might like to see some. Accordingly, arrangements are being
19 made, and our scouts are now out to obtain some human figures
20 of attractive form that can make these empty clothes that are
21 hanging on the rack a little more delectable so far as the
22 eyes are concerned, and it is hoped that tomorrow we will be
23 able to present to you a specific demonstration with some of
24 the more attractive types of people in Chicago to be wearing
25 them so that you can see for yourselves exactly how the fea-

1 tures of the clothing will be presented.

2 I was at first a little afraid of such a program, be-
3 cause it struck me that maybe the wearer of the clothes and
4 their appearance might detract from the concentration on the
5 clothes themselves if we did such a thing. However, I was
6 overruled, and Mr. Roche especially here said, "You do not
7 expect these fellows who are pretty hard boiled and who have
8 come from all sections of the country, to become very en-
9 thusiastic and pay very much attention to a lot of empty
10 clothes? You have to put those clothes over some very at-
11 tractive forms before they will really give their attention
12 to it," and accordingly arrangements are being made, as I
13 have said, to have some sort of a safety clothes model show
14 tomorrow afternoon. We will hear more about that later.

15 Now, one of the very serious things that we are con-
16 fronted with is the fumes from welding machines, and there
17 will be a demonstration on that for each group, one for those
18 of you who are specifically dedicated to the health side of
19 it, and one for those who are specifically from the safety
20 department this afternoon. The announcements on that will
21 be made a little later by Mr. Drinker.

22 We have asked the yards and the men who are really
23 shouldering this responsibility in the various yards on health
24 and safety to give this matter serious consideration, and we
25 do that in order that we will get those who are directly

1 concerned with the problems that are involved.

2 I want to welcome all of you here, and I want to tell
3 you that I think that this is the first time that the ship
4 building industry on the scope as broad as this has moved
5 directly into cooperation and focused itself and its atten-
6 tion on two very specific problems that they have.

7 You want to remember that it was on this day just a year
8 ago that the blow came at Pearl Harbor. The thing that left
9 us stunned for a little while; the thing that no one ever
10 expected would occur, and although we have gone along during
11 the last year, striving here and striving there, most of us
12 were doing it with our eyes right on the job before us, in
13 order to develop things, and it is only when you stand today,
14 a year from that day, and look back over the year that has
15 just passed, and realize what a tremendous job that the ship-
16 yards of the nation have accomplished.

17 Our boys, to the extent of four millions, and I imagine
18 that there are very few of us here who has not one who is
19 close to us, are out in the uniform ready to protect the
20 things that we hold so dear in this country.

21 We are building the ships to take the ammunition and
22 the supplies to the manpower of the nation, and it has been
23 restricted and reduced in such a way that we must make sure
24 that the farthest possible use must be made of every one of
25 us who are able to work on the home front.

1 With that in view, we are dedicating this conference to
2 the purpose of promoting the greatest individual efficiency
3 in shipyards throughout the country. Our whole objective is
4 based upon production, because everything else is subsidiary
5 to that, but we must remember that production in this struggle
6 is something of a long-range nature.

7 This is not going to be a short struggle that we are
8 in, as everyone realizes what odds we are up against, and if
9 we are going to be in a long drawn out struggle we have got
10 to have men who are physically fit and we have got to keep
11 them physically fit, and we have got to keep them from the
12 perils that will impair their productivity.

13 I again want to say that you are welcome here. I hope
14 that we will have an opportunity to meet each other person-
15 ally, and discuss individual problems as we go along, but
16 time with us, especially in these days, is very short. We
17 hope to wind this conference up tomorrow evening, and as for
18 the general program at the present time, I think I will just
19 sketch that now.

20 First, you will hear from Mr. Drinker with respect to the
21 minimum standards so far as health is concerned.

22 Next, you will hear from Mr. John Roche with respect to
23 minimum standards so far as safety is concerned, and next you
24 will hear from Mr. Jack Wolf with respect to the training
25 program.

9e

1 Then, we would welcome a word from the representatives
2 of the Navy, Commander Carlson, and Mr. Desjardines, and
3 then I think the time will be ripe to separate for the after-
4 noon session into two groups, where you yourself can study
5 what is being presented to you and find out if in the papers
6 that have been distributed to you anything is whacky, or any-
7 thing is off the beam, and let us all sit down together and
8 work out for ourselves from the wealth of experience and
9 knowledge that we have here along these specialized lines
10 standards that will be ones of integrity, that will be prac-
11 tical ones, that will be ones which will result in a promo-
12 tion and accumulation of production, and when we have done
13 that, all collectively, we ought to come together here to-
14 morrow morning on a final agreement on the consensus of this
15 conference with respect to those standards.

16 Once that is done, it is intended that the Maritime
17 Commission and the Navy Department promulgate those to all
18 of the yards, and ask that in the interest of efficient pro-
19 duction, those standards be adhered to. We will have an or-
20 ganization jointly dedicated to the yards with Navy contracts
21 and Maritime Commission contracts which will be applicable to
22 all companies, both from the health and from the safety stand-
23 point.

24 We want you to understand that we do not intend to do
25 this job ourselves. That is basically your job. However, we

1 do hope that we can act in the role of coordinators and ad-
2 visers. We want to be there to help you do that job.

3 Now, in the very first place, we want it understood that
4 the standards will be the product of your doing, your own
5 conference right here. If all those who come who have been
6 invited, we will have representatives here from the Safety
7 Department, from the Medical Department, from management,
8 from labor, and in that way we will have a true cross picture
9 of those who have the principal duty of really building these
10 ships for us.

11 Now, tomorrow morning then it is hoped that we will be
12 in a position to come to some agreement on what the standards
13 should be. Tomorrow afternoon we hope that we will be able
14 to display to you the most advanced styles so far as clothes
15 for women are concerned, and as soon as definite arrangements
16 are made on that, we will let you know.

17 From now on, I think that we might as well get down to
18 work. If any of you have not got copies of Mr. Drinker's or
19 Mr. Roche's data, they will be available for you at the regis-
20 tration desk outside. I also want to say that everyone here
21 will register so that we will have a record of the attendance.

22 Again, I want to thank you very much indeed for your
23 attendance here and I want to wish you all success in the
24 speedy and efficient formulation of these formulas for the
25 protection of the health and safety of workers in our ship-

yards, because, after all, it is going to be your job. Thank you all very much, indeed. (Applause.)

Now, I want to present to you Mr. Drinker, who will talk to you on the minimum standards for industrial health in shipyards.

MR. PHILIP DRINKER: Have you gentlemen all copies of this minimum standards for the control of health in contract shipyards of Maritime Commission and Navy?

Now, it will be impossible for this to be the success we hope for the conference unless you in such brief time as we have, and we are going to designedly have plenty, unless you mill around and get to know each other and inter-visit. You come from all corners of the country, and many of you have not met each other, and we wish you would throw formality to the winds and just inter-visit and have some unofficial talks about anything at all to do with the things that bring us here.

Will you turn first to Section A, page 1, and I do not intend to read all of this in detail, but I do hope that those who are especially concerned with the medical end of this, will take time to go over it roughly now, and then in detail this afternoon and this evening.

On the first few paragraphs there probably is nothing especially controversial, but as we go down the page there will be, notably under physical facilities, item 2, under the

1 Roman numerals, we suggest that substations for first aid be
2 within a distance of about 400 yards for anybody, so that a
3 man would, in an emergency job, not have to be taken further
4 than that, or if he could walk, he would not have to be re-
5 quested to go farther than that himself.

6 We do not wish to imply in this that we intend to be
7 arbitrary and go out and measure the distance. We certainly
8 do not expect to do that.

9 The doctors and nurses and ambulance facilities are
10 more or less according to the accepted practices, and I think
11 in many yards they are already established. If the yard
12 beats these suggestions that naturally is no cause for un-
13 favorable comment. We favor it very warmly.

14 On page 2-A, one of the first faults that we found with
15 the maritime yards, - and it is not true of all of them, -
16 but of some of them, and that was the records and forms that
17 came to the Maritime Commission. We thought that those rec-
18 ords and forms were very poor, and they are being changed,
19 and that will be discussed in some detail in Mr. Roche's sec-
20 tion.

21 The suggested forms that we would like to see filled
22 in now, and which in many cases have not been filled in, are
23 any such form as this discussed in 2-A. Now, we know in an
24 emergency we do not want any form filled out. When a man is
25 badly hurt, you do not want him to fill out any form in order

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1 to bring him to a doctor, naturally.

3

2 Item 1 is a form authorizing the workman to report to
3 the medical department for examination or treatment issued by
4 a foreman or leading man or other supervisor. This shall
5 show time of issue, arrival at dispensary, discharge from dis-
6 pensary and return to work.

7 In many cases, now there are no records in the yards of
8 men who go to dispensaries for minor ailments. They cause
9 loss of time, and in most cases we have no way of showing it,
10 and no way of comparing with another yard for loss of time
11 on any such basis. That is not true in every place, but it
12 is true in a great many of them.

13 The filing of records with the medical department and
14 the safety department in many cases is not good at all, and
15 it would be a decided advantage of all to see that that is
16 good.

17 We would like to have the safety and medical departments
18 to have the same records of any accident, injuries or ill-
19 ness, and that they have that information given to them
20 promptly.

21 Under examinations we urge very strongly what might be
22 called a pre-placement examination for employees. This does
23 not mean an examination in advance of hiring necessarily, but
24 when a man is hired he should be examined to see that he is
25 put in the job for which he is physically suited, and not one

1 for which he is physically unsuited, which may do him harm
2 or harm to those with whom he works. We feel that periodic
3 check examinations should be given to the men in all jobs
4 where the men are doing something which is hazardous or which
5 is a risky job, either to the men themselves or to others. I
6 have reference to crane operators, locomotive and hoisting and
7 portable engineers. It certainly should have periodic physi-
8 cal check-ups, and now in many yards they do not have that.
9 We urge in the strongest possible terms that there be periodic
10 check examinations to men in jobs in which there is a definite
11 health risk such as sand blasting, paint spraying, and cer-
12 tain types of radium and x-ray work.

13 Item 3 is that special examinations, such x-ray, sero-
14 logic and urinalyses shall be given in the individual case as
15 indicated, and in accordance with local needs. Now, special
16 examinations such as x-ray, serologic, and urinalyses would
17 be asked by a doctor in any normal establishment, and we be-
18 lieve it should be here, but we do not think there is any
19 need for us to give any cut and dried scheme that you should
20 follow. They will vary with the place, and we think it would
21 be a hindrance rather than a help for us to detail the pro-
22 cedure to be followed everywhere.

23 On page 3-A, air raid precautions, the amount of work
24 that was done on that, and the preparations throughout the
25 country was quite different. In some places it was done in-

1 completely, and in other places it was done rather haphazard-
2 ly. It was more or less a matter of chance.

3 Now, we do not believe that our organization is in any
4 position to say what precautions ought to be taken, but we
5 do feel very strongly that the least the yard can do is to
6 keep up to date and be sure they are acting in accordance
7 with the wishes of the local army and navy officials. If
8 that is done, there is no reason that we should criticize it,
9 but by and large most of the yards we saw the emergency med-
10 ical supplies, such as you would need in the event of an air
11 raid, etc., were generally speaking all in one place. Now,
12 that is not always true, but generally it is. So if there
13 was a direct hit, presumably most of them would be destroyed.

14 The responsibilities of the medical services are, I
15 think, more or less what would be expected, with possible
16 exceptions of item No. 3. That, I do not think has been done
17 in practically any yard we have seen, and is done in most
18 modern industrial establishments, such as large factories.
19 That is, it should be the joint responsibility of the med-
20 ical and safety departments through the supply department to
21 know the composition of paints, thinners, paint removers,
22 and other chemicals used in the yard.

23 We have seen some astonishing sights from the health
24 standpoint in men using a chemical which no one would know
25 the proper name of. They didn't know what they were working

1 with, and in some cases they were chemicals the result of a
2 careless use would be bad.

3 Now, there is no reason why, if the Maritime Commission
4 and the Navy act as a unit, we cannot have what amounts to an
5 enforced labeling, and that would simplify things a lot.

6 You may buy a can of something or other to thin paint
7 with, and what we want to do is to make the manufacturer put
8 the name of the ingredient on there. Now, you do not have
9 to ask him to divulge the chemical formula, but you would
10 save us a lot of headaches if that information was given.

11 Now, we have a laboratory on the west coast, but we do
12 not want you to send in these chemicals for us to analyze.
13 It is a devil of a job, and it is very easy for the manufac-
14 turer who puts the labels on there to give us that informa-
15 tion. We do not want to have him divulge the trade secrets
16 or his secret formula because there is no reason why we
17 should have it, but instead of "Quick Acting Solvent 22,"
18 or something like that, they might as well put on the com-
19 position, say, 10 per cent benzoin, 80 per cent phenol, or
20 whatever it is, and let us know what it is. That would save
21 you a lot of trouble, and also it would save us a lot of
22 trouble.

23 Now, the way to get this is if you gentlemen feel about
24 it the way we do, we will just say it is the sense of this
25 meeting, and that the Maritime Commission and the Navy feel

1 that this ought to be done, and we think we can put it
2 through. We would have the strong backing in that case of
3 most of the large manufacturing companies likewise, such as
4 General Electric, General Motors, etc., because they are in
5 the same boat, and they donot like these weird names in
6 their chemicals any more than we do.

7 Now, I hope very much that you will give us your back-
8 ing on that, and if you have any reason to disagree, perhaps
9 when we get down to details or on that this afternoon, you
10 can so indicate.

11 On Item No. 5, the future employment of women, and the
12 necessity of making provisions in the meical set-up for their
13 examinations and care, is perfectly obvious, but I do not
14 think it is being foreseen in a good many yards as it should
15 be.

16 Cafeterias and canteens. By and large in the Maritime
17 and the Navy contract yards, they could stand a very lot of
18 improvement. We saw few of them that would compare favorably
19 that you would see in a modern manufacturing plant. What
20 ought to be done about them from the broad national policy,
21 we are not yet quite sure, but something certainly should be
22 done. We would urge strongly that the medical departments
23 examine food handlers in these cafeterias, and have a regular
24 scheme for such examinations.

25 Also, that the medical departments inspect any cafeterias

1 or food dispensing arrangement that the men use, and inspect
2 them, the way they are done, and in regular army and navy
3 work. Now, those inspections ought to be at scheduled times,
4 and they ought to be very frequent, and they ought to be
5 thorough.

6 The water supply, sewerage and waste disposal by and
7 large, we had little fault to find with any of them. There
8 were one or two exceptions, but in general they were well
9 handled. But, we think those suggestions for inspection on
10 page 4 should be followed.

11 The provisions for salt tablets, particularly in the
12 yards around the Gulf, are important, and in plenty of the
13 east coast yards in the summer weather.

14 Now, part of our set-up for the future work will involve
15 the laboratory which will be at the Harvard School of Public
16 Health, and there will be another one at Berkeley, California.
17 The work that we want these laboratories to do at first is
18 to help you out in examination of urine specimens, and in-
19 fected blood poisoning.

4 20 We propose to discuss in the medical meeting this after-
21 noon procedures for carrying out such analyses and we will be
22 ready, we hope, very soon to help you out with such analyses
23 ourselves, and then to send somebody who can show you how to
24 do them, if you want to set them out routinely. We know,
25 or we can show you beyond any argument, I think, that in

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1 practically all of the Maritime and many of the Navy operated
2 yards know you are likely to get some lead poisoning, es-
3 pecially from welding on lead painted surfaces. As you know,
4 it is pretty nearly routine procedure now in all Maritime
5 yards to paint all metal surfaces as soon as possible, whether
6 they have been erected or not, and very often the painted ones
7 are taken out to the hull and welded in the proper position.
8 The lead paint is not stripped off at that time before weld-
9 ing. The routine procedure is to weld with the paint on,
10 and the heat of the arc gets rid of the paint, and the weld-
11 ing job is all done at one time.

12 There has never been any such work done yet industrially
13 when lead poisoning has not resulted, and we think it is
14 certain to result in the ship yards. The way to avoid it,
15 obviously, is not to paint needlessly, and we are sure you
16 will back us in suggesting to the Maritime Commission that
17 steps be taken to reduce that practice of painting before it
18 needs to be done.

19 We have no fault to find with ship construction in which
20 a job is finished, and has been painted, and an inspector
21 goes around and checks off, and says that that has to be
22 rewelded. That sort of thing is inevitable. We are not
23 criticizing that, but we are criticizing the needless pre-
24 painting, and we are firmly convinced that from the production
25 standpoint that that can be easily stopped.

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1 Now, we will show you in the demonstration here this
2 afternoon when we have a welding outfit going the procedures
3 now adopted for sampling air, and it is a procedure that can
4 be done by the safety engineers, or the procedures that our
5 men will use when they come to visit you to check up on any
6 such hazards as we are discussing here today.

7 Now, those sort of air analyses and checks need not be
8 done often. We do not want to wish a needless chore on you
9 that will interfere with more important duties for the safety
10 engineer, and above all the last thing we want to do is to
11 put through any restrictions that will slow up the ship-
12 building program. If we can present to you the facts as we
13 know they exist, why then maybe you can make suggestions
14 yourselves to put through the things that you think are
15 necessary.

16 The items under Section "B" on the use of safety depart-
17 ments in shipyards which has to do with respiratory protec-
18 tive equipment, and the like, we think that the respiratory
19 program in the Maritime yards, and the Navy yards, have not
20 been at all good. We would urge in the strongest possible
21 terms that all yards now buy only and use only respiratory
22 and respiratory protective equipment that has the approval
23 of the United States Bureau of Mines Experiment Station at
24 Pittsburgh. They have a laboratory that is especially
25 adapted for this testing work, and they issue lists periodi-

1 cally of firms supplying respirators which have the federal
2 approval.

3 We have seen material used of protective equipment in
4 practically every yard which is not at all suited to the job.
5 The most reliable consultant you can get on that today is
6 the United States Bureau of Mines, which, of course, is a
7 federal organization and whose information is open to all
8 of you immediately.

9 We will have here, and show you this afternoon, and
10 tomorrow, a respirator, or respirators which have such appro-
11 val, respirators which give aid, adequate protection, et
12 cetera, in welding of lead painted surfaces.

13 Now, there is an item on 3-B on sterilization of res-
14 pirators which perhaps will be a useful scheme to you, and
15 also you will notice in the last paragraph of the last page
16 on 3-B, reference to the National Safety Council sheet
17 governing the same thing more fully.

18 Section C is devoted to a very brief discussion of
19 seven items of industrial diseases which is likely to occur
20 in shipyards, or in many cases already have. The most im-
21 portant of them is the flash burn, foreign bodies in the
22 eyes, and then probably lead poisoning. On page 2-C is
23 solvent vapors, and solvent vapors can likely be eliminated
24 by compulsory labeling of chemicals or can be cut down
25 extremely.

3-C refers to zinc fume fever from welding galvanized metals.

The next section has to do with fiberglas, and then on 4-C, it has to do with asbestosis, and silicosis. The asbestosis is caused in connection with the handling of asbestos. That is not unlike silicosis in its effects, and we rather expect it to occur in shipyards, because we have seen asbestos being handled in installation work with little or no precautions.

Asbestosis, silicosis, lead poisoning from solvent vapors, and lead can really not be controlled satisfactorily unless systematic, periodic examinations of men are enforced. I might say, it is very difficult or practically impossible to control it by urinalysis. It has never been able to control it that way so far that I know of.

In Section D we have ventilation standards, the discussion of which would be out of order now, but we will discuss them this afternoon, and again tomorrow with any groups who are especially concerned. I know there are quite a few men here today who are very much interested in ventilation in ship construction, starting from the double bottoms, and going right on up, and there is nothing that we would like more than get into such a discussion with them. We will work that in tomorrow at any time you gentlemen see fit.

I hope you have made some notes on this. We propose

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1 this afternoon for those interested in the medical aspects,
2 to meet in this room at two o'clock, and those interested
3 in the safety engineering aspects will meet with Mr. Roche
4 in the American Room on the mezzanine floor at two o'clock.
5 Then, at three-thirty o'clock we will shift and we will then
6 give the same welding demonstration here, and ventilation to
7 the safety group and Mr. Roche will go over his stuff to
8 some extent with the medical group.

9 As a result of the conferences this afternoon, we hope
10 that we can iron out perhaps most of the difficulties, objec-
11 tions, additions, or subtractions that you have to make to
12 these proposed standards, and that tomorrow we can formulate
13 it into final shape.

14 Mr. Roche and I apologize jointly for the fact that there
15 is a certain amount of duplication in his reports, and ours.
16 Some of these things are safety engineering, and some are
17 medical, and some certainly are both.

18 He is interested in preventing accidents, and disease,
19 just as much as we are. So, if we do overlap, we have no
20 apologies. You will notice that we demand a safety store
21 and so does he, and just so long as you have that material
22 available where the men can easily and conveniently get
23 safety equipment, we have no objection. We do not care if
24 it is in there four times, so long as we get the store.

25 The organization which we will have to control health

1 will consist of two physicians from men in industrial work
2 in the Navy yards. Dr. Sessions was with us this summer on
3 this tour, and he will be one of them. There will be six
4 men, three of whom you will see this afternoon in the
5 demonstration that we propose to give. They are engineers,
6 and chemists trained especially in industrial medical manner
7 on the prevention of disease.

8 One of the doctor's headquarters will be in the east,
9 and one in the west, and there will be two ensigns to cover
10 the east coast and one to cover the west coast, one the Great
11 Lakes, and one the Gulf, and I have to cover all the rest of
12 them, and this gentleman (Mr. Ring) is our boss.

13 Now, our job is to help you. We will be available to
14 come and see you and help you at anything that we can. We
15 have had a couple of requests from yards now to go back on
16 specific investigations, to see the hazards which they thought
17 that they had, or did have, and to help tell them ways of
18 improving conditions, et cetera. That is what we are for,
19 and that is what we are being paid for, and if you do not
20 make use of us, or if you do not make us work for you, we
21 will be self-liquidating and resigned. That is what the
22 organization is set up to do, and if you do not make us
23 work, then I think that that will be your fault. We can do
24 it, and we would like to do it.

25 Now, I beg of you to make notes and perhaps save your

1 questions, but get this ready for this afternoon. Thank you
2 very much. (Applause)

3 CHAIRMAN RING: Well, I just had another demonstration
4 of Harvard philosophy that has always been puzzling to me.
5 If I am not mistaken, I heard Mr. Drinker just now say that
6 Mr. Roche and he wanted to apologize jointly for overlapping,
7 and two minutes later, he said, "If you find any overlapping
8 there, we have no apologies to make." Sooner or later, as
9 years go on, I will find out how to assimilate those things.

10 In the meantime, I think we ought to hear from the Navy
11 who is just as much interested in this program as the Mari-
12 time Commission, and which is bearing an equal, if not a
13 heavier brunt of the load and the expense. The cooperation
14 that has been extended by the Navy has been something that
15 has been fine, especially in Washington, where sometimes
16 they find one agency and another quietly and politely fight-
17 ing with each other.

18 I want to present to you at this time Lieutenant
19 Commander D. E. Carlson, who is the Navy representative on
20 safety and health.

21 LIEUTENANT COMMANDER CARLSON: Thank you very much,
22 Mr. Chairman, but I would like to say that Mr. Desjardines
23 is one of our chief engineers, and I just want to say that we
24 will cooperate with you to the fullest extent. However, we
25 are going to sit back on the sidelines and let Mr. Ring boss

1 the show. We are just here in an assisting capacity. There
2 are just a couple of things that come to my mind at this time,
3 and you are just as much affected by them, and I have refer-
4 ence particularly to the manner in which we are being hit by
5 the draft. You are going to have a special problem that you
6 never had before, because you are going to have the lame and
7 the blind, and not the female coming to you. Have you ever
8 tried to put safety shoes on a girl? Well, you are going to
9 have to do that very shortly. All I can say is regard to
10 that is to try to get them. You are going to have trouble
11 getting material; you are going to have especially consider-
12 able trouble in getting men. I know that we are having a
13 dickens of a time now finding safety engineers, doctors,
14 et cetera, because the doctors are practically all gone.
15 They are all in uniform. We have got problems which each
16 individual is going to have to solve himself, and the biggest
17 help that we are going to be able to give will come from the
18 Bureau of Medicine and Surgery in the Navy Department. We
19 are going to loan the necessary officers to the Maritime
20 Commission to carry along on that, and in that connection, I
21 would like to present to you Commander Burton of the Surgeon
22 General's office.

23 COMMANDER OTTO L. BURTON: The only thing I have to say
24 is that the Surgeon General's office has promised all the
25 cooperation that we can give to you and any medical help that

1 they are going to need on this program is available. So far
2 as the program is concerned, I have nothing to say about that.
3 It sounds very good to me. (Applause)

4 CHAIRMAN RING: We all know the difficulties that have
5 been caused so far as eye trouble is concerned, and we know
6 that is one of our principal problems. In arc flashes, when
7 a burn occurs, and the result is that you put a man's eye
8 out of commission for a while, I would like to say that the
9 organization in this country which has taken one of the lead-
10 ing roles in safety measures, so far as eyes are concerned,
11 is the National Society for the Prevention of Blindness. The
12 representative of that association is here today, and she is
13 probably one of the leading ophthalmologists in the country.
14 We have prevailed upon Dr. Hedwig S. Kuhn to come here from
15 Hammond, Indiana, to give us a few words, and we have under-
16 stood that Dr. Kuhn will be here for any specialized assist-
17 ance which she can give during the entire session. I want to
18 present to you at this time Dr. Hedwig S. Kuhn.

19 DR. HEDWIG S. KUHN: Well, I do not know that there is
20 much I can say after the reference to the lame, the blind,
21 and the women all in one sentence. I do not know whether we
22 are going to be able to help you very much or not, but we
23 are going to try, and I think it is not only just a question
24 of goggles, but the actions that come from eyes after they
25 are protected from goggles that I hope we can get across to

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1 you in the next couple of days. I would just like to say
2 at this time that the joint committee of Industrial Ophthal-
3 mologists, which is the official group of the A. M. A., and
4 American Academy of Ophthalmologists are back of this industrial
5 work that has been suggested, and which it has been my pri-
6 vilege to be associated with, and I hope that I can be of
7 some useful assistance to you. Thank you very much. (Applause)

8 CHAIRMAN RING: I now take a great deal of pleasure in
9 presenting to you Mr. John Roche of our Safety Department.

10 MR. JOHN ROCHE: When we started this program a few months
11 ago, Dan Ring told me something he did not tell you. He said,
12 "Roche, our job is to build ships, and we are not building as
13 many ships as we could build if we were not having the acci-
14 dents that were occurring in shipyards today."

15 not
16 Now, we have/absolute and final records on the national
17 shipbuilding situation in this country today, but we have been
18 able to prepare estimates, and the National Safety Council
19 will shortly come out with a statement that if the accidents
20 had not occurred, if the time had not been lost, if the men
21 had not been killed, we would have built 101 more Victory
22 ships in the past year, and how we could use them right now.

23 This survey was undertaken then with the idea that we
24 were going to be practical, that it was not going to be an
25 idealistic scheme, cure-all, like some of the other things
that have been wished on the shipbuilding industry, and a lot

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1 of other industries in the last few years. So, what you get
2 today, and what you will look at this afternoon in the safety
3 part of this meeting, and the health part, are our ideas of
4 minimum standards, not complete accident prevention programs,
5 but the standards, the basis upon which you can build a sound
6 accident prevention program in your shipyards.

7 Let me say a word about the type of yard selected. We
8 did not go to the worst yard; we did not go to the best yard;
9 or to the biggest yard, or to the smallest yard. We tried
10 to get a representative sample of the shipbuilding industry.
11 We took from those samples the best things that they had in
12 their organization, and the plans for facts that I propose
13 for the minimum standards are the best things that are going
14 on in the shipbuilding industry today, as far as I was able
15 to discover on that survey, based on my past experience,
16 based on my conversations, and talks with shipyard men.

17 There is a definite need for standards. I have run
18 into every conceivable type of accident and record, every
19 possible type of safety committee, every possible type of
20 designation of responsibility to a safety department.

21 Now, the safety man might be anything from a shipping
22 clerk to a vice-president. He might be the yard superinten-
23 dent, or as in the case of some yards, he had a definite
24 and specific responsibility for the safety and health for
25 the men in his yard.

1 So, we are recommending standards. We do not say, how-
2 ever, that if your yard does not comply with the standards in
3 every respect, that you must arbitrarily change from what you
4 are doing to what these minimum standards suggest. If you
5 are doing a better job than the standards ask for, then
6 continue to do it. If you are not doing as good a job, then
7 the least that can be asked is that you bring up your safety
8 department and health department and hygiene work to the
9 minimum standards that are required.

10 Now, I tried out this program on a group of guineapigs
11 and I see a lot of them are here, that is, the proposed mini-
12 mum standards for the safety in shipyards. There were 13
13 men from all sections of the country at that meeting, and we
14 held a meeting in Chicago and discussed these proposed mini-
15 mum standards and at their suggestions certain corrections
16 and changes have been made in the proposed standards. They
17 are included, so that you have right now in your hands, what
18 represents a pretty good cross-section of opinion of the
19 shipbuilding industry on the type of standards they think
20 should be minimum.

21 Now, let me say first, the dream of every safety engineer
22 is to sell his management, to get his management actively
23 in back of him, and to make management believe that safety
24 is just as important as a safety engineer knows it is. That
25 is one of the toughest jobs that a safety man has in any

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1 industry.

2 These minimum standards, while they will not guarantee
3 to do that for you, certainly call for a specific action on
4 the part of management. They call for active and interested
5 cooperation, demonstrated by certain activities that will
6 show in no uncertain way that management is definitely in
7 back of your yard program, and with that cooperation and
8 interest demonstrated, your job is going to be considerably
9 easier.

10 The safety department has outlined a program, and we will
11 have some discussion on that this afternoon. We have tried
12 to designate the size of the safety department based on the
13 size of the yard. We have told them of their responsibilities,
14 and what they shall do and how they shall do it, according
15 to the minimum standards.

16 Now, they are not to be shipping clerks, but safety
17 directors and safety engineers, and they are to take the
18 responsibility and prevent accidents in the yards.

19 We are suggesting, too, certain types of report forms
20 which you will find in the back of the leaflet here, and they
21 are too elaborate to go through at this time, and they will
22 be discussed this afternoon.

23 We have specified the type of committees. However, again
24 let me stress minimum standards are what we are referring to.
25 There is a policy-forming committee, or a central committee,

1 a supervisors committee, and the various inspection committees.
2 Now, if you have more than that, use them, but if you do not
3 have a policy-forming committee, and I regret to say that
4 many of the yards do not have them, then you should have one,
5 and get the benefit of management's participation in your
6 deliberations upon safety problems, which arise in the yard.

7 We specify employee training. Let me say this: I
8 visited training schools in every yard in every section of
9 the country, and they are doing a swell job of craft train-
10 ing, but they are doing a lousy job of safety training. I
11 walked into a welding school and saw the instructor working
12 without a helmet. I investigated the records of shipyards
13 and found that men who had taken craft training in those
14 welding schools were 50 per cent more likely to have eye flash
15 than were the men who did not have training. I found in one
16 yard that there was more time lost due to eye flash than all
17 the rest of the lost time from all of the other accidents
18 in these yards from anything else.

19 I found one yard where there were two days given off
20 for every eye flash, and in other yards all they did was to
21 get treated. We have no standards, and we are losing too
22 much time. Why? Because craft and safety training are not
23 properly correlated, and they must be. I am not going to
24 elaborate on that, because that is Jack's job to do that,
25 but I want you to know that there is that in the standards,

1 and it will be elaborated on considerably. The Maritime
2 Commission in setting up the standards, said that you must
3 not set up standards, but give them tools with which to work,
4 and the first thing to do is create an organization, and that
5 is not going to be a typical governmental organization. We
6 are not going to hound you to death with two or three hundred
7 inspectors, but we are going to set up a consulting organiza-
8 tion which will be available to you, and which will be
9 able to give you the help which you need when you want it,
10 based on your monthly reports to the Maritime Commission.
11 If your yard shows a need of help, you will get it, whether
12 you want it or not, and I can see some of you smiling. Well,
13 all that that means is this: that we are going to review
14 your records, and if you are above a general small industry
15 average, then you can expect to receive a visit from the
16 Maritime consultant, and have him offer his assistance to
17 determine what is wrong, where your accident record is up,
18 and what you can do to get the accident record where it be-
19 longs.

20 Another thing, we are supplying the tools for you in
21 addition to the organization, and one of the tools will be
22 specific safety posters. I was never so inspired in my life
23 as when I walked around the shipyards and saw such inspiring
24 posters as "Don't Have An Accident", "The Best Safety Device
25 Is A Careful Man." That was all the way up and down the line

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1 from the building of ships, to the patriotic angle, and every-
2 thing else, but nothing on specific safety practices which
3 they need. There should be specific posters for burners,
4 stage riggers, crane operators, et cetera.

5 For example, we have a man out in the Bay area in San
6 Francisco where we have a variety of shipbuilding, making a
7 study. He is taking pictures, making sketches, and he is
8 becoming thoroughly familiar with shipbuilding operations.
9 That man is an artist, and a photographer. You can expect
10 within a short time now to have specific and definite types
11 of posters for crafts on safety practices.

12 In addition to that, we will later on furnish you with
13 safety instruction cards, and such other material as you
14 may need. In addition, we will have sound film strips based
15 again on specific unsafe craft practices.

16 You all know about goggles. All I heard up and down
17 the Pacific coast was, "We are 5,000 pairs short. We need
18 them, but we can't get them."

19 Another yard says, "We are 10,000 pairs short," or
20 they will say, "We need hard hats," or, "We need shoes, we
21 cannot get them, and we are begging for them." Well, the
22 Maritime Commission is doing this for you. This is not a
23 promise, but a hope. We will go before the War Priorities
24 Board, and endeavor to secure better priorities ratings for
25 the manufacturers of safety equipment. The War Priorities

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1 Board generously gave the shipyards the best possible rating
2 they could get, and then they turn around and give the
3 safety equipment manufacturers a double X rating, and they
4 cannot get the stuff to make the things you want. We are
5 going to help you on that, and we are going to ask you to
6 get down on your knees and pray very hard when Roche and
7 Ring and Drinker go down there and try to get a better rat-
8 ing for the manufacturers of equipment.

9 Other things covered in the proposed minimum standards
10 are safe practices for welders. Now, again those are mini-
11 mum standards. I did not intend to go through, and I do not
12 intend to go through the whole gamut of work practices for
13 the welders, the burners, or the chippers, or the practices
14 of housekeeping, or handling of tools, but we have given you
15 what we have found as a result of our study, because we
16 believe that they were the things that caused the accidents
17 in shipyards today.

18 Now, if we have left anything out, we hope that you will
19 say so, but the things that are in there have caused acci-
20 dents, and caused a lot of them, and those of you that have
21 studied your records know just how many accidents they have
22 caused.

23 We propose later on to issue minimum standards for
24 staging of scaffolds; we propose later on to issue minimum
25 standards for fire protection, and they are not arbitrary

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standards, but only suggestions and recommendations. The consulting force of the Safety Division of the Maritime Commission will be glad to cooperate and help in every way that it can in the development of such standards in your yards that will either meet or better Maritime standards.

One of our biggest problems was women. They always are. More and more women are being taken into shipyards. I have heard all kinds of figures. They say eventually that eight per cent, 24 per cent, 36 per cent will be in shipyards, but no one really knows how many women we are going to use. All of the 38-year-olds and over, now, have been eliminated from the draft. Well, what does that mean? It means the younger and more active men, skilled or non-skilled, are going to be taken for military service. We hope not, but it looks as though they will, and that means that more women must be ready to step in to fill their places.

Training will have to be developed for women, and the question is will it be different from that given to men? What shall be included in addition to the training that we are giving to the men? Those are just a few of the problems that we are faced with women in the shipyards.

You all know the common problem which I won't touch on here. That will take care of itself. If there is any doubt about it, see me after the meeting, and I will tell you a couple of stories based on that.

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1 However, one of the biggest problems is clothing for
2 women. I wrote to a lot of manufacturers for work clothing.
3 In fact, I wrote to 159 of them, and what you see here now
4 is a representative sample of the work clothing being manu-
5 factured for women. But, what are some of the problems?
6 Here is one for you to consider. Oftentimes, you have seen
7 in your own yard, if you have women employed, when a woman
8 welder wants to move over to another job, she will coil up
9 her hose, put it over her shoulder, and then every few steps
10 she would take, she would have to hitch up her pants, be-
11 cause the women are built a little differently from the men.
12 In other words, the women are wearing men's clothing. The
13 man, if you will picture him in your own mind, has a differen-
14 figure from a woman. A man's body is built straight up, and
15 down, and a woman on the other hand is built in this manner
16 (illustrating). Do you see what I mean? Well, as a result
17 of that, the pants do not stay up.

18 Another problem is, that most women shave under the
19 arms. They are wearing rough clothing, and they are wear-
20 ing clothing that is of a dyed material, and we are not
21 familiar with the specifications. It may run, and it may not
22 We are afraid of a dermatitis arm infection. Well, what
23 should they have under their armpits? Should they have an
24 arm shield? Should they be built in? Should they be supplie
25 separately? Should we ask them to bring them from their own

1 home? Should we supply them? That is just another one of
2 the problems that is going to face us in the future.

3 Another thing, many times women disappear from their
4 jobs for about an hour. Well, there is a reason for that.
5 They are all dressed up in their uniform, and here is what
6 was described to me in the shipyard in Brooklyn.

7 First, they put on a suit of long underwear, then a
8 pair of khaki trousers, and women being as neat as they are,
9 will put on something over that, and I do not know why. Then
10 they have to go to the office, and they are gone for about
11 an hour, because it takes them about that long to get their
12 clothes off, and go to the office, and return, and then put
13 them back on again. The manufacturers have not recognized
14 the need for some convenient arrangement for women who are
15 working in shipyards, and brother, if you take an hour for
16 each woman in the morning and once in the afternoon, and
17 multiply that by the number of women you have in the ship-
18 yards, and the number of shipyards you have in the country,
19 you will have lost a lot of hours in the building of Victory
20 ships, which is an essential activity at this time.

21 So, we have got to establish some standards there.

22 Shall clothing have cuffs? Shall there be cuffs on
23 trousers? Shall the clothing be made to hide the natural
24 curves and contour of the women, so that they will not be
25 exposed to the jibes of the men in the yards, or shall the

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7

1 clothing be designed so that you know it is a woman and know
2 who is working alongside of you, or near you? Shall the
3 clothing be designed by a stylist as one of these hats down
4 here are designed by Dache at a considerable cost? In that
5 way, the women will feel pepped up and their morale raised,
6 because they feel that they have style work clothing to wear.
7 There are a lot of problems. Shall they have flat seam
8 pockets, or any pockets at all? Shall the clothing be flame-
9 proof? If it is flame-proof, who should do it, the shipyard?
10 Who should pay for the worker's clothing being made flame-
11 proof, the worker or the shipyard? Should there be some
12 cooperative agreement? Those are only a few problems with
13 women.

14 What about separate lockers and locker rooms for them?
15 What about protection of their locker rooms? What about
16 transportation? What do you do with them at night when they
17 are working on the graveyard shift, or the swing shift? Those
18 are just a few of the things that you will have to be think-
19 ing about.

20 Now, another one of the tools we are going to give you
21 is a safety contest. Every person I talked to on this tour,
22 and every person I talked to since, has been interested, as
23 has the Maritime Commission, and particularly John Moody, in
24 a national shipyard accident prevention contest for which
25 suitable awards will be made. I have 100 copies of suggested

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1 rules for such a contest on that table, and I wish those of
2 you who are interested, would get copies of those rules and
3 study them, and please write me wherein you think they should
4 be changed, so we can get this contest under way starting
5 January 1, and continue up until December 31, 1943.

6 Now, in the safety setup, as I said before, we were not
7 going to build up an organization of about 500 men to come
8 around and plague you. You know they are investigating some
9 of them now, and it probably would not be long until they
10 starting investigating governmental organizations to find
11 out what they are doing, and getting paid for. We are going
12 to have four men, one in each region, who will serve and act
13 with you as safety consultants, and assist you in your
14 safety problems. Each of them have lots of experience in
15 shipyards, and plenty of experience in safety, plus addi-
16 tional training that is proposed to give them before they
17 actually go to work in the district. They are at your dis-
18 posal, and you are urged to use them, and as I said before,
19 you will use them whether you want to or not, if your acci-
20 dent record does not come up to the general industrial average.

21 Now, this afternoon, we will meet in the American Room
22 at two o'clock for all those people who are interested in
23 safety, and I am going to ask you to please bring with you
24 your minimum standards for safety with such corrections and
25 suggestions as you wish to have included in the discussion.

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1 One of the things I have left out I see, and I have it
2 here in big capital letters, is the safety supply store. We
3 are definitely recommending that a safety supply store be
4 installed in allyards. I know you are smiling about that,
5 but we will stand behind that recommendation until hell
6 freezes over. We do not believe that men should be compelled
7 to go into the city and pay retail store prices for safety
8 equipment that is needed for specialized work. It is our
9 opinion that they should be given the opportunity to purchase
10 that material in the shipyard, or if not, that then to have
11 it issued as the property of the shipyards.

12 Now, that may sound like a rather tough recommendation,
13 but in one yard I know of, they could not get safety equip-
14 ment for their men and they were not able to keep it on their
15 men, until they adopted the practice of buying all of the
16 equipment themselves and issuing it on check. Then, they
17 were able to give them the equipment.

18 Now, there is a certain turnover in shipyards. That has
19 been discussed from time to time, and they were then able to
20 get the old equipment back, sterilize it, and reissue it to
21 the new men coming into the yards, and there has been only
22 one slight drawback to that at the present time, and that is
23 that the men refused to turn in the hard hats, or refused to
24 turn in the goggles, because they knew darn well that the
25 next shipyard they went to they could not get them, and they

1 conveniently lost them and paid for them. I know that that
2 has happened to a lot of you.

3 Those are about all of the remarks I would like to make
4 on these minimum standards at this time. This afternoon,
5 we will take our coats off and our hair down, and really go
6 to town on it. Thank you very much, gentlemen. (Applause)

7 CHAIRMAN RING: I was just exchanging a few side re-
8 marks with the representative of the Navy during Mr. Roche's
9 talk, and there is something that occurred there that is
10 very, very outstanding. The Alabama, the battleship, they
11 tell me has been launched, or it has been commissioned, after
12 about 24 million man hours, approximately, has been launched
13 without a single fatallity. That is quite a record. (Applause)

14 The second thing that I learned, and I was almost bowled
15 over, is that the New Jersey has been launched, and not yet
16 commissioned or shipped out, but has been launched after
17 about 18 million man hours, and also no fatality there.
18 (Applause)

19 Now, that is quite a record. And I thought you would
20 all like to know it, because the Navy has in their yard, pre-
21 sented a very strong appeal for safety, and safety precau-
22 tions. It seems that it is bearing results.

23 Now, we have with us Mr. Wolff, who is an expert on
24 training. I am calling them all experts, because any expert
25 should be called an expert. An expert apparently is somebody

1 who feels that the general public is taking him at too high
2 a value simply because he can talk in terms that the general
3 public cannot understand. Along that line, with respect to
4 the assignment of rooms to this afternoon's session, I think
5 that Drinker is about the best expert I have ever seen.

6 Jack Wolff has been in this training business from
7 scratch, and he went from nothing up to twentyfive or thirty
8 thousand people. He knows the picture on training, and he
9 has been making tours all over the country, and after he has
10 been in a plant, I might say about three or four days later,
11 somebody calls up Washington and says, "Wolff was up here a
12 few days ago telling us about the training setup, and I
13 wonder how soon we can get him back." We ask them what they
14 would like to have him back for, and they say, "There are
15 some other things that we want to ask him about."

16 So, these fellows when they are out in the field putting
17 something over, that is one of the finest tests I know of
18 when they are asking for him to come back. That has happened
19 several times, and I want to present to you at this time Mr.
20 Jack Wolff.

21 MR. JACK WOLFF: One of the things that perhaps is most
22 interesting, and perhaps means the most about what we have
23 been listening to today, and what we are here to work on,
24 is that finally the recognition has come to those in places
25 of responsibility that it is a human element that we have to

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1 depend on most to build these ships. When we speak of safety
2 and health, we do it because no matter how much equipment you
3 have in your yard, no matter how much material is over there
4 on the sidetrack waiting to be lifted on the hull, it is the
5 human element that controls the amount steel that is necessary.
6 Does that check?

7 Now, experts can come along, as we have heard them this
8 morning, and they can outline minimum safety standards, and
9 they can outline minimum health standards, and they can set
10 them up, but they cannot make them work by themselves. It
11 takes something more than that, and until it works, it is not
12 worth a damn. It has got to work before it will produce ships.

13 Now, these safety standards can be set up by you folks
14 who are experts in safety. Our management can be sold on them,
15 and can issue instructions telling the yards that those safety
16 standards and those minimum health standards are to be followed.
17 They can give directions, but that still does not do the job,
18 because we have seen a lot of orders issued, and they have
19 been either forgotten, or definitely violated, because some-
20 body thought that they were just somebody's wild idea. We
21 can do something else. We can put posters up and John Roche
22 mentioned posters.

23 Now, it is very interesting about posters. We see posters
24 for a little while, and pretty soon we do not see them at all.
25 It is just like a man who spilled some gravy on his vest. The

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1 first day he was very conscious of that gravy spot, but after
2 the second or third day, he did not notice it at all, but all
3 of his friends did see it. Now, that works, because it is
4 easily checked. All you have to do is put a sign or a poster
5 up in a prominent location, leave that poster there for a few
6 days, and then change it, and repeat that frequently, and then
7 make a survey of your yard, and ask any man you come to what
8 is on the poster that is out there on the main gate, the
9 poster that looks down on you as you come into the yard. If
10 you get two per cent of the men who can tell you just what is
11 on that poster, figure that you are lucky, because you have
12 got a higher percentage than you are expected to get. We have
13 tried that already.

14 Now, that does not have to do only with safety posters,
15 but we have asked them the same thing about fire extinguishers.
16 We have asked them where the nearest fire extinguisher could
17 be located. For example, if this room caught on fire, where
18 would you go for the nearest fire extinguisher, and out of
19 50 or 60 men in a series of conferences, supervisors, mind
20 you, there was not a one of them who knew where he could go
21 to find a fire extinguisher, and every one of them passed with-
22 in two feet of one before coming into the room.

23 So, we cannot depend too much on posters, and on signs,
24 because pretty soon we become immunized to them, and we do
25 not see them any more.

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1 There is another thing we are up against when we formu-
2 late our ideas and formulate standards and programs. We make
3 them just as air-tight as we possibly can, and then we put
4 them out in the field, and we say, "Brother, here it is, this
5 has been worked out by the brains, and this is what we want
6 you to follow. It is all right here, and everything is out-
7 lined to you on the safety and health programs," and then
8 we go on down with a list of the health and safety solutions,
9 how to get around those hazards, and then we say, "Now, think
10 safety, and think health", but how can a man think safety and
11 think health when somebody has just given him all of the
12 answers?

13 We no longer think about a thing that we do not worry
14 about, or that we do not wonder about, or that we are not
15 curious about, so that as soon as we get the answers we stop
16 thinking about them.

17 It is almost like the International Business Machines
18 that we see wherever we go. In other words, there are a lot
19 of International Business Machines that just do everything
20 automatically a hundred times faster than a human can do
21 them, and they are all over the room, and all around the room
22 you will see a sign, "Think".

23 Well, there is nothing more for those boys or girls to
24 think about, because the machines do it all, and they do not
25 think, and they become automatic, unless you call wondering

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1 about that date that they are going to have that evening
2 that they will be thinking about, is what you are referring
3 to. They can do that, because they have plenty of time to
4 do it, because the machine is doing their work for them.

5 Another thing is if we give all of the answers to the
6 men in the field and in the yard, very shortly they say,
7 "Well, of course, that is pretty dangerous, and that ought
8 to be fixed, but we have got a safety engineer here, and that
9 is his problem, and his worry. We will let him do all of the
10 worrying about that." Does that happen? Sure it does. It
11 happens right along.

12 One of the things that we have to do if we are going
13 to cut down safety and health hazards in a yard is to let
14 the men in the yard, the welders, the burners, the ship-
15 wright, the ship fitters, and all the rest of them, the time
16 checkers, and those that are actually working as mechanics,
17 those who are working as helpers, those who are working in
18 jobs that are supposed to be dangerous, to let them know
19 that we need their help just as much as they need ours.

20 They said here this morning that training was one of
21 the things which was very necessary. Now, we can do train-
22 ing or attempt to do training in two different ways. We can
23 make it an informative sort of thing. We can start out by
24 giving them the answers and telling them what they ought to
25 do, and then all they have to do is follow of those notes,

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1 or we can do it the other way. We can ask their help in
2 determining what we are up against, and what we ought to do
3 to correct it.

4 Take one of the craft instructors, for example. Here
5 comes a beginner in who is going to be a welder. You can get
6 this welder to go through a course in welding and you just
7 heard that a few moments ago, and the amount of eye flashes
8 which are suffered in the shipyards, and that the biggest
9 percentage of them occurred to those who had just finished a
10 course in welding.

11 In other words, it was obvious safety had not been in-
12 cluded. Now, there may be a reason for that, and one of the
13 reasons is maybe that the welding superintendent, or the weld-
14 ing supervisor was not asked in to help work out a program
15 for teaching welders. Consequently, somebody in a school up-
16 town, or somebody in a school someplace else worked up a
17 program for teaching welders and all he thought about was that
18 there was a certain seam that had to be welded, for in hori-
19 zontal position, and then in a vertical position, and in an
20 overhead position, and so all he did was to train those people
21 to weld those seams under those conditions in those positions,
22 and it never occurred to him when they get out of there, where
23 they are not surrounded by a booth with a curtain in the back
24 of them, and on to a platform where welders are working all
25 around them, that they would not know how to take care of them-

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1 selves.

2 Well, if we want to correct those situations, maybe we
3 had better get the welding department to get in there with
4 us to help us work out a program for the proper training of
5 people to be able to do the things which are required, once
6 they get into the shipyards. If we do that, it means that
7 the safety department will come to the training department,
8 and the two of them will get together and pull in the weld-
9 ing department, and the welding department and the safety
10 department and the training department will work out a method
11 which will include safety practices, safety hazards, safety
12 procedures, as well as the technique, or the technical side
13 of welding. Does that check?

14 Now, one of the ways in which the safety engineers and
15 the doctors, and somehow or another I am speaking now of the
16 fellow who has been around various shipyards as a shipyard
17 employee, one of the things that we run into is that very
18 few people know the company doctor. Does that check? Very
19 few people know the company doctor. About the only contact
20 that the man might have with the medical end of it, or the
21 health end of it is when he has a burn, or a flash, or some
22 accident that brings him to the first-aid station. That is
23 his first contact. When he gets in there, there is a young
24 woman who takes a record of what happened to him, and another
25 nurse fixes him up in a hurry, and he is on his way out, and

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1 that has been his only contact so far as health in the ship-
2 yard is concerned.

3 At other times he may come into first-aid because he
4 may have a very sore throat. Now, you who are on a monthly
5 salary, would probably go home on account of that sore throat.
6 I mean, it is possible that he might, but if he is on an
7 hourly basis, he will not want to go home, because he will
8 not want to lose the day's pay, and so they swab his throat.
9 They are beginning to do it more and more now.

10 I have heard quite a bit of discussion already as to
11 whether it was good practice for the first-aid to do some-
12 thing for a man which does not involve an industrial injury.
13 I have heard discussions pro and con with the predominating
14 note seeming to be that we really ought to take care of the
15 fellow, although it is a non-industrial injury, because it
16 will help us to get some work out of that man that we would
17 not get otherwise. In other words, he would go home, if he
18 were not given that attention.

19 Still, when the safety and health standards are being
20 set up it will be a little bit easier to work up a setup of
21 that kind.

22 Now, if those responsible for health in the shipyards,
23 and those responsible for safety in the shipyards, will go to
24 the supervisors who are directly involved, for the correction
25 of something that needs to be done, and ask those particular

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1 individuals to work out all of the difficulties that lie in
2 their way, why they cannot do those things, and then for
3 each one of those difficulties, or obstacles, they work out
4 a specific solution. Safety and health are certain produc-
5 tion objectives, aren't they? We can call on the supervisors
6 to help us in working out why some of these objectives are
7 difficult to attain.

8 In cutting down lost time, accidents, for instance, you
9 will be improving production, and when you are able to show
10 that to the supervisors, they will begin to show you all kinds
11 of reasons why what you are suggesting would be impossible to
12 do. However, then they would begin to think about the matter
13 and go over all of the work, and work out what they believe
14 would be a way of getting around every one of those obstacles,
15 and when they were through there is not a safety engineer in
16 the yard, or in any yard, that would not have run across a
17 great number of things which he otherwise would have over-
18 looked, which will help him to do a better safety job in
19 that yard.

20
21 What else have we? Those supervisors who helped him
22 work out a better program, by discovering some hazards which
23 have previously been overlooked, and then by working out some
24 solutions for each one of those hazards, each one of those
25 men from then on, would be safety minded. Why? Because safety
has become their baby. Does that check?

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1 Now, there is another group here whom we have not men-
2 tioned a great deal about, and that is the labor management
3 committee. Those people who represent the labor management
4 committee. Now, the idea of the labor management committee
5 was to help push production, to help cut out the things that
6 causes loss of production, and substitute for them methods
7 which will help production.

8 Now, we can do two things with labor management commit-
9 tees. We can get them to deciding what kind of a poster
10 would be the best to place out in the yard; we can set them
11 to doing any number of things which would not infringe on
12 management's prerogative in running the yard, because perhaps
13 in some cases we may be afraid that they will take some of
14 our prerogatives and so we will try to keep them from work-
15 ing on anything which will involve some sort of a decision,
16 or we can put up some of these things pertaining to safety
17 hazards to them, and ask their help in developing what those
18 hazards to safety and health really are, and believe me there
19 are plenty.

20 I happen to know of one shipyard in which at a labor
21 management committee meeting, the subject of tin cups came
22 up in which the caterer had a lot of wagons around the yard,
23 and they were serving coffee in tin cups with rolled edges
24 underneath. Have you ever checked to see how those tin cups
25 are washed? Do you know how they are washed? Well, if you

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1 ever looked at them washing them, you would never take a
2 drink out of those cups again. That is the way they are
3 washed, and that is the way thousands of men have to drink
4 their coffee out of those tin cups. That is why quite a
5 large percentage of sore mouths were developing in the yard.

6 The labor-management committee in that yard took that
7 into consideration, and they made a report on it, and for a
8 brief period, a couple of days, three or four, perhaps, the
9 men were served paper cups, but after three or four days,
10 the tin cups were back again, and nobody did anything about
11 it.

12 That is an illustration of how in the safety and health
13 end of it there should be a closer tie-in between labor-
14 management committees and the health officers, or those who
15 are responsible for the health end of the shipyard and also
16 the safety engineers. Does that check?

17 We might be pretty safe in saying that unless you safety
18 engineers and unless you doctors make a setup through which
19 you can utilize the training facilities in that yard, to
20 actually put the problems right up to the men themselves,
21 don't even try to put all of the problems up to them, but
22 put up to them what you are trying to accomplish in the yard
23 and then ask them to tell you the reasons why you won't
24 accomplish it, and then still hold yourselves in check and
25 do not let yourselves give them the answers, and then ask t

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1 to figure out for you the best way of getting around each
2 one of those reasons, why you cannot reach that safety or
3 health objective, and you will come up with two things. You
4 will come up with some hazards which you have previously
5 overlooked; you will come up with some methods of solving
6 those hazards or getting around them, which you have pre-
7 viously overlooked, and the second big thing is that you
8 will have that shipyard organization completely behind you
9 in your efforts to make the yard safer, and more healthful.
10 That means that you will be taking the brake off production,
11 which is put there by accidents and sub-normal health. Thank
12 you very much. (Applause)

13 CHAIRMAN RING: Now, I think one of the worst crimes
14 that any conference commits is to overburden conferences
15 with too much talk, and too much material at one time. Well,
16 we will meet again this afternoon at two o'clock. There is
17 only one other item that I think we should go into this
18 morning, and that is with relation to statistics. Now,
19 statistics are the bane of most production men's lives. We
20 hear about all of the questionnaires that are going out from
21 Government agencies with respect to them. On the safety pro-
22 gram you will find a form which we hope can be made standardi-
23 zed for all statistics in the shipyards that are represented
24 in the Maritime-Navy program.

25 We have here with us today Mr. Max Kassoris of the

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1 Bureau of Labor Statistics, who is willing and desirous of
2 extending the full cooperation of that Bureau to our group.

3 Now, let me say this: There is going to be no yardstick
4 whereby we can gauge the proficiency of one yard against the
5 laxity of another, unless we have our statistical data on
6 the same basis, or on the same basic plan. We do not want to
7 go into a ramified and diverse statistical exploration, but
8 what we do need, though, and what we will ask you to give
9 your attention to this afternoon is the study of the statis-
10 tical forms that you will find attached to your safety mini-
11 mum standards.

12 Before we go into the huddle this afternoon, and so that
13 you will know Mr. Kassoris, I would like to ask him to come
14 up here and say hello to you, and tell you in brief just what
15 the story on statistics is.

16 MR. MAX KASSORIS: I came up here primarily to sit in
17 on the discussions in connection with the forms that have
18 been suggested, to get your reactions to them. I want to
19 see whether or not you have any suggestions for their improve-
20 ment so that they will give us a little better indication of
21 what causes accidents in the yards, and how we can better
22 keep track of what is happening. I do not want to burden you
23 with any discussion of the details on the form, because we
24 will go into that this afternoon. We of the Department of
25 Labor, and specifically the Bureau of Labor Statistics, are

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1 very happy to be of service in this connection, and to assist
2 in the development of the type of information which will help
3 both you in the yards and the people in the Maritime Commis-
4 sion, and other Governmental agencies, to know how the yards
5 are coming along with the safety program and through the
6 medium of statistics, to indicate to them the danger signals,
7 the sore spots, to which they can in turn direct their atten-
8 tion.

9 I want to assure you of one thing. I have no use for
10 statistics as such. They are valuable to us only for the
11 same reason that they are valuable and should be valuable to
12 you, and that is as signs, or danger signals, or as tests,
13 of good performance. Now, to the extent that they can per-
14 form that function, they can be of value, and we will do the
15 utmost to put at your disposal the facilities that we have.
16 To the extent that they are of no particular value to you, I
17 want to assure you that we will be the last one to burden you
18 with anything that will have no use to either you or us.
19 Thank you very much. (Applause)

20
21 CHAIRMAN RING: Now, we are running toward the close of
22 the morning session. I think we ought to have a resume now to
23 see exactly where we have gone, and what has happened. First,
24 you have had a group of men who have made a tour of this
25 country to ascertain what the facts are, and present to you
their reactions as to what is needed with respect to health

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1 and safety and training. We have received the cooperation
2 of persons who are outstanding in their line with respect
3 to the development of this program. We want now to go into
4 a phase whereby everybody will actively participate in the
5 formulation of these standards, and that will occur this
6 afternoon when we break up into two groups, one from the
7 medical side, and one from the health side.

8 Dr. Drinker will be in charge of the discussion from
9 the medical side, and Mr. Roche from the safety side. Now,
10 there is one thing I would like to ask all of those who have
11 not done, and be sure to do, because we want a complete
12 record of this conference, and that is with respect to
13 registration. If you have not filled out a card showing
14 that you are here, and giving us the data concerning your
15 company, address, et cetera, I hope that you will do so, be-
16 cause we would be very happy to have that information.

17 I want to say that the attention has been given this
18 morning, and the reception that has been given to those of
19 us who have spoken has been something that brings to me a
20 great deal of satisfaction. I hope that nobody will pull any
21 punches this afternoon. The only way that we in this country
22 get by, and develop things, is by having our own ideas clearly
23 presented. If we do not agree with a thing, at least here in
24 this country, we can step up and say that is whacky, and here
25 is why I think it is whacky, and it is the only way in which

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1 we have been able to progress in the way that we have.

2 So, roll up your sleeves, and get down to work this
3 afternoon, and let us bring out of this some real practical
4 constructive standards that will be of benefit to the million
5 men who will soon be working in the shipyards. The attention
6 that is given men's health in the armed services is very,
7 very pronounced. We can do no less for those who are in the
8 Army, and the men who are backing the services up too, be-
9 cause this war unlike any other war, presents a home front
10 that is more important than any other home front ever has
11 been in the history of the world. This is a mechanized war,
12 and the ones who provide the machines and the instrumentali-
13 ties of transportation to get the machines where they are
14 needed to participate in the war is very important, and every
15 one of you are participating in this just as much as if you
16 were out there on the front lines with a Garand rifle.

17 Now, again I want to thank you for the attention that
18 has been given to everyone, and although after conferences
19 a time comes when we have to get down to desks again and
20 steady things that are possibly dry, nevertheless, the out-
21 come of it will be something, I think, if we give sufficient
22 attention to it, that you will be proud of. I call your
23 attention again to the exhibits that are here that will be
24 ready for inspection, and I hope that you will enjoy the
25 demonstrations that have been prepared for you.

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1 Again, let me thank you for coming from all over the
2 country to this conference, and also for your kind attention,
3 and I hope that you will be able to work these standards out
4 in such a way that the whole industry will receive the maxi-
5 mum possible benefits from you.

6 (Whereupon, at 12 o'clock noon, a recess was taken.)
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UNITED STATES MARITIME COMMISSION

----- X
:
MEETING IN REGARD TO THE MINIMUM STANDARDS :
:
FOR THE CONTROL OF HEALTH IN CONTRACT SHIP- :
:
YARDS OF THE MARITIME COMMISSION AND NAVY. :
:
----- X

Held in the American Room, Hotel LaSalle, Chicago,
Illinois, on Monday, December 7, 1942, at two o'clock p.m.,
Dr. Philip Drinker, Department of Industrial Hygiene, School
of Public Health, Harvard University, Boston, Massachusetts,
presiding.

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CHAIRMAN DRINKER: Gentlemen, we want to discuss in some
detail the suggestions for the so-called medical standards,
and then we want to give you some short demonstrations on
some particular elements we want to bring out, and it is our
hope that this will be very informal so we can break in and
ask questions or make suggestions as we go along.

Do you all have copies of this? If not, we will give
you some more; this minimum standards for the control of
health?

Have any of you had a chance to look at these? It is
all right to ask you to criticize them now as we go along.
That is what we want to get. Now, how about the first part
on personnel?

Man
Start
No. 1
page

2k

1 DR. F. E. RIEKE, (Medical Director, Oregon Shipbuilding
2 Corporation, Portland, Oregon): You have too few clerks on
3 that, for one thing.

4 CHAIRMAN DRINKER: Too few clerks?

5 DR. RIEKE: I think so.

6 CHAIRMAN DRINKER: How about ambulance facilities, is
7 that all right?

8 DR. D. A. McCOY, (Liberty Mutual Insurance Company,
9 Medical Research, Industrial Division, Boston, Massachusetts):
10 Why not have instead of a passenger car a station wagon?

11 CHAIRMAN DRINKER: Because we were not sure we could get
12 it. If we could get a station wagon, we will put it in. It
13 is a good suggestion. You mean that as a stand-by?

14 DR. McCOY: That is right. Doesn't the Army or Navy or
15 the Maritime Commission have authority to pick up such things
16 from the public?

17 CHAIRMAN DRINKER: We can get them.

18 DR. McCOY: You can get them?

19 CHAIRMAN DRINKER: Yes, within reason. That is a good
20 suggestion. Are there any other suggestions in that first
21 part, under personnel?

22 MR. LESTER F. BECK, (Chief, Navy Insurance Division,
23 Office of Procurement and Material, Washington, D. C.):
24 How frequently are you going to examine the men that are
25 subject to those occupational disease hazards?

CHAIRMAN DRINKER: That comes a little bit later. Could

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1 we postpone that?

2 MR. BECK: It does have a direct effect on the number of
3 doctors per thousand employees.

4 CHAIRMAN DRINKER: I agree with you, but that will come
5 a little later.

6 MR. LOUIS S. RELLER, (The Ingalls Shipbuilding Corp.,
7 Pascagoula, Mississippi): In our yard we use a station wagon
8 inside the yard to detract attention, and when the case goes
9 out of the yard we have a regular ambulance, which is used at
10 the side entrance instead of the main entrance, which passes
11 the employment office.

12 CHAIRMAN DRINKER: We certainly would not take any ex-
13 ception to changes like that, from the Maritime standpoint.
14 I think that is something that the local yard could do, and
15 we surely would not make any objection. Do you think we
16 should try to put that through for the others?

17 MR. RELLER: No; I answered the question upon the re-
18 quest of Dr. Croft.

19 DR. THEODORE G. CROFT, (St. John's River Shipbuilding
20 Company, Jacksonville, Florida): In regard to personnel, the
21 first requirement in there is that they have all-time medical
22 men. In our locality that is practically impossible. Out
23 of our town we have fifty men in the service, and there are
24 probably only about five or six left that are available. We
25 are away above our quota, and the only men that I have had

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1 apply to me for work have been drug addicts and men who have
2 made absolute failures of their lives. Now, those men are
3 inadequate. They are not the type of men we want. Is it
4 possible in some way to get some younger men, or men that
5 would give up their practice, to come as all-time men? The
6 men are worked to death. They make three times as much or
7 four times as much as they would on an all-time job, and it
8 is practically impossible to get men for full-time jobs.

9 CHAIRMAN DRINKER: That same situation applies to quite
10 a few yards now.

11 DR. CROFT: Is there any solution to it?

12 CHAIRMAN DRINKER: We think there is. Some of us do not
13 think that the distribution of doctors to the forces has been
14 quite as fair as it should be, in view of the shipbuilding
15 program, and some of the other manufacturers, and we hope to
16 get some of them back again, frankly.

17 DR. CROFT: Our part of the country has been rather
18 liberal. In fact, we have gone over our quota. I am not an
19 industrial surgeon. I am just simply a surgeon that went
20 in to take care of the injured men, and now this whole prob-
21 lem is thrown in my lap to take care of the whole business.
22 Frankly, I am up here to learn something so I can help take
23 care of the shipyards.

24 CHAIRMAN DRINKER: We saw the same situation in a num-
25 ber of places. I talked to Dr. Leahy in Boston, and he came

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1 right out and said that manufacturing centers like New York,
2 Massachusetts, New Jersey and Illinois, and so on, are the
3 ones that are not over their quota, and some of the Southern
4 states, generally, are way over, and they have been depleted
5 in doctors as a result, and the manufacturing states have
6 not subscribed their quota. Some sort of a redistricting is
7 inevitable. I imagine that is one of the jobs that Mr. McNutt
8 has just had landed in his lap. I do not think there is
9 anybody today who can say what the solution is going to be,
10 but we are thoroughly aware of it, and we are also aware
11 that there are quite a few yards that cannot live up to
12 these suggestions of personnel. You simply cannot get them
13 for exactly the reason you gave. We have seen two or three
14 yards in precisely the situation you have, where they have
15 surgeons who have done no industrial work at all, but have
16 gone in to help because they know help is needed.

2
17 I know that does not answer your question, but if you
18 could get them, is this a reasonable distribution of per-
19 sonnel?

20 DR. S. R. GARFIELD, (Richmond Shipyards, Vancouver -
21 Kaiser Company): As a possible answer to the Doctor, when I
22 was in Washington, the Public Health Department stated that
23 if the Maritime Commission would make the request to them,
24 they could assign doctors to those areas where they cannot
25 get doctors any other way.

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1 CHAIRMAN DRINKER: I know that has been suggested for
2 several of the Gulf states where there is a shortage in the
3 maritime and navy yards, to reassign some doctors from either
4 the Public Health Service, or the Army or the Navy.

5 MR. RELLER: They won't do that.

6 CHAIRMAN DRINKER: I think they will.

7 MR. RELLER: The Navy won't, because we have a doctor
8 down there taking care of about four hundred soldiers, and
9 we would like to borrow him to take care of physicals, and
10 he wants to come in, and he is just sitting around twiddling
11 his fingers, and we can't get him to come.

12 DR. GARFIELD: The Public Health Department said they
13 would if the Maritime Commission requested them to.

14 CHAIRMAN DRINKER: I know that, too.

15 MR. BECK: Dr. Drinker, can we talk to the physical
16 facilities?

17 CHAIRMAN DRINKER: Yes.

18 MR. BECK: I would just like to volunteer, as a matter
19 of information, that the Navy Department has developed and
20 will have available standard sets of hospital plans in the
21 yards, if you want to have them, that have been worked out
22 with the cooperation of the National Industrial Hygiene Divi-
23 sion of the National Public Health Service of the Surgeon-
24 General's office, and the hospital design section of the Navy.

25 CHAIRMAN DRINKER: Again, I do not believe that is a

1 question of the disapproval of the plans. It is a question
2 of getting the necessary approval of dispensing the funds
3 to carry them out. The Navy has not approved that.

4 MR. BECK: I merely have volunteered that as information
5 to show that we should put together the people who are con-
6 cerned about it, and who can plan the functions of a hospital,
7 and the hospital being laid out to give the minimum amount
8 of space that can be used for the various functions to be
9 performed.

10 CHAIRMAN DRINKER: I do not think the yards are lacking
11 in knowledge of what to do. It is the inability to get
12 authorization to do it on these physical facilities, as far
13 as the medical ones go.

14 Is there any other discussion on the physical facilities?

15 DR. L. C. SPENCER, (Medical Director, Southeastern Ship-
16 building Corporation, and MacEvoy Shipbuilding Corporation,
17 Savannah, Georgia): I would like to ask for some recommenda-
18 tion in regard to sex and color.

19 CHAIRMAN DRINKER: We have not tried to evade that, but,
20 again, what is to be done about that will vary a lot with the
21 geography. It depends on where the yard is. The fact that
22 you have got to have that means practically four sets of
23 facilities in the South; not always in the North, but it does
24 in most of the South.

25 DR. SPENCER: Would you regard that as a reasonable re-

1 quest, at least, segregation of color?

2 CHAIRMAN DRINKER: I do not see any way to evade it.
3 You have the yard, and that is where we want the yard. We
4 are not in a position to say you should or you should not do
5 it, with the tradition of the neighborhood. You would have
6 to do it that way. I think we have to accept it as we find
7 it. We agree with it.

8 DR. W. J. REIN, (Delta Shipbuilding Company, New Orleans,
9 Louisiana): Are the Maritime Commission going to request
10 that these notes you have here be the minimum requirements of
11 the yard?

12 CHAIRMAN DRINKER: Yes, they are.

13 DR. REIN: The reason I ask that is we do not have any-
14 thing like what you are asking for here. We have the doctors,
15 but we have not these other facilities. We also just recent-
16 ly completed our new first aid station, but it does not come
17 close to measuring up to your minimum standards here. Of
18 course, that is a matter of finances. But the other money
19 will be coming in for extra help.

20 CHAIRMAN DRINKER: Yes.

21 DR. CHARLES C. ADAMS, (Hookers Point Shipyard, Tampa,
22 Florida): I am representing one of the youngest branches,
23 perhaps, of the industry. We are building reinforced con-
24 crete ships down there, or trying to.

25 Answering the doctor from Savannah, or along those lines,

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1 we have a first aid station with separate waiting rooms. The
2 dressing room is separate from the surgery, and the redress-
3 ing is a rather long room, perhaps as wide as between these
4 posts, and one end is for the colored people and the other
5 end for the whites. Of course, we do not have a large per-
6 centage of women at the present time.

7 CHAIRMAN DRINKER: You probably will have, though.

8 DR. ADAMS: The chances are we will. It is proposed,
9 possibly, with an additional first aid station in another
10 place in the yard that we will have a very large facility
11 there spread out over quite a big area, and the suggestion
12 in these notes was that no one should go over four hundred
13 yards to the first aid station, and that is not possible,
14 in our set-up. I am the only physician in attendance. We
15 do not attempt to keep any patients overnight. If a man is
16 too critically hurt, and as we are close to the hospital
17 facilities, they are sent there, and the men in town take care
18 of those cases. I am merely on the yard, and I have nurses
19 around the clock distributed so as to take care of our load.

20 CHAIRMAN DRINKER: Do you think four hundred yards is
21 impossible?

22 DR. ADAMS: The four hundred yards suggestion is a good
23 suggestion, but it is not going to work in many places if
24 you spread out much.

25 CHAIRMAN DRINKER: What do some of the others think about

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1 that?

2 DR. RIEKE: The Vancouver yard is probably the busiest
3 one in our area, and that is solved in this way: We are put-
4 ting what we choose to call sub-stations on the ways, one
5 or two on the ways, depending on the number of ways. The
6 same thing is true in the Oregon and Swan Island yards.
7 There will be one in Vancouver on the outfitting, one in the
8 assembly and plate shops. You can get away from the diffi-
9 culty of distance, and I think you will find in those that
10 are the greatest in population that that will take the load
11 off the main station. In other words, use your small stations
12 as screening stations, probably, with a nurse at each station.
13 Now, it may be that you will need a nurse in the station around
14 the clock. It depends entirely on your swing and graveyard
15 shifts.

16 The only objection which I had in starting that system
17 is the problem of keeping adequate medical records on those
18 individuals which you take care of in sub-stations. That is
19 an objection which will have to be taken care of. There is
20 no other way of doing it. The distances become too great
21 in the yard to ask all of your medical staff to come to one
22 station. They are forcing me into that largely because I
23 have come to that idea simply because we are not seeing a lot
24 of the stuff from farther out.

25 Your four hundred yard figure is easily a maximum dis-

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1 tance. To expect them to come in with their minor cuts and
2 scratches, if you don't have your station closer than that,
3 means you will miss a lot of them, and the desideratum is
4 to get bandages on all of them, not only so you will have a
5 record to protect the workmen, ^{but} /to get the small stuff before
6 it goes up.

7 DR. ADAMS: Now, I saw one thing there; do you make out
8 the standard compensation forms on every patient?

9 DR. RIEKE: No, we do not. We attempt to keep a first
10 aid record as to how the accident occurred, the nature of
11 the injury, the identity of the workman, the date, and so on.

12 DR. ADAMS: That is very similar to what we use. We
13 use a 4 x 6 card, and that simply fits in with our experi-
14 ence. It takes about 80 per cent of the time of the nurse
15 per patient for your record, and about 40 per cent for your
16 treatment.

17 DR. RIEKE: Your answer there is to get clerks. That
18 is why I say more clerks, and less nurses. Our clerks work
19 about half time. We hire them for full-time, but they are
20 only there about half the time.

21 CHAIRMAN DRINKER: The suggestion was made to me this
22 morning that there should be a separate room for patients;
23 that is, patients that are coming in for retreatment, so
24 they won't get mixed up with the others, just to make it
25 easier to get them through. What is your opinion on that?

1 DR. RIEKE: You are talking of a first aid dispensary
2 in the yard. These are all-out patients.

3 CHAIRMAN DRINKER: No, that is not what I mean.

4 DR. McCOY: If you have anything separated, it should
5 be outside of the yards, and that will be an additional ex-
6 pense. They can't get the men inside the yards.

7 DR. SPENCER: I have made a recommendation to the firm
8 where I work that they build a dispensary outside the fence
9 so the out-patient can come in and get treatment without
10 entering the yard, and by putting a guard at the inner door
11 only, those that return to the yard have to come back inside.

12 DR. B. JOSEPH PRICE, (Medical Director, Gulf Shipbuild-
13 ing Corporation, Mobile, Alabama): What facilities in phys-
14 ical therapy do you recommend?

15 CHAIRMAN DRINKER: We did not detail them. I think it is
16 up to the individual yard to do that themselves. It would
17 just be evaded in some places who would not want it.

18 MR. JOHN F. O'CONNELL, (Marine Ship Corporation, Labor
19 Coordination): I have made a survey and find a great many
20 injuries in our yard are back injuries and major joint in-
21 juries. I am wondering about the possibility of having in
22 the yard, where we have two or three doctors, one of the
23 doctors an osteopath to treat back injuries, and so forth.

24 CHAIRMAN DRINKER: We did not attempt to say whether
25 you should employ any specialized physicians or not.

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MR. O'CONNELL: I would like to get the doctors' opinions.

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CHARIMAN DRINKER: As far as the Maritime Commission goes, they would not have any opinion. I think it is up to the individual yards.

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MR. DAVE KAYE, (Kaiser Company, Inc., Richmond Shipyard No. 3, Richmond, California): I don't think that the majority of doctors want physiotherapists or osteopaths working in their organizations. We at Truly Dam had one working with us and we found him very good. We classified him as a physiotherapist. He was not referred to as a doctor at all. He was very good on back cases. I am sure he reduced our lost time cases quite a bit. They have a little knowledge of back injuries, and so forth, that doctors in general neglect very much in their training. I think the consensus would be against having an osteopath in the organization.

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DR. McCOY: I think one of the items under the physical facilities that has been neglected is the space and necessary room for registration and keeping of files and records, and some place to put the clerks. They should not be in the waiting room. They ought to be behind the desk and keeping the patient on the other side away from the typewriter, and things of that sort. It should take up a definite amount of space.

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CHAIRMAN DRINKER: We did not mean to leave it out. It should be in. I am sure everybody will agree to that.

4k 1 Turn to Page 2-A, gentlemen, on the general question of
2 the form of accident reports, and the like. Mr. Roche will
3 take up with the safety engineers this subject, and he is
4 doing it now. I would like to have us evade that question
5 if we can. The form he has I think will satisfy any of you
6 for completeness, and if we confine our discussion to records
7 in general to those that apply purely to the medical side, it
8 would be better now. Is there any discussion on these items
9 on the records and forms? We have no defense at all for the
10 present Maritime records. The sooner they are done away with,
11 the happier we will be.

12 MR. RELLER: On the question of X-ray equipment, say,
13 at the top of Page 2-A, an X-ray unit for yards employing
14 about five thousand men and above, I would just like to ask
15 this question: At pre-employment examinations, how many of
16 the yards here are giving X-rays, taking X-ray pictures?
17 Could I just ask for a showing of hands on that? How many
18 are giving pre-employment X-ray pictures, chest pictures?

19 DR. RIEKE: Who is examining pre-employment; that is
20 another question?

21 CHAIRMAN DRINKER: I think the reasons for going into
22 that are practically none.

23 MR. RELLER: The reason I ask that is the United States
24 Health Department in the State of Mississippi are insisting
25 we give everybody, all pre-employment, a test picture.

1 CHAIRMAN DRINKER: If you are doing it, you are doing
2 something few others are.

3 MR. GARFIELD: The aircraft industry is doing it quite a
4 bit.

5 CHAIRMAN DRINKER: On the West Coast?

6 MR. GARFIELD: Yes. We have not been permitted to do it
7 in our labor relations.

8 CHAIRMAN DRINKER: It is specifically forbidden in the
9 A. F. of L. West Coast contracts.

10 MR. BECK: Army ordnance is giving pre-employment ex-
11 amination in all their plants.

12 CHAIRMAN DRINKER: So is the United States Navy.

13 MR. BECK: Those are contractor operated plants and not
14 Navy operated yards.

15 CHAIRMAN DRINKER: The Navy operated yards give pre-
16 employment all over, Baltimore, Mare Island, all of them give
17 pre-employment examinations.

18 DR. ADAMS: Those are civil service employees.

19 MR. BECK: I am talking about contractor operated Navy
20 yards. They are operated the same as the Bethlehem-Kingham
21 Shipyards. They are operated by private contractors, and
22 the employees are the private contractors' employees, and they
23 have been able to get around the union objections.

24 DR. RIEKE: That is not true on the West Coast.

25 CHAIRMAN DRINKER: The Bethlehem plants on the East

1 Coast can do it.

2 The interchange of accident reports, say, under Item 6,
3 on Page 2-A, that is in the yards we have seen, has been not
4 near as good as it ought to be. We hope the improvement in
5 the record forms will help, but the record forms, as we found
6 them, in such yards as we investigated in many cases have
7 been extremely faulty with a very great lack of interchange
8 between the safety and the medical groups not being reported
9 back fast enough.

10 Let us go on to the examinations. We do not say the
11 employment of an employee shall depend on a physical examina-
12 tion. The labor shortage is such that I did not think there
13 was any sense putting that in. You could not get away with
14 it. Besides, labor is opposed to physical examinations, be-
15 cause of abuses, alleged abuses.

16 We suggest the use of the examination not before hiring,
17 but after hiring, for proper placement, and to continue hir-
18 ing on pretty much the same theme as is now in use everywhere.

19 What would be your opinion about that, especially the
20 West Coast gentlemen?

21 DR. RIEKE: I think it would be interesting to know that
22 we have been specifically barred by union agreement, which
23 was drawn up at the cost of a good many million dollars with
24 all of the West Coast shipyards, from doing any physical ex-
25 amination prior to hiring. That was written in, we believe,

for the reason that many of the men who have been long time union members are unable to be employed through the depression, or partly so, because of physical disability. They have long since exhausted the regular union members, and we find the union members are agreeable not to pre-employment, or, rather, pre-placement physical examinations. I raise the point merely for discussion that we find ourselves now short of what we choose to call the helper classifications. In other words, our upgrading system has been such that we have perhaps an excess of journeymen workmen. The pre-placement examination now will be a sorting process, pretty much, to help us get more helpers required to do the heavier work. Now, that will adjust itself, depending on how long our operations continue. We, of course, favor pre-placement examinations very strongly. I think they should have been in from the start simply because we have had so many accidents happen to men who had no business doing the work they were doing. A large percentage of our employees would under normal circumstances be considered only physically capable of limited activity. We are strongly in favor of pre-placement examinations.

MR. O'CONNELL: In the West Coast yards where we are operating under the Pacific Coast Master Agreement with the American Federation of Labor, doesn't that provoke some difficulty in crafts? There is only one craft I know of that

1 has an agreement that will accept a journeyman from any other
2 craft, and that is the machinists. As an example, if you
3 take a man who was an operating engineer running a crane and
4 after examination decided he was not physically able to run
5 that crane and you were moving him to run another job, that
6 would necessitate his joining another union and paying another
7 initiation fee.

8 CHAIRMAN DRINKER: We are well aware of that. We under-
9 stand the difficulties, and possibly even some misunderstand-
10 ing, or even turmoil this suggestion will cause, but we still
11 think it ought to be done. We have talked with the A. F. of
12 L. officials, and they have been more than cordial to the
13 suggestion, and we have hopes that we can show the union
14 leaders who are responsible for that clause that Dr. Rieke
15 cited, and that this gentlemen just cited, that it will be
16 decidedly to labor's advantage to change that, and we have
17 every hope we can change it.

5

18 MR. TODD WOODSELL, (Oregon Shipbuilding Corporation,
19 Portland, Oregon): With reference to this transfer from one
20 union to another, I believe you will find most of the unions
21 working on the West Coast agree that they do not take initia-
22 tion fees immediately, and if they could not be classified
23 as a crane operator, I do think they could go into one of
24 the other unions where they would classify.

25 CHAIRMAN DRINKER: I do not think we are kidding our-

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1 selves as to the magnitude of the problem and the diffi-
2 culties of getting it through. We still think it ought to go
3 through.

4 MR. WOODSELL: My point is, as far as the union is con-
5 cerned, you say a man may be ruled out as a crane operator,
6 and I say that if he went back to his union and told them
7 that he could not qualify as that, he would not be out. He
8 might be classed as a laborer, or something of that kind.
9 You are speaking of a case where a man is the member of a
10 union. We have not go so many of those now. They are all
11 coming in from the outside, and the number of permanent mem-
12 bers of the union that would be unfit to work on that classi-
13 fication are so minute I do not think it is a real problem.

14 MR. O'CONNELL: If you are going to give an examination
15 on a man who is already working, he has to belong to some
16 union.

17 MR. WOODSELL: You are speaking about new employees.

18 MR. O'CONNELL: Haven't we got to that?

19 CHAIRMAN DRINKER: That is the next item. That is at
20 the bottom of Page 2, "Periodic check examinations shall be
21 given men working in occupations potentially hazardous to
22 themselves or others, as for example to crane operators,
23 locomotive and hoisting and portable engineers. Periodic
24 check examinations should be given men in jobs in which there
25 may be health hazard, as for example to sand blasters, radium

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1 and X-ray work, and paint sprayers."

2 Purposely we did not try to enumerate them all, because
3 we can't, and because of the different things that go on in
4 different yards, but the general thought is that those check-
5 up examinations, in fact, ought to be given by the yard phy-
6 sicians in cooperation with the safety department and manage-
7 ment ought to state what jobs are to have these check-up ex-
8 aminations. In our opinion, not having them now is working
9 labor a great deal of harm. I do not think labor quite re-
10 alizes how much harm. Besides, the most important point from
11 that point of view is the man power. We just cannot afford
12 to go along doing the way we are now. It does not matter
13 what we think we have to do. We will welcome some discussion
14 on that item.

15 DR. PRICE: Our problem is this: We have a turnover of
16 around two thousand per cent every three months, and we do
17 pre-employment examination. We would either have to quit
18 the pre-employment examinations to do the other, or else we
19 will have to wait until the turnover is less.

20 CHAIRMAN DRINKER: Is the turnover tied up with the ex-
21 aminations? That has nothing to do with the examinations.
22 The examinations do not cause it.

23 DR. PRICE: We have to examine all the new men. That
24 puts such a tremendous burden on the facilities that we have,
25 that we cannot do it. We can't get the new men examined fast

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1 enough.

2 I would like to ask a question. How about this sero-
3 logical examination. Is anyone making serological examina-
4 tions?

5 DR. CROFT: We do in our pre-placement.

6 CHAIRMAN DRINKER: You do serologics?

7 DR. CROFT: Yes.

8 DR. PRICE: What do you require? Do you require that
9 they have treatment?

10 DR. CROFT: I take care of the Merrill Stevens Shipyard,
11 as well as St. John's, and there we require them to take
12 treatment. The pre-placement examination is just going through
13 at St. John's now, but I have arranged for urine and serolog-
14 ical on every one of those. I have a technician just for
15 that.

16 CHAIRMAN DRINKER: Suppose a man is asked to take treat-
17 ment, do you have any evidence he does? Do you have any check-
18 ups on him?

19 DR. CROFT: We have been trying to require that that man
20 take treatment and report to the first aid station each week
21 with a card. We have a card giving the date, the form of
22 treatment, and the doctor that gives the treatment, and have
23 them sign the date of treatment and his name, and have him
24 report every so often to show that he is taking treatment.

25 We are not attempting to give the treatment itself. It is up

1 to him to get the treatment, but we require that he does ~~take~~
2 his treatment.

3 DR. RIEKE: What do you do if he doesn't?

4 DR. CROFT: Let him out.

5 DR. SPENCER: I should like to ask if the medical officer
6 in the plant ever has the authority to say the man must not
7 work. I am confronted every day with that problem, - a man
8 whose physical condition is such that I do not think it is
9 safe for himself or others. I have found several men with
10 epilepsy in the plant traveling around on scaffolds carrying
11 heavy weights, and I do not see how these men could be safe
12 in a shipyard, yet they are still employed. I was told that
13 a man, just before I came there, had a broken shoulder and
14 a broken arm and a broken leg who went back to work, and I
15 do not think that man would be safe. Has the medical officer
16 the right to say, "This man is unsafe and should not be given
17 employment?"

18 DR. RIEKE: I would like to answer that question first
19 by bringing up one other. When we started in we had no
20 authority to say, "You cannot work." No one gave us that
21 authority. We took it on. There is no one on God's green
22 earth that can say to a doctor who exercises the proper pre-
23 caution for the man himself and for the man around, "You are
24 doing wrong." No one I have ever seen has the guts to come
25 to a physician and say, "You cannot let the man go." That is

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1 your job and that is my job, and it took me several months
2 to find it out. It is a physician's duty, and there is no
3 one that I know of, including the unions, who can object to
4 that policy. It is an odd situation that you have to wait
5 until an epileptic has an attack in front of a scaffolding
6 or in front of a hoist, or somewhere, in order to let him
7 go, yet we have had to do that, and we have given discharges
8 to, I should estimate, fifty men in one yard who were
9 epileptics. The Lord knows it is hard enough to keep a
10 working force there with the material we are getting, and
11 yet it is only fair to the large percentage of the men that
12 those people who do not or are not able to keep control of
13 their faculties all of the time that we should let them go.
14 It is not a matter of looking after one man's interest; it
15 is a matter of looking after the welfare of the whole yard.
16 In other words, an epileptic on the scaffolding may fall off
17 and kill a number of men below him and get off scot free.
18 I think you have no alternative on that. I do not think any-
19 one has to say to you that we have the authority. We cer-
20 tainly do have the authority. You cannot find it in the law,
21 but it is your job and you should take that responsibility on
22 yourself. Many men would object to it. It would be well for
23 you to go to your company officials so you are both in agree-
24 ment on the thing, and if the union officials desire to be
25 considered I would talk to them about it, but I do not be-

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6

1 lieve that anyone, company official, union official, or any
2 other official will object to that particular policy. I do
3 not believe the Maritime Commission needs to give us the
4 authority to do that. I think that is the physician's job.

5 CHAIRMAN DRINKER: I hope not.

6 DR. RIEKE: The other point which I raise, and the
7 thing which I am alarmed about, is this, and the point was
8 raised a while ago. How many pre-placement examinations are
9 you going to do, in which case how many doctors do you
10 have to hire? Under our present shortage of physicians, and
11 it is the same in all yards, I know that, we do not have
12 enough physicians to do pre-placement examinations, and I
13 do believe that we would be pretty hard pressed on periodic
14 check-ups, even on certain critical occupations, with our
15 present physicians' staff. In other words, this minimum
16 standards is our maximum standards. We have had a hard time
17 even getting up to that. We are getting by with our dis-
18 pensary service with this personnel. I am pleased to see
19 that our personnel is about what the minimum standards are,
20 but I do not believe the extra load of examinations could be
21 carried by our present medical group. We have had the same
22 question asked by other physicians in the community as to who
23 was going to do those examinations, and I raise that for a
24 little consideration right now.

25 CHAIRMAN DRINKER: It is a perfectly good point.

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1 Again we will have to assume that had we the personnel; how
2 would you feel about that item 2, in a general way?

3 Item 3, "Special Examinations, such as X-ray,
4 serologic and urinalyses shall be given in the individual
5 case as indicated and in accordance with local needs."

6 I do not believe there is any need to do that, be-
7 cause you will do that anyway. Several yards have raised the
8 question of facilities for X-rays. That is, it would be
9 cheaper to have the X-ray there and take their own pictures
10 instead of having to ship the men into town and save a very
11 considerable delay, and often it would be much better to make
12 the examination themselves right at the yards, and take the
13 pictures, because they could do it better.

14 In general, we approve of that very warmly, and we
15 would support requests from any yards for funds to do it.
16 Whether we will get away with it or not, I do not know. I
17 think we will.

18 MR. DANIEL S. RING, (Director, Shipyard Labor Re-
19 lations, U. S. Maritime Commission, Washington, D. C.): Is
20 that with respect to X-rays?

21 CHAIRMAN DRINKER: You can put that in the question,
22 too.

23 MR. RING: In a yard with 10,000 employees, which I
24 understand Gulf has at the present time, I think it is highly
25 important that we have an X-ray machine and the facilities for

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1 taking X-ray pictures, because I think with that many men
2 in the yard it is a necessity, and I intend to take the mat-
3 ter up with our Gulf operating officials at the Maritime
4 Commission and see if we cannot get an answer to it within
5 the next twenty-four hours. There isn't any use dilly-
6 dallying about it.

7 While I am on my feet, and because I generally
8 start talking when we get in a conference, I might make a
9 reference to the pre-placement examinations.

10 Let us get understood on this thing. We want to
11 set up standards that are practical. If we have not got the
12 doctors to do the thing, there is no use putting it down in
13 black and white and saying we are going to do it. Let us not
14 skip by and say, "If we can do a thing we will do it." Let
15 us find out from the knowledge you people have here what the
16 story is and whether you can do it or not. That is a tick-
17 lish proposition.

18 Back in the old days, unions grew up into the be-
19 lief that the physician in an industrial establishment was
20 a dupe of the employer whose principal objective was to keep
21 out organizers or people who would stir up trouble or anything
22 else. That has grown up as a sort of a fetish with them, and
23 that is the sort of thing that is behind the refusal of many
24 branches of organized labor to go ahead with pre-employment
25 examinations.

1 Let us get down to bed rock. Are we going to have
2 the physicians all over the country make pre-placement exam-
3 inations or not? You people here ought to know. If we are
4 not, let us not put that forth yet. If we are, let us do it,
5 but let us do it on a practical basis, but not on an if, and
6 or but proposition.

7 CHAIRMAN DRINKER: I do not see any reason to believe
8 we are going to get any substantial help in increased numbers
9 of doctors. We will get some emergency ones.

10 MR. GARFIELD: Why not? Shouldn't our men have ex-
11 aminations just as the army does? They need more. The type
12 of men we are getting now are very poor, and I think it is
13 the Maritime Commission's job to see we get the doctors. That
14 is part of their work.

15 MR. RING: All right, if you think so, and all of
16 you want to get together here and say, "We think, one, pre-
17 placement examinations are absolutely necessary to run this
18 war production program on an even keel; two, we are short of
19 physicians; three, we, the doctors, in the shipbuilding in-
20 dustry, jointly here say that something has to be done to get
21 these doctors, and we put the load of it on the Navy and the
22 Maritime Commission," tell us to do it. Tell us that that
23 standard should be there, but let's not go at it on a wishy-
24 washy basis, gentlemen. We have a job to do and we have to do
25 it in the most practical way. With the heat we can put behind

1 it, after you jointly have agreed upon a proposition like
2 that, if it is agreeable to you --- and I do not want to in-
3 fluence you one way or the other --- I think we can get some
4 relief. But let us got at it on a practical basis, and if
5 we have to go to the army and say, "The need for shipbuilding
6 requires the release of physicians here and here and here in
7 accordance with these plans, give them to us," and go to the
8 Public Health Service and say, "Detail physicians over here
9 for us," and then we can work on it, but we are not, certain-
10 ly going up as the Maritime Commission's experts in ship
11 construction, but having no technical standing as far as in-
12 dustrial health is concerned and say to the army, "We have
13 got to have so many people released." They will turn around
14 to us and say, "How do you know?"

15 You give us the background and the basis to go on,
16 and we will go to town. If that is what you feel, adopt a
17 resolution, if you want, so we will have it in tangible form
18 and black and white as to exactly how you feel about that.

19 Now, I do not know whether there is any division
20 of opinion or not. If a pre-placement examination is right
21 and the best thing, why, that should be, and come out flat
22 for it. If you are short of doctors, say "This should be,
23 and we must have more doctors. It is up to the Maritime
24 Commission and the Navy if they want this program to go along
25 to get them for us. We ask you to get them and point out to

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1 you you have got to get them if you want this to go across."

2 DR. RIEKE: Preliminary to making such a sugges-
3 tion that we would so resolve, the one problem that the
4 Oregon Shipbuilding and other yards in Portland are running
5 into is this: Men are suing us for sums up to fifty thousand
6 dollars apiece for permanent disability due to alleged poi-
7 soning of welding fumes. The question was raised: Do we
8 need test X-rays prior to employment? I would say by all
9 means, practically everybody that comes into a shipyard, if
10 there is some possible way of doing it, should have them
11 simply from that standpoint, or we are going to wind up be-
12 hind the eight-ball just about a thousand miles on everybody
13 that has a chronic cough, simply for lack of any evidence
14 whatsoever as to what that man's condition was when he came
15 into the shipyard. Now, that test X-ray won't prove anything
16 particularly, but certainly it will give us something to re-
17 fer back to, at any rate.

18 What good is a preliminary physical on the basis
19 they are doing them now in the service when we run them
20 through at the rate we are? Anyone who wants to demand that
21 kind of a physical as to chest conditions is probably just
22 asking for trouble. That is a very large question, that one
23 point of chest conditions, from a medical standpoint. I am
24 sure you are all running into it. We certainly are, and are
25 continuing to.

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1 Dr. McCoy and myself were just talking about whether
2 welding fumes cause bronchitis or just aggravate it. That is
3 just a personal opinion with me and Dr. McCoy, and you will
4 get two sides of it wherever you are.

5 I think probably without exception that chest X-rays
6 would be indicated from a public health standpoint and the
7 standpoint of the welfare of everybody that comes into a ship-
8 yard. I think there is no question but what pre-employment
9 physical examinations are the proper thing to do, and I think
10 Dr. Garfield's point is correct, that the Maritime Commis-
11 sion's prime duty is to see that we get the help.

12 I think it is now established that shipbuilding is
13 the one important industrial need until we get enough ships
14 to start shipping war products, and I think everybody, in-
15 cluding the physicians, should insist on every possible
16 medical care for ship workers.

17 CHAIRMAN DRINKER: How would you gentlemen feel if
18 we appointed a small committee to bring in a resolution on
19 this tomorrow morning? I think we are all pretty much agree-
20 able on these items. Is that agreeable to you?

21 MR. WOODELL: Couldn't a resolution be formed right
22 now for the committee to write a form or standard for
23 physical examination?

24 CHAIRMAN DRINKER: I do not think we need the form
25 for the physical examination as much as we need an expression

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1 of opinion as to what to do about that, and also the short-
2 age of physicians in the yards.

3 MR. WOODELL: Would that have to come from the joint
4 committee?

5 CHAIRMAN DRINKER: I think it would be in order to
6 have it come from the joint committee as representing the
7 physicians in the shipyards.

8 I suggest as a committee Dr. Rieke and Dr. Spencer
9 and Dr. Croft. Is that agreeable?

10 DR. CROFT: Yes.

11 DR. SPENCER: Yes.

12 CHAIRMAN DRINKER: We would ask you, then, to con-
13 sider three things; one, the shortage of physicians in Navy
14 and Maritime contract yards, and to make a statement as to
15 what you think the Maritime Commission and the Navy ought to
16 do about it; two, pre-placement physical examination.

17 DR. RIEKE: Let me ask this question: Is the
18 feeling general that you have enough physicians or not enough
19 to do the pre-placement examination, or that you have not
20 enough even for dispensary work? I would like to have an
21 expression.

22 DR. SPENCER: Before I came to the yard, there were
23 two men who gave four hours a day, and the extent of their
24 examination was an eye-opener to me. They did serological
25 tests, blood typing, and gave a pretty thorough physical

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1 examination,. Those two men gave four hours a day, and some-
2 times examined as many as four hundred men, and did a splendid
3 job.

4 CHAIRMAN DRINKER: Gentlemen, we still have a good
5 deal to go through. We are not trying to side-step any of
6 this. We will go on with this program, and we will have this
7 evening for informal discussions, and also tomorrow.

8 MR. O'CONNELL: Is this committee just to report or
9 make a resolution on the periodical examination after the man
10 is employed?

11 CHAIRMAN DRINKER: Both. That makes a third item.
12 I will speak to the committee afterwards so we will be sure
13 we are straight on the assignment.

14 Now, turn to Page 3-A, the air raid precautions.

15 We would like to feel that the yards are facing that
16 possible problem and not evading it in any way. Beyond that
17 we do not intend to go. In a great many of the yards that we
18 visited, if you asked if they were doing anything, you would
19 meet with really totally blank looks, and in some of them the
20 precautions taken were very elaborate and in keeping with
21 those you find in any of the big Navy yards. Probably some-
22 thing in between is reasonable. Is there any discussion on
23 that?

24 MR. BECK: I have found that often at yards they
25 think little of those things until the first accident happens

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1 where it involves a large number of men. In one case there
2 were some twenty men killed, and the radio station, the local
3 radio station, broadcast that they had several hundred killed,
4 and the doctors started driving in from as far away as one
5 hundred miles, and hospitals in the local communities were
6 left without doctors.

7 That brings up two things; first, that they need to
8 have an understanding with any local radio station that there
9 will be no broadcasts of any disasters, whether they are
• 10 bombings, or whether they are explosions, or whatever they
11 might be, except when given by authorities; and secondly,
12 that certain doctors in hospitals in the town upon which you
13 are depending to take people that are injured from the plant
14 will remain at their posts and not come to the yard.

15 CHAIRMAN DRINKER: The point we want to make in this
16 is especially shown under item 4, under air raid precautions,
17 that you be sure you are in keeping with local army and navy
18 regulations, because in those yards we have criticized, I am
19 pretty sure they distinctly were not. They were going their
20 own way, and they just had not bothered about it.

21 Responsibilities of the medical service. On Item
22 1, "Frequent inspections of the yard by the medical staff
23 shall be required," I found in some yards it was done with a
24 great deal of care and in others, where the physicians frank-
25 ly were brought in from outside and taken from busy practices,

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1 had never been in an industry before, they just were not
2 making any trips around the yards, because it physically was
3 impossible. Whether that can be done or not, I do not know,
4 but we feel very strongly that it ought to be done and that
5 the yard would benefit immeasurably from it.

6 The close collaboration maintained with the Safety
7 Department and the Medical Department on the records and
8 accidents I hope very much we will achieve as the result of
9 improved accident forms.

10 Item 3; in most yards, as I pointed out this morn-
11 ing, that has not been done at all. Neither the medical
12 nor the safety department considered it their responsibility
13 to know what chemicals were being used in the yard. If they
14 are not responsible, I must say I do not know who is. We
15 propose to enforce that and state that it is the consensus
16 of these gatherings that labeling be put on chemical sub-
17 stances, on paints, thinners, and the like. If you see the
18 chemical names on them, in many cases, it will save you a lot
19 of work. How do you feel about that, that enforced labeling?
20 Is that agreeable?

21 DR. RIEKE: Yes.

22 CHAIRMAN DRINKER: We will try and put it through
23 if it is, and we will state it is the feeling of this meeting
24 that that ought to be done. That will save us from making a
25 lot of analyses which are time-consuming and often extremely

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1 difficult. You can now call the attention of your supplies
2 department to the fact that they should not buy these sub-
3 stances without knowing what they are, and that in itself
4 will make them write back to the supplier and say, "Is this
5 stuff toxic, or is it not?" You know the chemicals, by and
6 large, come from large firms with a pretty good medical set-
7 up, and one of the things they have done is examine these
8 products they sell, and even though they cover them up by
9 trade names, the chances are they can tell you what their
10 toxicity is, and will be glad to do so, especially when the
11 weight of the Maritime Commission and the Navy is put on
12 them.

13 We do not intend to let the thing drop, but at the
14 same time, we do feel that from now on the medical and safety
15 department should feel that it is up to them to know what is
16 being used in the yards, and that they are being used safely.
17 Is that unreasonable?

18 MR. WOODELL: Is it your proposal that that analy-
19 sis be given by the vendor?

20 CHAIRMAN DRINKER: Yes.

21 MR. WOODELL: On the package as well as on some
22 label stating as to what it is?

23 CHAIRMAN DRINKER: We could not put that through,
24 probably, because many of these things are all made up, and
25 they have no labels. It will take a little time, but we do

1 not intend to let up on it.

2 MR. WOODELL: Even though it is not labeled, they
3 could by letter inform you.

4 DR. GARFIELD: Dr. Drinker, this may not be accurate, but I understand the Navy uses paint that does not contain lead.
6

7 CHAIRMAN DRINKER: That is right. They use zinc
8 chromate instead of lead.

9 DR. GARFIELD: Could liberty boats be taken care
10 of?

11 CHAIRMAN DRINKER: From the standpoint of shipping
12 instructions, I am afraid we could not get it. There is not
13 enough. Technically, there is no objection, but it is a
14 supply problem. I do not think it has to be. I think the
15 Liberty type ships can continue using red lead paint safely.

16 DR. RIEKE: Dr. Drinker, this is a personal problem. I do not know whether it comes in any further on here,
17 in our safety department. It is in regard to point 2, "Close
18 collaboration shall be maintained with the safety department/especially
19 ment/in regard to records of accidents and absenteeism."
20

21 I should like to see this group -- and I think our
22 safety engineer is asking the group upstairs -- have the
23 Maritime Commission authorize and insist that safety inspectors be paid a wage which will be compatible with their
24 position in a shipyard, which is not that of an underling.
25

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1 Our safety inspector turnover is about as high as it is for
2 our group. We just get one man well trained in safety and
3 accident prevention when he has an opportunity to earn some-
4 thing like thirty or forty cents more an hour on a journey-
5 man's job, and he leaves us, and we have to start all over
6 again. The value of well-trained safety inspectors is in-
7 estimable, and they will unquestionably pay for themselves
8 many times, and I would insist from a medical standpoint the
9 Maritime Commission take action on it.

10 CHAIRMAN DRINKER: We agree strongly. We have heard
11 the same complaint everywhere we went. I am very glad you
12 brought it up.

13 MR. RELLER: How about including your medical at-
14 tendants, too?

15 DR. RIEKE: We have taken the viewpoint they should
16 be paid at least the yard average. Our nurses are being paid
17 just two dollars a month more than our janitors are on the
18 Coast. The hospitals are screaming that we are hiring their
19 help away from them. We are not. The shipyard wages are the
20 things which are exhausting the medical personnel in the hos-
21 pitals. That is a thing beyond our control. It is a point
22 that the Manpower Commission should certainly study, simply
23 from the standpoint of maintaining medical personnel in hospit-
24 als in relation to defense areas, as everywhere else. I do
25 not know whether that has to come from this group or not. I

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1 do not think so.

2 DR. ADAMS: On the question of absenteeism, I should like
3 to hear the expressions of some of the other members here.
4 We never got into a definite routine or formula of checking on
5 that. How are you going to know whether these men are off
6 from sickness or just plain cussedness? We run into a cer-
7 tain type of man who wants only so much money each week, and
8 when they earn that much money, then they lay off until the
9 next week. I would like to have an expression as to how you
10 are going to check up on these men.

11 CHAIRMAN DRINKER: I would like to know myself.

12 DR. PRICE: We require every man who has been off -- it
13 used to be three days, but now it is one day -- to bring a
14 slip from the doctor who treated him saying he was ill while
15 he was off.

16 CHAIRMAN DRINKER: Did you hear that, Dr. Adams?

17 DR. PRICE: I think one day is not so very good. I
18 think three days is about right.

19 On this point about pre-placement examinations, I have
20 just the opposite problem from these fellows on the West Coast.
21 I talked with the general manager of the yard about placing
22 men who could do some work, but not other work, and he said
23 he did not want me passing on what sort of work they could do;
24 that all shipyard work was heavy; and all he wanted to know
25 was whether they could work or not. In other words, he wanted

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1 me to turn down all those who could not do everything, -
2 women and men.

3 CHAIRMAN DRINKER: They had to be able to do anything at
4 all?

5 DR. PRICE: They had to be able to do any work that was
6 required.

7 CHAIRMAN DRINKER: I do not think that is general. That
8 probably differs with the locality.

9 DR. W. J. REIN, (Delta Shipbuilding Company, New Orleans,
10 Louisiana): We have that down at New Orleans.

11 CHAIRMAN DRINKER: Shall I take up No. 5, the matter of
12 employing women? We mentioned before that that really has
13 to be suggested; the physical facilities that are necessary
14 will have to be suggested by the yard, or, rather, perhaps
15 by the district rather than the yard, but it certainly will
16 vary with the district. Do you gentlemen feel we ought to
17 formulate some policy with regard to item No. 5?

18 My thought was that the employment of women in the ship-
19 yards is, relatively speaking, new, and we do not know quite
20 how it is going yet. All we know is there are going to be a
21 good many of them. What the percentage will be in the next
22 six months or year is unpredictable. Should we make that
23 more definite? What is the feeling?

24 DR. McJOY: I think it should be made more definite, be-
25 cause in taking a general treatment room, you have to separ-

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1 ate the toilet facilities, you have to have separation, and
2 usually the nurses like a separation from the female patients.
3 In other words, you have two female lavatories, and then the
4 doctor and the staff, the male nurses, want separation from
5 the male patients. Supposing back on Section A, Page 1, we
6 increase those facilities to take care of what has been sug-
7 gested now; would that be satisfactory? Would everybody be
8 in agreement with that?

9 DR. RIEKE: Doctor, I would like to suggest what our
10 experience has been. We have about 10 per cent of our pay-
11 roll in women. I am sure it will probably go to 30 or 40
12 per cent if the war lasts long enough. We have provided in
13 our building, as you remember, an extra women's treatment
14 space. We have not as yet found it necessary to use that,
15 except where we do have a disrobing case, or a case brought
16 in by ambulance. I think that is entirely a local problem.
17 I think the space should be provided.

18 CHAIRMAN DRINKER: How about the colored or whites?

19 DR. RIEKE: I am not in a position to argue that. It is
20 a local problem as to whether you have to have separate space
21 for women. We have not started to use it yet, except in a
22 minor degree.

23 CHAIRMAN DRINKER: If we do not have such separation
24 for colored and whites in the Southern yards, there will be
25 a first class mess.

41k 1 DR. RIEKE: As I say, that is a problem in the South,
2 and they will have to have it.

3 MR. RELLER: We are setting up separate rooms for our
4 people.

5 CHAIRMAN DRINKER: Is there any special feeling on the
6 part of this group on the feeding situation in the yards?
7 Personally, I think it is a mess in most of the places we
8 have seen it. I think the feeding in the yards is by and
9 large very badly handled, almost without exception.

10 DR. CROFT: I would like to get some ideas on that. They
11 have no feeding facilities now in our yard at all. They are
12 just in town, and there were a lot of little places mushroomed
13 up around near there.

14 CHAIRMAN DRINKER: Quick and dirties and diners.

15 DR. CROFT: Quick and dirties. The city board of health
16 has been right down my neck. I have done my best to try to
17 get them to put some place in the plant. Originally, in their
18 plans they had it, but I don't seem to get to first base.

19 CHAIRMAN DRINKER: I have not gotten half way to first
20 base and I have done a good deal of hollering on this. I do
21 not think we can get to home plate unless this group does
22 something about it. If you do something perhaps we can get
23 somewhere. I have spent most of my professional life and
24 have done a lot of consulting work in the last fifteen or
25 twenty years on the feeding situation in the maritime yards,

42k 1 and the Navy does not compare at all with what you find in a
2 modern manufacturing establishment or a modern mining com-
3 munity. It is not anything like it. Whether the yards want
4 to go into feeding or not, I don't know, but what they are
5 doing now is certainly not very good.

10 6 DR. GROFT: I talked it over with Mr. Page, who is the
7 treasurer of the St. John's Shipbuilding, and for years has
8 been connected with large corporations, and some coal com-
9 panies in Pennsylvania, and he seemed to think it would be
10 a very difficult problem to get someone who was capable of
11 doing it and doing it right.

12 CHAIRMAN DRINKER: I don't see any difference in feeding
13 a shipyard and a big steel company.

14 DR. GROFT: But he said there were very few concerns
15 capable of handling it. He did not seem to think the local
16 people could do it.

17 CHAIRMAN DRINKER: The chain cafeterias can do it. I
18 can take any of you gentlemen to establishments who are run-
19 ning twenty-four hours where the employees get anywhere from
20 twenty minutes to half an hour to eat, and they get a darned
21 good meal, and an inexpensive one, and an inexpensive place
22 to eat it.

23 DR. GARFIELD: Are they new?

24 CHAIRMAN DRINKER: One of them was completed in the last
25 two years. I can't see the slightest distinction between them

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1 and the shipyards, except the shipyards have put up shipyards
2 with no idea of doing any feeding.

3 DR. RIEKE: As far as we are concerned, we put up cafe-
4 terias and found them inadequate to feed twenty thousand men
5 in a half an hour. It was purely from a personnel standpoint.
6 You can say that you cannot see that there is any difference
7 between feeding a steel plant and a shipyard. I say there is
8 a great deal of difference, partly because there is a war on.
9 We are unable to get personnel.

10 CHAIRMAN DRINKER: That has a lot to do with it.

11 DR. RIEKE: Secondly, we found there was too much abuse
12 of the cafeterias. In other words, our leadermen, superin-
13 tendents, foreman and everybody else knocked off at 11:30, in
14 order to get into our facilities at 12:00, and we just could
15 not handle twelve thousand or any small portion of them in
16 the provided lunch period, and we felt it was just not worth
17 the effort to try to take care of part of them, and we simply
18 stopped it altogether in the yards, and we have set up very
19 well policed cafeterias just outside the fence at which the
20 company employees can eat before going on shift or after shift
21 at very reasonable prices. That has been the most successful
22 at our place.

23 And then the inspection, I think, should be done very
24 carefully under the shipyard control of the feeding facilities.
25 I do not know what you would do there.

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1 CHAIRMAN DRINKER: We can throw a very good bluff and
2 get away with it; that is, if we have a quick and dirty, or
3 a diner, you can just get away with a lot of it by being
4 highhanded, if it is insanitary, and get the local health
5 people in. We have never found any trouble with that. Do
6 you gentlemen wish to take any position about the feeding
7 situation? It is a large one; it is an awfully big one; and
8 if we start it now we better have a pretty good idea where it
9 is leading.

10 I have had several shipyard executives say to me that
11 they would either run a shipyard or a cafeteria, but they
12 would be damned if they would run both.

13 MR. O'CONNELL: I have never heard any complaint from our
14 people about the way we feed our men. We run in a whole
15 fleet of cafeteria trucks with hot soup, coffee, and things
16 of that sort. They get in the yards just ten minutes before
17 the whistle blows. Everyone seems to be quite satisfied.
18 I have never heard any complaints.

19 CHAIRMAN DRINKER: I have never been in your yard.

20 MR. O'CONNELL: I wondered if that was done at other
21 places.

22 CHAIRMAN DRINKER: I have seen it done in some yards
23 where the fleet trucks brought the milk and some sandwiches
24 and pie.

25 MR. RELLER: Do you have much trouble in jumping the

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1 whistle to get there?

2 MR. O'CONNELL: The management has issued an order that
3 the leadermen is responsible for their men getting on the job.
4 If they don't, the leaderman is fired.

5 DR. REIN: Down at Delta we have two large cafeterias
6 and two so-called mess halls. That is, food is transferred
7 from the cafeteria to the mess halls. We don't have any
8 trouble at all.

9 CHAIRMAN DRINKER: How about this matter of salt tablets?

10 DR. RIEKE: The only trouble with the salt tablets is
11 they take them straight and then they throw them up and then
12 come to us.

13 DR. SPENCER: I notice in this section you say, "shall
14 inspect and report." How about establishing minimum stand-
15 ards for sanitation? Some of these plants have awfully in-
16 sanitary toilets. There is no use looking at them unless you
17 have authority to do so.

18 CHAIRMAN DRINKER: The medical officer certainly will
19 have authority to do something. If he reports it and it
20 comes up to the Maritime Commission and the Navy, I can prom-
21 ise you something will be done about it.

22 DR. McCOY: I think there should be a statement made
23 when a boat is up and the men are working on it, that there
24 should be lavatory privileges, both female and male.

25 CHAIRMAN DRINKER: I think so, too.

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1 We have taken longer to go through this than we in-
2 tended, and I am afraid it will make us a little short in
3 the subsequent program, but our three officers here all have
4 something to tell of importance, and we will let them go
5 ahead. Mr. Nelson will speak first.

6 MR. K. W. NELSON, (Ensign, U.S.N.R., Boston, Massa-
7 chusetts): Since our time is very short and we must hurry
8 along, we will merely skim through the subsequent sections
9 of this manual, and in case any questions come up regarding
10 our minimum standards concerning dust and fumes, and so forth,
11 we would like to answer them here and now, or have your views
12 on them and your reactions to the suggestions we have made.
13 This is mostly for the safety engineers, but we think that
14 you, too, should have an idea of what the problems are in the
15 yard and how to control them.

16 As far as dust in shipyards is concerned, it is not a
17 common problem. Most shipyards do not do any sandblasting,
18 but some do. Where they do have it, we have seen it done
19 very badly. For instance, sandblasting out in the open,
20 sandblasting in a room with no provisions made for the con-
21 trol of the dust at all, sandblasting without the proper
22 protective equipment for the operator, no hood, faulty
23 respirator, and so forth. The protective devices we have
24 mentioned here will control the problem.

25 The best bet, of course, is a complete sandblast outfit,

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1 if you can obtain one. With silica dust, of course, the re-
2 sult of exposure after a long time, is silicosis. I need
3 not go into details of that. You doctors know I am not a
4 physician, by the way, and I do not want to pose as one.

11

5 Lead dust from paint mixed in the paint shop may result
6 in lead poisoning because of inhalation of the lead.

7 Asbestos: In many yards, asbestos pipe coverings are
8 used. They are shaped and formed at the shipyard, usually,
9 by a sub-contractor, and cutting, pounding and sewing of the
10 asbestos cloth and insulating material is done. Now, where
11 there is any extensive cutting, you will find there is a
12 dust hazard if the substance contains asbestos. All of them
13 do not contain asbestos. Here again we point ^{to} the regulations
14 on safety engineers and physicians knowing what is in the
15 substances and chemicals used in the yard.

16 The next one, metal fumes and smoke, from welding on
17 red lead painted surfaces. There is a definite hazard of lead
18 poisoning there. We have seen in shipyards this being done
19 very often. The heat of the arc on steel which has been
20 volatilized has, most of it, lead and zinc oxide paint, and
21 makes a fume which when inhaled is absorbed rapidly by the
22 welder, and if the exposure is carried on after a length of
23 time, that is, day after day he does that sort of thing, the
24 chances are he will contract chronic lead poisoning.

25 We have made some tests and we can prove that the ex-

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1 posure is about the maximum allowable limit for lead fumes;
2 as you probably know, the limit is about one and one-half
3 milligrams of lead per cubic meter of air. In our tests which
4 we ran we had as much as thirty times the maximum allowable
5 limit of lead created in the atmosphere due to welding on
6 painted surfaces. So there may be trouble from that in the
7 future, we cannot say, but it is something to watch out for
8 in welders.

9 Zinc oxide poisoning or the zinc chills, may be caused
10 from welding on galvanized surfaces, zinc coated on steel,
11 the heat of the arc against volatilized steel, the zinc
12 burns, really, and produces this oxide, which when inhaled
13 in sufficient quantity results in metal fume fever. After
14 exposure through heavy concentration, the welder may go home
15 and after a few hours begin to have alternate chills and
16 fever and a general washed out feeling and become really ill.
17 It is a temporary thing, however. After a night of discom-
18 fort, the next morning he is probably able to go to work,
19 and so lost time is not a large item. It does, however, oc-
20 casionally cause lost time of a day or two, but the reduc-
21 tion in the efficiency, due to his washed out feeling, is
22 something to contend with and, of course, the effects on the
23 man's morale are very bad indeed.

24 You can obtain bulletins on zinc oxide poisoning, or
25 metal fume fever, from the . Other results are

1 a white count from twelve to fourteen thousand within twelve
2 hours after the exposure, and there are other interesting
3 points connected with it.

4 Now, the Liberty ships do not have very much galvanized
5 welding. Only in the pipes is galvanized metal used. There-
6 fore, those concerned only with Liberty ships may not find
7 that to be a major problem. It is, however, in Navy con-
8 tract yards, where they make destroyers and other Navy ships,
9 where galvanized metal is used throughout.

10 Solvent vapors in a shipyard are encountered in spray
11 painting. The various kinds of paints apply to the paint,
12 petroleum spirits, and so forth.

13 In cementing there are certain cements containing toxic
14 solvents. In most cases the safety engineers are unaware
15 that the solvent is toxic. Carbon tetrachloride and benzine
16 are frequent offenders in that respect.

17 The acid gases and mists are, in turn, in pickling,
18 cleaning and degreasing operations, but they are not common
19 in shipyards, but they must be considered where they are
20 present.

21 Alkali mists you can dispense with as being in a class
22 with the acid gases and mists.

23 Asphyxiating atmospheres need no explanation; oxygen
24 breathing, carbon monoxide, and so forth.

25 Now, I have up here in connection with lead poisoning

1 a bunch of pamphlets giving in detail the technique of doing
2 the basophilic aggregation tests. As you know, it is not a
3 specific test. In other words, it will not indicate lead
4 poisoning alone. A basophilic count is also obtained in
5 other disorders such as diabetes, and others. I have these
6 bulletins; if you would like to come up and get one after
7 the meeting, you are welcome to them.

8 Where any large number of workers must be checked for
9 lead poisoning, this method of examination is probably the
10 most feasible. Where the counts are suspicious, then you
11 may confirm your suspicions with a urinalysis or blood analy-
12 sis.

13 I might mention a word about laboratory facilities.
14 Naturally, laboratory facilities will not be available to
15 each of you in your locality. At least, you might have dif-
16 ficulty in getting them. And the techniques used in doing
17 lead analyses might not be used by the operators of the
18 laboratory. So we propose to set up laboratories to be
19 operated under the Maritime Commission where you can send your
20 samples and have the analysis reported back to you. That is,
21 if you find a man who has suspicious signs of lead poisoning,
22 his exposure or his symptoms may confirm it by a urine sample.

23 Section C takes up these occupational diseases more in
24 detail and the repetition of those I have already mentioned,
25 such as lead poisoning, spray painting, which is particularly

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1 a bad actor. In many cases we have found sprayers operating
2 without the proper protection, and in most cases their help-
3 ers have not any protection at all. A man would be standing
4 beside a painter, and the painter would be wearing a respir-
5 ator, and the helper not any, and breathing in this fine mist
6 of red lead paint in great volume. Now, obviously it is
7 dangerous. The absorption of lead through inhalation is
8 much more rapid than that by injection, and your lead poison-
9 ing danger is intensified.

10 I would like to call your attention to fiberglas on
11 Page 3-C. There have been many misapprehensions about
12 fiberglas, and the main one has been the danger of breathing
13 particles of fiberglas which is used in insulation in ships.
14 As far as has been determined, there are no ill effects from
15 of inhalation/particles of fiberglas. As you know, it is a
16 silicate, not a silica, not free silica at all; therefore,
17 it cannot cause silicosis in any way. The particles of fiber-
18 glas are irritating to the skin, however. That is, they will
19 work their way into the skin, although you may acquire a sort
20 of a toughness to that after a while, and that must be con-
21 sidered in men who complain about their skin condition from
22 working with it.

23 The cement used in fiberglas is very often one carrying
24 carbon tetrachloride, which is another source of danger.
25 Carbon Tetrachloride, when inhaled, as you know, for any

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1 length of time or in any great amount causes liver damage
2 and kidney damage and so forth.

3 Asbestosis, which I have already mentioned, on Page 4-C,
4 there is something which will not appear very shortly. It
5 will take the matter of a year or two years for asbestosis to
6 develop, perhaps, but the danger is present in some few yards
7 and should be recognized. It is very similar to silicosis,
8 I might say, - shortness of breath and a tightness around the
9 chest, and so forth.

10 I think that is all I need mention. I want to remind you
11 of
again/these basophilic aggregation tests which we have here
12 which you can get, and I will now turn the meeting over to
13 Dr. Drinker.

14 CHAIRMAN DRINKER: In order to show you what we want to
15 do, we may have to double up a little bit with the safety
16 engineers and postpone our demonstration so they can see it
17 at the same time.

18 We would like to hear some discussion on these items that
19 Mr. Nelson just took up, on welding, especially.

20 DR. RIEKE: Dr. Drinker, I came back with great anticipa-
21 tion because of a discussion we have had in the last few days
22 in our shipyards with the electricians partly in relation to
23 a welding machine and partly in relation to welding fumes. We
24 are very sensitive about welding fumes in our place right now,
25 and have been for many months, but particularly because of cer-

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tain suits coming up at us.

The question has been raised repeatedly as to what there is in welding fumes. We know there is something in the welding of galvanized pipe. The zinc fumes we do not encounter, to speak of, in the Liberty ships. We have had very little trouble that I feel to be genuine, as far as zinc fevers are concerned. However, it repeatedly is raised and has been for months, and continues to be raised at that point, as to whether there is or is not some substance in welding fumes on plain iron plate, with ordinary welding rod, which can or does cause either acute or chronic tracheobronchitis. I would like to raise that point for Dr. Drinker's discussion.

The second point is this: We have recently had a death the circumstances of which I should perhaps tell you. I was the first one at the scene to remove the deceased individual and checked. He had been welding. The ventilation was good. He was near the open air. At the autopsy there was nothing found to explain death. He did have burns across the forehead and across the cheek. The autopsy surgeon found the cause of death to be electric shock. He also found a bright red tracheobronchitis. The lungs with a little edema and redness. The pathologist made the statement that acute tracheobronchitis was assumed to be due to the inhalation of welding fumes.

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1 I raised as a question, one, the probability of tracheo-
2 bronchitis from welding; is it due to welding fumes? Second-
3 ly, is it possible and has it happened in other shipyards over
4 the country that definite statements have been made that
5 electrocution can occur from welding machines?

6 I would point out that we have several thousand welders.
7 They have welded for sixteen months through rain and shine,
8 wet and dry. So far, this is the first death, to my knowl-
9 edge, that we can ascribe to electrocution from a welding
10 machine. It was an alternating current machine with 300
11 amperes, and the contact voltage of 80 volts. I ask that
12 very definitely, is it possible, is it probable, and has it
13 happened in other shipyards?

14 I disputed with the autopsy surgeon the cause of death,
15 and also his assumption that the tracheobronchitis was due to
16 the inhalation of fumes. His statement was simply that there
17 must be something in the ordinary fumes from welding on steel
18 which was causing that in our workmen. I have some other
19 theories on it, but I would rather listen to your discussion
20 of those points first.

21 CHAIRMAN DRINKER: My own experience with welding over
22 a number of years, both galvanized welding and black iron,
23 is that in the case of black iron if it is done in a confined
24 space without ventilation, trouble is extremely likely. Gal-
25 vanized iron is likely to make trouble anywhere, unless the

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1 inhaling of fumes is prevented. The only cure that we can
2 suggest, or the best one, is ventilation with local exhausts
3 supplied near to the job.

4 Asto whether you are getting away with it or not, whether
5 you are having enough ventilation, it is extremely hard to
6 state without some air samples, and we would like at this
7 point to show you the demonstration that we have arranged here
8 now, and we will let Mr. Ege describe how it can be sampled.
9 After we have given that demonstration, then the discussion
10 may continue.

13

11 The welder that the Maritime Commission has loaned us
12 will give a little demonstration right here on the table with
13 the use of the local exhausts, and then Mr. Ege can follow
14 by showing you the sampling meter which we would propose can
15 be applied by the safety engineer at the yard.

16 MR. MORWICK ROSS, (Ensign, Boston, Massachusetts): We
17 will leave it to your judgment whether we have taken proper
18 precautions in this matter of welding. If there is one time
19 proper precautions should be taken, this is it, because we
20 have a very discriminating audience. We are assured by the
21 American Optical Company, who has been kind enough to supply
22 this little shield here, there would not be a soul in the
23 audience who would have an eye flash. If there are any such
24 cases as a result of this demonstration, please tell them and
25 not us.

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(Here followed a demonstration of welding.)

1
2 To preface our demonstration let me say just a word or
3 two about the ventilation program which is covered in some
4 detail in this minimum standards which you now have. Our
5 interest in ventilation, of course, is considerable, just as
6 yours is, since most of the hazards we have been discussing
7 today, the health hazards, can be controlled by ventilation.

8 Now, our prime concern, I think, with our ventilation,
9 is the elimination of welding fumes, and that is what we are
10 going to show you here today with this little welding set-up
11 we have.

12 I do not think in view of our combined audience here
13 that we should go through our section on ventilation stand-
14 ards. I think perhaps we will have an opportunity to take
15 that up separately with the safety engineers who are more
16 primarily interested in it. I might point out in our ventila-
17 tion standards, the second paragraph, which says, "The main-
18 tenance of proper working conditions shall be the responsi-
19 bility of the safety department, whose staff shall work in
20 close cooperation with the welding, paint, and electrical
21 departments."

22 That is putting it up to you safety fellows. It is
23 rather a labor of love for you. Certainly there won't be
24 much reward except a better yard. If you already have a
25 ventilation set-up in your yard of which you are proud and

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1 which you think is doing a perfectly fine job, we have no
2 intention whatsoever of upsetting the applecart, but there
3 are yards which have come to our attention, and undoubtedly
4 others which did not, where the ventilation program may pos-
5 sibly lack certain features, and that is the reason we pro-
6 pose these ventilation standards. In other words, if your
7 ventilation in your yards, if your ventilation superintend-
8 ent -- if you are not he, you are to be congratulated -- if
9 the ventilation is poor, you, unfortunately, will be the
10 fellows who will have to stand the gaff, I am afraid.

11 Now, what we propose to do here is for our welder to
12 strike an arc and show you exactly how the fume which is
13 generated from that arc can be drawn away from the vicinity
14 of the welding operation, what the right way to do it is and
15 what the wrong way to do it is.

16 We have down here to my left a fan which has been lent
17 to us by the Coppis Fan Company in Worcester, Massachusetts.
18 They have also provided us with a length of flexible rubber-
19 ized fabric exhaust tube, which is on the further end of our
20 fan. We bring that out in our minimum ventilation standards
21 as an accepted method for discharging fumes, and also as a
22 good method for introducing fumes for general ventilation.

23 The hose on the intake end of this fan is a rubberized
24 flexible metal hose used exclusively for local ventilation,
25 local exhaust.

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1 Now, as you all know, it is not enough for a local ex-
2 haust hose to be held in the same compartment with a welding
3 operation. That simply provides the elimination of approxi-
4 mately 200 cubic feet per minute from that compartment, and
5 does not even begin to take the welding fumes away. If, on
6 the other hand, this hose is held in close proximity to the
7 welding operation it will pick up almost 100 per cent of your
8 fumes, and before they ever get a chance to contaminate the
9 working space in which your welding operation is being car-
10 ried on, they are outdoors.

11 Suppose we start up this welding operation. First of
12 all, we will show you that if the hose is held close enough
13 to the welding operation it will pick up the fumes. If the
14 hose is not held close enough to the welding operation the
15 fumes will be disseminated into the room.

16 (Here followed a demonstration of welding.)

17 MR. ROSS: Now, you can by a simple device find out
18 whether the hose in your own yard has enough pull on them
19 so that that zone of influence reaches to the arc.

20 Yesterday afternoon, John Ege and I went down to a place
21 where neon signs are manufactured, and we asked a fellow if
22 he had an old piece of glass tube. He did, and we made this
23 little monometer which you see here, which you see is a piece
24 of straight glass tube bent into the shape of a "U". Now,
25 about two diameters from the end of this hose -- in other

1 words, that is a three-inch hose, six inches from the end —
2 we have drilled a little hole approximately $3/16$ of an inch
3 in diameter, and with the aid of that hole we can establish
4 what the suction pressure is in that hose, simply with this
5 little monometer.

6 The procedure is to insert this tube into the hole which
7 you have drilled in the hose, and if the hose is a three-inch
8 hose, which we have here, and that is, of course, the stand-
9 ard diameter. A two-inch difference in the water leg of this
10 monometer — that probably is not very clear to you if you
11 are not familiar with the use of a monometer, but we can take
12 it up later in detail if you care to — the two-inch differ-
13 ence in the height of this water leg represents 200 cubic
14 feet per minute through the three-inch hose.

15 Now, that is not true of a hose of another diameter.
16 The height of the water leg will be different, but it can be
17 determined by a very simple arithmetical procedure, and simply
18 with the aid of this little piece of glass tubing, and a
19 $3/16$ inch drill you can go through your shipyards and find
20 out whether your hoses are pulling enough air so the zone of
21 influence will reach out and get the fumes away from the
22 welding operation. Six to eight inches from the arc sounds
23 unreasonable, since a man will probably make a bead so that
24 he will be in the zone of influence throughout the length of
25 one of his wires.

60k

1 Now, there is another trick which we saw for the first
2 time on our recent inspection of some of the yards on the
3 West Coast. Let us take a look at this. It is simply a
4 little vacuum cleaner which has the metal hose attached to
5 it on the lefthand side, and it demonstrates very clearly
6 that a vacuum cleaner bag will pick up welding fumes and
7 hold them. This does not require any exhaust to take your
8 fumes on the outside, but the fumes are drawn into the vacuum
9 cleaner and are trapped in the bag and they stay there. Let
10 us take a look at this and see how that works. Start that
11 up again, please.

12 (There was a demonstration with the vacuum
13 cleaner drawing off the fumes from the welding.)

14 MR. ROSS: Now, that is our welding demonstration which
15 we wanted to show you. If you have any questions on this,
16 we have quite a large group here, but I am sure this would
17 be an appropriate time to discuss it.

18 QUESTION: Does that bag hold zinc fumes?

19 MR. ROSS: Yes, it does.

20 QUESTION: It is proposed then that that might be used
21 in tough spots?

22 MR. ROSS: Yes, that might very well be used in a tough
23 spot. It is really quite an ingenious little affair. It
24 is something we have seen only once, but there is no reason
25 it could not be adapted for use in our yards.

3lk 1 I might mention as a result of Dr. Rieke's question that
2 it is particularly desirable to use local exhausts, when the
3 operation is on zinc; in other words, galvanized metal, or
4 when it is on painted metal. It is not at all unusual in
5 maritime yards where some of the fittings and some of the
6 places to be painted with red lead and later welded, and the
7 weld after that being painted once again, and, of course,
8 those fumes that are generated in that process should be
9 brought out, and they should be brought out at the point of
10 their generation so they won't be out in the department con-
11 taminating the whole working space. The local exhaust is
12 particularly good for cold weather, since it does not cause
13 air drafts of any particular amount, and does a good clean
14 job.

15 QUESTION: Does it take two men to operate that gadget?

16 MR. ROSS: That is a very good point.

17 QUESTION: I say that, because where I come from we have
18 a pretty small inner bottom and pretty small forepeaks, and
19 sometimes we have to try to squeeze three welders down there
20 and half a dozen other people want to come down and look at
21 it, and so forth, and I know if I try to get six welders in
22 there and a man to help each welder, I will have to make the
23 ships bigger or make the men smaller.

24 MR. ROSS: The question is: Does it take two men to
25 operate this local exhaust, and the answer is, "No." It is a

1 little more difficult to handle the tube such as we have here,
2 because it would not stay where it points. It has to be held
3 as it is, lying along the deck. But the metal hose, such as
4 we have in this vacuum cleaner, is better in that respect.
5 We do not advocate the use of the one or the other. I simply
6 mention that it is possible for the welder to prop this thing
7 up in the general vicinity of his welding job.

8 QUESTION: But he could not hold it six inches from his
9 arc. It would be impossible.

10 MR. ROSS: It depends, of course, on where he is weld-
11 ing.

12 QUESTION: Suppose he has to do some other welding, some
13 side plate welding, he would have to rig up a little gadget
14 to hang it there. He might do that.

15 MR. ROSS: Yes, he might do that. He must use his in-
16 genuity and see if he cannot hold it close to his arc. If
17 he cannot use the local exhaust, why, of course, he will re-
18 sort to ventilation by dilution.

19 QUESTION: That is what we do, or we try to do it.

20 MR. ROSS: Yes. As a rule, you will find it is going
21 to require a combination of both.

22 QUESTION: How close can you get that hose to the arc
23 before it has any effect on the welding process?

24 MR. ROSS: The hose should be within six or eight inches
25 of the arc.

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QUESTION: What is the closest you can get?

MR. ROSS: I would imagine that would be determined largely by circumstances. It would not interfere a bit. If you get it very close, eventually it would begin to pick up the sparks, your spark bouncing from this welding operation and carrying down into the tube. As long as you are not exhausting in a spot that is dangerous, they will go out before they get very far.

QUESTION: Don't you think it would be well to tell about the efficiency of the type of bell horn, which increases the efficiency of the house approximately 80 per cent?

MR. ROSS: I have not seen a figure as high as that. However, the efficiency is increased substantially when a bell mouth is put onto the end of this hose. In fact, almost any shape helps a great deal. This plate holds the most efficient type of hose which you can use for ventilation purposes, and a flaring mouth or bell mouth, or almost anything, even a straight flange across the end of this, will help to extend that zone of influence over what it is where the plate ends. It sometimes is difficult to adopt that on a local exhaust, since the bell mouth might then interfere with carrying it around and getting into tight places.

QUESTION: How about the four-inch hose?

MR. ROSS: The four-inch hose is a matter of choice, between three and four inches. The four-inch hose is, of

k 1 course, a little more bulky, and possibly would not be so
2 easy to get into tight places, but that is a matter of pref-
3 erence, and I am sure there is a good deal to be said for
4 each.

15
5 QUESTION: I wanted to ask a question. About four years
6 ago I was in Jacksonville, Florida, in a drydock, at Merrill
7 Stevens . We were repairing a ship down there, and they had
8 five or six welders in the bottom of an inner bottom, and they
9 had a large induced draft fan. It was sitting right where the
10 welder was in the inner bottom without any general ventila-
11 tion, and all he did was just as fast as these six welders
12 were welding, it would bring those fumes right up through the
13 hole like that. Would that be a good idea, to use something
14 like that, or is this better?

15 MR. ROSS: Of course, the fellows who like this, or the
16 fellows who like dilution by general ventilation are pretty
17 evenly divided. I think this is more efficient because you
18 have to remove a lot of air to clear out a compartment by that
19 method, whereas only two hundred c.f.m. will do the same job
20 here. It is a difficult question to answer, and I think it
21 depends entirely on circumstances.

22 QUESTION: We nearly had a very unfortunate situation
23 with rubber hose in our yard. We just about smothered seven
24 men. We were very fortunate in getting them out. So we
25 personally would not allow any rubber hose inside the ship at

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1 all.

2 MR. ROSS: That is a very interesting observation. We
3 used this rubber hose simply because it happened to come
4 with our display equipment. We do not necessarily say that
5 it is the thing to do.

6 QUESTION: After it has been used for a while, it will
7 become frayed and the canvas will catch the sparks, and you
8 will have a fire as sure as the world. I know we had a lot
9 of trouble with it, and we finally threw all the rubber hose
10 out.

11 MR. ROSS: That is very interesting.

12 QUESTION: Mr. Chairman, at Marine Ship we use flexible
13 metal hose, three-inch, and we have a similar set-up, but it
14 is very difficult to get your hose within six inches where
15 a production welder might be welding in an inner bottom. If
16 you have ever been down in an inner bottom you will find the
17 three-inch flexible hose cannot bend back on itself within
18 thirty inches from the floor, and so it is not absolutely
19 practical from the viewpoint of a production welder, where
20 you get six or seven of them in an inner bottom tank. We
21 have provided a long five-inch main duct off which we take
22 the three inches, and we figure if we can get it within a
23 couple of feet in an inner bottom, when they are getting down
24 close to the deep tanks, we are doing pretty well. But the
25 flexible pipe has proved pretty successful with us for that.

1 MR. ROSS: That is a good point. As a matter of fact,
2 we have paid a great deal of attention to inner bottoms. We
3 practically slept in them at one time or another to see what
4 the conditions are in there, and I will agree with you it is
5 not the easiest thing to use these coils of hose in that con-
6 fined space. Again, the circumstances will govern the pro-
7 cedure. I think if you get this hose to wind in among the
8 manholes of your flooring, that will possible do it. But it
9 is a good point.

10 QUESTION: These ventilating standards are somewhat sim-
11 ilar to the safety standards and are of the "shall be" and
12 "must be" type. In other words, as you have in that safety
13 standards you have "shall be" and "will be".

14 MR. ROSS: Well, sir, we are taking quite a practical
15 viewpoint of this whole thing. As far as we are concerned,
16 we think that you will feel that it "shall be". In other
17 words, we are simply after ventilation, adequate ventilation.
18 We want to see the ships clean and the men breathing ac-
19 ceptable air.

20 QUESTION: That is quite true from a humanitarian stand-
21 point, but I am wondering as far as your phraseology is con-
22 cerned, where it says "shall be" and in the other meeting it
23 says "shall be" it means "do it".

24 MR. ROSS: You may find the wording a little abrupt, I
25 will agree.

1 QUESTION: You have to be abrupt if you want to get it
2 done.

3 MR. ROSS: That is what we want. I think we are both
4 after the same thing. The wording does not necessarily have
5 to come up between us.

6 Gentlemen, our time is quite short. We have right here
7 Mr. John Ege, who has some very interesting things to present
8 to the group, and I will now turn the meeting over to him.

9 MR. JOHN F. EGE, Jr., (Ensign, Boston, Massachusetts):
10 First of all I would like to talk a little bit on respirators.
11 If you all have your health minimum standards you will find
12 in Section B a discussion on respirators.

13 The most important point, you notice there, is that the
14 respirators must be Bureau of Mines approved. Now, I have
15 for your perusal here pictures of all the respirators which
16 are Bureau of Mines approved, and I will leave that up here
17 on the desk, and if any of you are interested in it, you can
18 come up after the meeting and look it over.

19 The advantages of having respirators which must meet
20 with Bureau of Mines approval are obvious. The respirators
21 then will be adequate, and will give adequate protection, and
22 are well-designed.

23 You will notice under the general requirements that ade-
24 quate protection is designed and it is recommended that the
25 respirators be comfortable.

1 In the following pages, where more than one type of
2 respirator is mentioned, the choice depends on the degree of
3 the hazard which you have at hand.

4 I would like to say a few words about the lead hazard
5 again. You have heard about this paint spray hazard, and
6 about the fume hazard caused by welding lead painted surfaces.

7 As you all probably know, it is a very difficult job to
8 ventilate lead fumes down to the concentration which would not
9 cause lead poisoning. The figure is .15 milligrams per tenth
10 of a cubic meter of air. Now, ten milligrams per cubic foot
11 of air is a concentration which none of you would believe to
12 be especially bad. For instance, upstairs this morning in the
13 room the concentration of smoke in the air was probably about
14 five milligrams, or possibly ten. To expect people to beware
15 of a hazard when the concentration must be kept down to less
16 than two-tenths of a millimeter is something that is almost
17 impossible to ask, I suppose.

18 We are insisting that respirators be Bureau of Mines
19 approved for lead fumes, and I have here samples which the
20 two companies having approval have supplied me. These are
21 MSA respirators. There are four types here.

22 This one has approval for metal fumes. This one has
23 approval for metal fumes, and is designed to fit under a
24 welder's hood. They have also two other respirators here,
25 one of which is designed to fit the face of women, and there

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1 are also two respirators here which have not as yet the ap-
2 proval of the Bureau of Mines for lead mists, that is, those
3 caused by spray painting. However, these approvals are be-
4 lieved to be forthcoming soon. I will leave these respirators
5 up here and you may come up after the meeting and look them
6 over. Willson Products have supplied us with three respirat-
7 ors, two of which are designed for lead fumes, and these are
8 the respirators that are to be used in controlling the problem
9 of lead fumes. I will leave both of these up here and you
10 can look at these after the meeting is over.

11 In both types of respirators here we have replaceable
12 paper fillers, which are thrown away. You all realize the
13 advantage of having such a system. It does not mean that you
14 have to throw the complete respirator away. You need only
15 throw away a small felt or paper filler, which is very in-
16 expensive.

17 There are salesmen in attendance here from each of the
18 companies. There is Mr. Charlton from the Willson Products,
19 and Mr. Mehaffey of Mine Safety Appliances, and both of these
20 gentlemen would be glad to discuss your respirator problems
21 with you and tell you a little bit more about the respirators
22 that are being shown here today.

23 Now, in connection with lead poisoning, it is also
24 necessary to do some type of air analysis or urinalysis to
25 establish whether or not there is a hazard present. We have

Ok 1 a laboratory set up on the East and West Coasts which can
2 run through these analyses for you if you desire. I have
3 brought along with me a mimeographed sheet which describes
4 the analytical methods of the determination of lead in both
5 urine and blood, and if there are any of you here who desire
6 one of these, you can get it after the meeting.

7 In connection with welding, again, I would like simply
8 to say something about the nature of welding fumes when bare
9 steel or black iron is welded. The intense heat of the arc
10 vaporizes the metals, and these oxidize in the air and are
11 constituents of the fumes. There are also substances of an
12 organic nature which constitute part of the fume. The color
13 of this fume is a brownish chocolate color. I suppose all of
14 you have seen it at some time or other.

15 Now, in connection with welding, there are some gases
16 formed. Oxide of nitrogen and ozone are typical examples.
17 The welders themselves, of course, notice the effect of these
18 fumes on them, and there are two types of individuals, in
19 general; those who fear the worst is going to happen when they
20 breathe these welding fumes, and there is the other extreme,
21 the individual who does not think that anything could pos-
22 sibly happen to him when he breathes the fumes of welding
23 arcs, and this type of individual is also a problem.

24 In order to clear up the situation as to just how bad
25 conditions are, we have designed a sampling instrument which

1 utilizes a piece of filter paper. The instrument was designed
2 by us in about two or three days. It consists of a Sears
3 Roebuck pump and a few other metal parts which are available
4 in almost any machine shop. If any of you desire, you could
5 have these pop guns or pump guns, whatever you want to call
6 them, made up, and then you would have a very rapid method
7 of determining just how bad your fume conditions are.

8 Our standards were made on the basis of three strokes of
9 the pump gun, and I have here the standard colors which are
10 formed on the paper. These are simply the stains of the
11 welding fumes, and in practice all that is necessary is to
12 just take three strokes of the gun, take the paper out, and
13 compare it with the standard. You then have an analysis in
14 just that much time. You know exactly what the concentration
15 of fumes in the air is. Since we have also set up standards,
16 it is very simple to decide on the spot whether your air
17 conditions are below par or excellent or just what they are.
18 The six men who are to go with Maritime Commission on this
19 health program will each have such an instrument, and they
20 could go through your shipyard with you and tell you in a
21 fraction of a second just how good or bad your fume condi-
22 tions are.

17 23 I would like to take a test over the welding arc itself
24 and show you the stain that was formed. I imagine it would
25 be very much darker than any of these I have. These standards

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1 were prepared by welding in a fume chamber. The air was kept
2 in constant circulation and the concentrations of fume in the
3 air were determined by standard methods, and then by taking
4 samples with the gun at intervals we arrived at this standard,
5 which is that of 30 milligrams of fume per cubic meter of air.

6 (A demonstration here followed.)

7 MR. EGE: That was about one stroke of the pump, and it
8 is far in excess of anything you can see on these standards.
9 After the meeting you can all come up and take a look at the
10 pump that we have and see how it works, and decide among
11 yourselves whether any of you would like to have such an
12 instrument in your possession.

13 We have also developed one other instrument for sampling
14 fumes and air. At present there are two methods of sampling
15 lead fumes, zinc fumes and other metal oxide fumes. Both of
16 these methods we felt were not good enough for our purposes,
17 so we set out to develop a method which would be much simpler
18 and much easier to handle in the field. It consists of a
19 vacuum cleaner pump, an ordinary household piece of equip-
20 ment, and a device for holding a piece of filter paper in a
21 funnel-like apparatus. The air is simply drawn through the
22 filter paper, and the fumes are collected on the paper.

23 We ran some extensive tests on the collection efficiency
24 of this instrument for lead fumes. The efficiencies were
25 extremely high and the instrument has many advantages over

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1 the present methods of collection.

2 We have these instruments in both laboratories, that is,
3 on each coast, and with these we would make the fume deter-
4 minations.

5 I would like to show this equipment and show you how it
6 works.

7 (Demonstration continued.)

8 MR. EGE: On the second test we get this fume collected
9 on the paper. Now, we have found this instrument to have a
10 very high collection efficiency for lead fumes, and it will
11 work also, equally as well, for those of zinc or any other
12 metal fumes you come in contact with in the shipbuilding in-
13 dustry. This is a device we have made, and if any of you
14 care to look it over after the meeting, you may do so.

15 QUESTION: After we do make up one of those, how are we
16 to know what we are looking at?

17 MR. EGE: As I said before, it is not intended that each
18 of the safety engineers or each of the yards build this piece
19 of equipment. In the first place, it requires the work of
20 a chemist to determine just what the fume concentration is,
21 and it would be impractical for the safety engineers of the
22 plants to do that type of work. However, with this other
23 sampler, you need only a stain on a piece of paper to determine
24 just what your conditions are, and that is what we recommend.

25 QUESTION: Are you prepared to give us those various

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1 color charts?

2 CHAIRMAN DRINKER: We will if you ask for them.

3 MR. EGE: As a matter of fact, the color chart is prob-
4 ably unnecessary, because you will see, if you come up later,
5 the first standard has a stain on it which is just per-
6 ceptible. That was made with one stroke of the gun. Con-
7 sequently, if you went out with one of these instruments and
8 just used one strike and got a stain on the paper, or one
9 that was just barely perceptible, your conditions would be
10 good. The difference between that one and the one on the
11 end are easily remembered by anyone. So a whole series of
12 these standards would not be necessary for you.

13 DR. REIKE: Is that standard in relation to some par-
14 ticular number, or just nuisance dust in general, or what?

15 MR. EGE: The fume was generated in a welding chamber.
16 It was done on black iron with standard welding rods. We
17 have tried three or four other rods and the stain on all of
18 them is identical. We just go out in the yard and use it
19 under the conditions that we find. That is the set-up that
20 we have so far arrived at in offering a service to the Mari-
21 time Commission yards. We are set up to analyze for any
22 fume dust, mist, gas or vapor which causes occupational
23 diseases.

24 QUESTION: Mr. Ege, you have been mentioned here the
25 possibility of lead fumes from welding on pre-painted red

1 lead surfaces. It has been called to our attention that
2 several cases have resulted from the use of hot rivets on
3 holes that had been drilled, and the red lead had penetrated
4 into the inside of the hole. Considerable study was made
5 at the time that it was found, and it was found that there
6 was no particular reason for using red lead. It is more of
7 a custom than anything else, and it seems to me that one of
8 the things that might develop from this meeting is the fact
9 that a recommendation be made, possibly to the Maritime Com-
10 mission Construction Section, that a lacquer which is equally
11 good as a preservative for steel plate could be used in place
12 of the red lead that is used supposedly as a preservative.
13 While it does act as a preservative, I do not think it is
14 essential.

15 MR. EGE: Dr. Drinker took that subject up with the
16 doctors before the safety engineers came down, and he will
17 speak a little more about that later.

18 I might point out that not only welding on lead painted
19 surfaces, but any operation at all in which terrific heat is
20 involved, will vaporize the lead and create just as serious
21 a hazard as welding will.

22 CHAIRMAN DRINKER: There is nothing we welcome more than
23 to have this organization take the position that early paint-
24 ing with read lead when something else could be used should
25 be stopped, and to make a recommendation that the red lead

76k 1 painting be avoided. If this group will take a strong posi-
2 tion on that, I think it will have a very definite effect.
3 The easiest way to get out of this possible lead poisoning is
4 to avoid the lead painting if something else can be done in-
5 stead, and it would seem to me such a thing as Mr. Kaye has
6 suggested is a very logical way out of it. We do not want to
7 make analyses any more than you want to have them made. We
8 would like to avoid this lead hazard. The easiest way to
9 avoid it is not to use the lead until after the welding has
10 been done.

11 Now, gentlemen, when Mr. Ross was discussing ventilation,
12 it was asked if on this Section 2-D there were any "musts" or
13 "shalls". There definitely are, and I can point out a few
14 of them.

15 On Page 2-D on the local exhausts, we have specifications
16 in the first paragraph suggesting what the fan's capacity
17 should be. Designedly we do not name the fan. It does not
18 make any difference what you use as long as it will do the
19 work. We suggest there if you get a fan for a local exhaust
20 that it be capable of drawing 200 c.f.m. through the flexible
21 hose, and again a little further down, where general ventila-
22 tion is discussed, under B, the second paragraph, that two-
23 line paragraph, "It is desirable sometimes to supply a quantity
24 of fresh air into the double bottom. Here a 2,000 c.f.m. unit
25 may be used."

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Two paragraphs below that, again, there are some definite figures giving capacities of the fan.

Finally, in next to the last paragraph, the final sentence, it says, "A minimum of 400 c.f.m. per welder shall be supplied to a given working space, such as a deep tank when general ventilation is used alone."

The question has been brought up as to what these welding fumes may do, and what the health hazard really is. There are plenty of instances now to show that welding, even on black iron in a confined space, is a bad practice and an unhealthy one. The reasons may be due to the metal fumes. They are probably due to a combination of the metal fumes, and the slight amount of toxic gas which we get. Accidents from welding and serious illness from welding on black iron are very rare, very rare indeed. By and large, welding in an open space is not unhealthy. This demonstration would have been a perfectly good example. It would not have been unhealthy in any way for the welder to weld here without any ventilation. You can see the same thing being done in shops practically all over the country with no bad results, but that is a very different matter from putting four or five welders in a deep tank with no ventilation. When you get on galvanized iron and are welding in double bottoms where galvanized piping is being installed, the men are breathing zinc oxide, and you can get the chills and fever, and you will.

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1 Anybody will get them. If the man is exposed and breathing
2 it, he will get them. But they are very, very easy to draw
3 off. But to say that it can be done with impunity without
4 ventilation is absurd, because it cannot. The men will have
5 trouble. They always have and always will, as long as they
6 breathe the zinc oxide fumes.

7 DR. RIEKE: The point is brought up, what is a confined
8 space in a Liberty boat? The question arises, is it in the
9 hold or is it in the foredeck exclusively and shaft alley and
10 double bottoms? Just how big is a confined space. That is
11 a question. I do not ask you for an exact definition. I ask
12 for a relatively close definition. That comes up all the time.
13 Some man down in the hold says that it is too smoky in there
14 for him. Now, is that your idea of a confined space, or what
15 is it?

16 CHAIRMAN DRINKER: The betting is pretty good if you
17 look at it and see that it is good and thick with smoke, that
18 it is too smoky.

19 DR. RIEKE: Would that cause chronic disease, or would
20 you care to say?

21 CHAIRMAN DRINKER: No, I would bet against it; if it was
22 black iron I would bet against the chronic aspect.

23 DR. RIEKE: It might cause acute tracheobronchitis.

24 CHAIRMAN DRINKER: Definitely.

25 DR. RIEKE: Not enough to make him seriously ill.

79k 1 CHAIRMAN DRINKER: I will agree.

2 Mr. Roche asked that the safety engineers' group please
3 remain here, as he wishes to continue his discussion in this
4 room. We will leave the equipment we have here, and I hope
5 very much that the doctors, if they want to stay for the
6 safety engineers' meeting will do so. They will be very
7 welcome. However, those of you fellows who would like to
8 adjourn to one of the other rooms, so that we can continue
9 this discussion informally, may do so.

10 QUESTION: Just before you do, my question was about
11 the "shalls" and "musts", et cetera. That on the first page
12 of Section D -- not necessarily the remainder of it, but the
13 first page -- pertaining to the personnel of the department
14 and ventilation standards -- has that been approved as yet?

15 CHAIRMAN DRINKER: That was not meant to be in the
16 "shall" state. We put that out as a feeler to see your re-
17 action. There is nothing uniform at all in the way ventila-
18 tion is handled in the yards. If we could get a semblance
19 of uniformity within some limits of common sense, we would
20 like to do it. We think the ventilation ought to be under
21 the safety department, but we did not feel like putting it in
22 as a "must" or "shall". In some cases, we know good yards
23 where they have good ventilation arrangements now, and they
24 are not the same as we have suggested here. If they are
25 good and working, we certainly do not intend to interfere,

1 and that is the reason they are not in the "shall".

2 QUESTION: It is in the "shall" here.

3 CHAIRMAN DRINKER: Let us say we are starting from
4 scratch, then.

5 MR. RING: Before the doctors leave, I want to ask a
6 couple of questions. I always have to get right down on the
7 beam on this thing.

8 Is it definitely understood there is a complete agree-
9 ment here as far as the medical side is concerned on the
10 minimum medical standards except those things the committee
11 is going to handle, which I understand is pre-placement
12 examinations and periodic check-ups, and the addition of
13 shortage of physicians in the yards. If it isn't, let us
14 hear it right now, and if we need more time, let us take more
15 time to go in and examine anything we need. Let us not rush
16 anything across. How about it now? I will count three, and
17 if I do not hear a dissent by the time three comes down, I
18 will take it for granted that it is understood.

19 DR. SPENCER: Gentlemen, in the South -- I do not know
20 anything about the rest of the country -- there can be no
21 question about the venereal diseases being the most import-
22 ant point in these yards. In Savannah one of the yards took
23 blood tests on all of the employees, which were approximately
24 50 per cent white and 50 per cent colored, and found 18 per
25 cent positive.

8lk 1 The federal government tells us we can get from seven
2 to nine cases of gonorrhea for each case of syphilis. It is
3 a matter of common knowledge to everybody that syphilis is a
4 debilitating condition, and gonorrhea, although more briefly,
5 is a disabling condition for a few days.

6 In many cases the Department of Health is urgently
7 anxious to help us in all ways they can. If they can get a
8 little help, they will come into the yards and establish
9 treatment centers for a minimum of cost, and do a maximum
10 amount of good, and I wonder if we could go on record of
11 asking the Maritime Commission to give a little consideration
12 to the local health departments to enable them to take this
13 problem off our hands.

14 MR. RING: Am I correct or incorrect that the Public
15 Health Service is conducting a nationwide campaign along that
16 line, that they have set up clinics at various points for
17 treatment at various places? It is my recollection that that
18 is one of the reasons we skirted clear of the venereal dis-
19 ease proposition when we were drawing up these standards was
20 that there had already been set afoot by Dr. Parren a pretty
21 widespread campaign. Am I wrong in that?

22 DR. SPENCER: You are not wrong in that. There are in-
23 numerable treatment centers available to people who will go
24 there and get treatment, but a great many of the shipyard
25 workers commute long distances, and a great many of them tell

1 us they are unable to meet the hours in which these clinics
2 are held open, and the length of time it takes a man to leave
3 the job and go to one of these treatment centers and come
4 back is unreasonable.

5 CHAIRMAN DRINKER: How would it be if we communicated
6 with the Public Health Service and suggested to them that in
7 any yard where it appears there is a necessity for treatment
8 centers to take some action along that line? I am sure the
9 Public Health Service has been cooperating with us in such a
10 way that they will probably do everything in their power to
11 help out along that line. It will be definitely understood,
12 then, that will be the procedure in any yard where they feel
13 there is a definite indication that there is a need existing
14 for a treatment center in the yard to ask the Public Health
15 Service to do something about setting that up. I will do
16 that as soon as we get word in from the various yards on that.

17 DR. RIEKE: My only suggestion on that is, you are not
18 in a position to carry through in many localities on that
19 program. I would simply indicate to them our willingness to
20 cooperate with the Public Health programs. No one will argue
21 that venereal disease needs control, but many local physi-
22 cians in many of the areas in the country feel that shipyard
23 workers are in a good position to take care of the treatment.
24 In other words, the Maritime Commission is not in a position
25 to say to any local area, "You must do thus and so about

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1 venereal disease."

2 MR. CLARENCE MAYHEW, (Labor Management, Marine Ship,
3 California): What about treatment of the common cold? I
4 was upstairs in the safety engineers, and I wondered if this
5 group had discussed the treatment of the common cold in the
6 Maritime Commission yards. It seems to me on the West Coast,
7 where we have so much rain and working outside, that that is
8 one of the biggest problems. I was wondering if it had been
9 brought up before this committee?

10 MR. RING: I will ask Dr. Drinker to answer that, be-
11 cause I was up at the civil engineers most of the time.

12 CHAIRMAN DRINKER: We did not discuss here the common
13 cold at all, or any illness other than industrial. Frankly,
14 if we can stay out of it, why, we would like to. The import-
15 ance of it I will admit.

16 MR. MAYHEW: The workers would like to stay out of it,
17 too.

18 CHAIRMAN DRINKER: So would all the rest of us, and our
19 wives and our children. I have not seen a single industrial
20 program yet that copes with the common cold in a way they
21 are especially proud of. We cannot answer that. I mean, we
22 have not anything especial to hold out for you.

23 MR. MAYHEW: Some of the aircraft factories prescribed
24 some programs.

25 CHAIRMAN DRINKER: Not with any signal success.

34k 1 DR. CROFT: A man from Abbott & Company came around to
2 see me the other day, and he had a folder in which they
3 claimed large reductions in the lost days from colds by the
4 vaccines, but there is no way in the world of making that man
5 take them. He is to take one a day for seven days, and then
6 one twice a week for the rest of the winter, and the chances
7 are they throw them away. It is very unsatisfactory, from
8 my experience.

9 CHAIRMAN DRINKER: From a health standpoint, frankly, I
10 do not think the Maritime Commission and the Navy would get
11 away with it. I would hate to see us try it. I do not think
12 we could get anywhere. Maybe we could.

13 DR. SPENCER: One of the questions that troubles us a
14 great deal is tetanus, especially in the yards where they
15 build concrete ships and they get deep punctured wounds all
16 the time. The administration of the anti-tetanic serum is a
17 dangerous procedure in some cases, especially where it has
18 been repeated time after time. Moreover, it is a question of
19 how long the administration lasts from a prophylactic dose.
20 I wonder if Dr. Drinker would advise us of the possibility of
21 dealing with anti-tetanic immunization, that is, an anti
22 tetanus toxoid, and not a serum?

23 CHAIRMAN DRINKER: I do not see how we can evade that
24 one. I would like to. We have not considered that. I think
25 very possibly we should have. I would like to have a chance

1 to think of that. I cannot answer that right off the bat as
2 to what we ought to do. I am frank to confess I think we
3 ought to do something.

4 DR. RIEKE: I would suggest there are all sorts of things
5 of that sort that are local problems, and the Maritime Com-
6 mission cannot attempt to take a definite stand on them.

7 For instance, our fluoroscopic heads were removed from
8 our yards a few days ago on account of some unfortunate ac-
9 cidents at Los Angeles. At any rate, I would say they con-
10 sider the use of toxoid if it is enough of a problem.

11 At Portland, it is not. We have thought about it and
12 discussed it, but have not felt that we as a prophylactic
13 measure could even go into the idea of toxoid. So again I
14 feel that is a local problem which the Maritime Commission
15 would be looking for trouble on if they tried to generalize
16 too widely.

17 CHAIRMAN DRINKER: I think it would be a local problem.
18 If we wanted to give any such immunization it would be extra-
19 ordinarily difficult to give it to all of the men in the
20 yard. There would not be any way of enforcing it. It is not
21 a problem such as the army or navy have where they are hand-
22 ling recruits. We can profit from their experience, but we
23 cannot do it the way they are doing, and we could not get
24 away with it.

25 MR. HAL C. FRAZIER, (Houston Shipbuilding Corporation,

16k 1 Houston, Texas): In Section C it says, "An eye flash shall
2 be treated only by the doctor."

3 CHAIRMAN DRINKER: It says, "or by methods prescribed by
4 him," does it not? It says that somewhere.

5 MR. FRAZIER: That is in Section C, "effects on workers."

6 CHAIRMAN DRINKER: That could be modified to use only
7 treatments that are supervised or prescribed by the doctor.
8 That is a good point. I agree that ought to be changed. We
9 will change it.

10 MR. BARON D. SNIDER, (Marine Ship Corporation, Sanalito,
11 California): I am not speaking as a medical man, Doctor, but
12 I am advised by some of the industrial doctors that one of
13 the difficulties in treating eye flashes is that the men do
14 not experience these symptoms until perhaps in the evening
15 when they are far away from the medical center of the yards.
16 The result is that they go to the general hospital or to a
17 hospital which perhaps has not concentrated on the industrial
18 arc flash and gives a relief which is not only temporary but
19 actually irritates the condition itself, and by the time the
20 workman comes into the shipyard the next morning his condi-
21 tion is aggravated and it takes twice as long for him to get
22 over it. At Marine, our medical director has reported that
23 that has happened quite frequently, because many of their
24 workers do not live in quite proximity to the yard. I am
25 wondering if any sort of action can be taken which would per-

37k 1 haps set forth a general procedure for these institutions
2 to follow for the treatment in such cases.

3 CHAIRMAN DRINKER: If you will look at the standards you
4 will see that we purposely have not prescribed treatment in
5 detail in any single one of them. We prefer not to do so if
6 we can. We would rather leave that up to the individual
7 physician. The yards, by and large, are getting the best
8 medical help they can. From the inspections we made they
9 were good, in our opinion.

10 MR. SNIDER: We found a serious problem in our particu-
11 lar yard. There were many men who were going to outside
12 sources for treatment when they wake up at night.

13 CHAIRMAN DRINKER: You mean because they were away from
14 the yard?

15 MR. SNIDER: Yes, they have not access to it at that
16 time of night.

17 CHAIRMAN DRINKER: I think that is a point we can dis-
18 cuss in the medical group tomorrow, and we will.

19 MR. SMITH: I have one question, please, on Page 3-D.
20 You spoke a while ago about ventilation in confined spaces.
21 Three or four sentences there in that are very applicable,
22 to decrease an accident from breathing fumes, et cetera, and
23 the last one, about the side plate, has that been taken up,
24 the side plate being left off? Has that been taken up with
25 the Maritime Commission?

1 CHAIRMAN DRINKER: What we found is as you go around in
2 the various yards in some places it was all right to take off
3 the side plates, and in others not. The Maritime Commission
4 itself has no objection to that. They leave it up to the
5 individual yards.

6 MR. SMITH: That is a definite ruling from the Maritime?

7 CHAIRMAN DRINKER: They leave it up to the yard.

8 MR. SMITH: Well, how about cutting a hole through?
9 In other words, is it a standard size, or does a man have
10 to stoop to go through or crawl over, and also additional
11 excess holes for the hose?

12 CHAIRMAN DRINKER: We found the same thing there, too;
13 that ruling would vary with the yards. They leave a great
14 deal of leeway on that.

15 MR. RELLER: What can the Maritime Commission do to help
16 us having the Selective Service taking the local doctor from
17 our town? We talked in the medical group about the trouble
18 we are going to have getting doctors to come in to meet this
19 personnel standard we are setting up.

20 CHAIRMAN DRINKER: That is the very thing we are going
21 to take up and put in a resolution tomorrow in a general meet-
22 ing. We will answer that definitely. What the result will
23 be, we also hope.

24 MR. RING: I have not heard any objection to your general
25 medical standards, except as noted here in one or two instances.

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1 Now, if that is the deal, it is the deal.

2 Now, Mr. Roche wants to get on with the safety side of
3 it. Are there any objections?

4 DR. RIEKE: I have one more. On Section C, under
5 "Flash burns," I take exception -- and I may be wrong -- to
6 the statement that, "A flash is a surface eye burn resulting
7 from even momentary unprotected exposure to the welding arc."
8 I object to that use "from even momentary unprotected ex-
9 posure." It is a small point, but one of the points I have
10 run into repeatedly is the misconception that most arc flash-
11 ing occurs from one bright arc, and the man runs into the
12 first aid station and says, "Give me some of those magic
13 drops to prevent any trouble." We put eye drops in their
14 eye, and he goes home, and has no trouble. He says, "Boss,
15 those are certainly swell drops for preventing eye trouble."
16 We have through the year had a lot of patients come in to
17 get medicine to prevent them developing symptoms. I think
18 that should be changed to, "A flash is a surface eye burn
19 resulting from undue exposure," or "unexpected exposure to
20 the welding arc."

21 MR. RING: Do you think even momentary exposure should
22 be eliminated? Why don't you be on the safe side and say
23 "from exposure"? Say "exposure" and you are safe as you can
24 be. Isn't that what the scientists always want to do? They
25 want to be on the safe side, so they make the language so

90k

1 vague that nobody understands it.

2 DR. McCOY: Something that is not covered here is the
3 practice of nurses removing foreign bodies. They are not
4 legally so qualified to carry on that operation. Will they
5 be qualified because of the practice under war, or are they
6 going to be held down technically and slapped behind the
7 bars?

8 MR. RING: Dr. Drinker here is looking for a section
9 that he says states that nurses are prohibited from that.

10 DR. McCOY: As a matter of fact, on the West Coast that
11 is the practice.

12 MR. RING: Dr. Drinker in a very nice and polite and
13 snaky way wants to know whether you read the third paragraph
14 under Section C, that part that says, "For use of safety
15 departments in shipyards; a guide for prevention of indus-
16 trial disease in shipyards," where it says: "Foreign bodies
17 in the eye shall be removed under the doctor's orders only
18 and by methods he has prescribed."

19 DR. McCOY: That does not cover it. If I stand over a
20 nurse and tell him he is to remove that foreign body from
21 the eye, that does not cover it, because he is not legally
22 qualified, even though I tell him to, to do it.

23 MR. RING: You mean if I get a cinder in my eye I am
24 supposed not to ask anybody to put the end of a handkerchief
25 in to get it out unless it is a doctor?

91k

1 DR. McCOY: Embedded corneal bodies, where he is using
2 an instrument.

3 MR. RING: It only says here "foreign bodies in the eye
4 shall be removed only under the doctor's orders or by methods
5 he has prescribed." If it is not embedded, certainly the
6 doctor can ask somebody else to remove that. If it is em-
7 bedded, certainly the doctor will give no such orders as that,
8 and if it is done by methods by him prescribed, certainly you
9 can say that if they are embedded you shall not do it. I
10 think it is covered. Let us interpret it as if it is covered
11 anyway.

12 We will take it for granted, then, that these things
13 are the consensus of the group, subject to the reports of
14 the committee to come in, because we want to know that every-
15 body has had a chance to hammer them as much as they want.

16 I hope that Dr. McCoy will not take my remarks along
17 that line as being directed in any manner personally. That
18 is a very good point to be brought up.

19 I want to thank you all very much, indeed, for the ex-
20 cellent and really genuine interest you are putting into this
21 thing. I am really getting proud of this whole thing. I
22 think we have got something here that if it is properly car-
23 ried through it will be of a tremendous benefit to the ship-
24 building industry, and I only regret that we have such a
25 limited time in which to operate, but everything is moving so

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1 fast these days, that if we take up much time we wind up
2 behind the "eight ball", so far as our friends across the sea
3 are concerned.

4 I want to express my thanks to all of the medical men
5 who have been in attendance here, and for all of the work
6 that you have done.

7 (The meeting adjourned)

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UNITED STATES MARITIME COMMISSION
AND
UNITED STATES NAVY

MEETING IN REGARD TO MINIMUM
REQUIREMENTS FOR INDUSTRIAL
HEALTH AND SAFETY IN SHIPYARDS.

Held in the American Room and Century Room, Hotel
LaSalle, Chicago, Illinois, on Monday, December 7, 1942,
at two o'clock p. m., Mr. John Roche, National Safety Council,
Chicago, Illinois, presiding.

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2hs

P R O C E E D I N G S

CHAIRMAN ROCHE: This is not an informal meeting, but if you will recall, I told you this morning to take your hair down and your shoes off, and let us go to town. We are going to read over the item No. 1, and we are going to read them over one at a time. We have about two hours to do it, because as soon as we finish here, we are supposed to go down and see the welding and ventilation demonstration in the American Room. So, let us keep our eye on the clock, and discuss down to the point where it is useful.

Now, as you rise for any point of discussion, please give your name, your company, and your city. That is for the record, so that you can get due credit for any suggestions that you might make.

How many of you have read this over?

(Quite a few.)

Are you agreed that we may skip the introduction which is Item

Is there any objection to that? (None)

Now, what we would like above all else is to turn out something informative, but we do not want to turn out an encyclopedia, but I say again that we do want all of the things that you now know are causing accidents in shipyards to be included in the set of minimum standards that will control accidents. And if there is anything left out, please

3hs 1 let us know about it, or if there is anything included in
2 here that you think should not be included, please bring
3 that out.

4 Now, you will remember that we had this previewed, and
5 prediscussed by a committee of 13 men from shipyards all over
6 the nation.

7 The first paragraph is No. 2, managements part.

8 "2. Management Part.

9 2.1 It is absolutely essential, if a successful acci-
10 dent prevention program is to be installed and operated,
11 that top plant management take an active and interested part
12 in the work. The same supervision given any other important
13 activity in the shipyard shall be given the safety program.

14 2.2 The responsibility of management in so far as
15 industrial safety is concerned shall be considered to in-
16 clude:

17 (2.21) The provision of a reasonably safe working en-
18 vironment.

19 (2.22) Training of employees for safety.

20 (2.23) Establishment of an accident record and report-
21 ing system.

22 (2.24) The appointment, where necessary, of a safety
23 engineer (or a safety director) and staff to install, main-
24 tain and properly supervise an accident prevention program.

25 (2.25) The issuance of instructions to all division

4hs

1 or department heads, foremen, leader or leadingmen or to any
2 persons in a supervisory capacity that they are considered
3 responsible for accidents which involve employees working
4 under their direction and that they are required to comply
5 with all of the provisions of the accident prevention program
6 in effect in the shipyard.

7 We will go right through that section, and we will come
8 back to it and ask for a discussion.

9 (2.26) An active and interested participation in safety
10 through

11 (a) Review of, and executive action on, safety records.

12 (b) Frequent attendance at safety meetings.

13 (c) Acknowledgement of good or bad departmental safety
14 records through personal interviews with department heads.

15 (d) General letters, for bulletin board posting,
16 addressed to employees and discussions of good or poor yard
17 accident record.

18 (e) By setting a good example. (Goggles, safety shoes,
19 hard hats and other necessary protective equipment should be
20 used by any executive who exposes himself to yard operations.)

21 Now, may I have any comments on that section, please?
22 Do not hesitate, please, to get up. If you think it should
23 contain more or should contain less, please let me know.

24 MR. DAVE KAYE, (Kaiser Company, Incorporated, Richmond
25 Shipyard No. 3, Richmond, California): Under Section 1.3, it

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1 says, "In all cases the use of the words 'shall' or 'must'
2 indicates that that compliance with that section of the mini-
3 mum requirements is mandatory." Why wouldn't it be a good
4 example under 2.26, Section A, instead of saying "necessary
5 protective equipment should be used", say "protective equip-
6 ment shall be used"?

7 CHAIRMAN ROCHE: You are absolutely right. That word
8 "should" should be changed to the word "shall".

9 Are there any other corrections?

10 MR. HAL FRAZIER, (Houston Shipbuilding Corporation,
11 Houston, Texas): Under 2.26-B, why couldn't there be in-
12 stead of "frequent attendance at safety meetings" be changed
13 to read, "That management shall be required to attend"?

14 CHAIRMAN ROCHE: I agree with you on that, but we have
15 got to remember one thing. We are building ships, and we
16 have yards full of busy executives. That does not mean that
17 they are excused entirely from attending safety meetings,
18 but on the other hand, it is not necessary for them to attend
19 every safety meeting to demonstrate an active interest.

20 I stumble a little over the frequency. I would like
21 to say "regular" rather than "frequent".

22 MR. FRAZIER: Well, let us put "regular" in there in
23 place of "frequent".

24 CHAIRMAN ROCHE: Is that satisfactory? Are there any
25 comments on the use of the word "regular" in place of the

6hs

1 word "frequent"? Under 2.26-b?

2 I know, for example, that you could not get Henry Kaiser
3 to attend many safety meetings, although he does attend them
4 when he is around.

5 MR. H. R. GREENLEE, (Houston Shipbuilding Corporation):
6 In regard to 2.26-e, I wonder if you really mean that Henry
7 Kaiser every time he walks down in the yard, has to shift
8 into safety shoes.

9 CHAIRMAN ROCHE: You are damned right I do. Anybody
10 here think that Henry Kaiser should not do that?

11 MR. GEORGE F. SCHMOHL, (Alabama Drydock and Shipbuilding
12 Company, Mobile, Alabama): In Section E, then is it under-
13 stood that every person working in the yard should wear
14 safety shoes, et cetera?

15 CHAIRMAN ROCHE: Yes, and if it is a case where they
16 would be exposed to head injuries, they should be protected.
17 For example, if a person is working where they are not
18 exposed to head injuries, he does not have to wear a hard
19 hat, but if that person is from time to time in a hazardous
20 area, a hard hat should be used.

21 And by the way, that includes insurance engineers,
22 Maritime consultants, and anybody else who comes in there.
23 I nearly got my brains knocked out in one shipyard, because
24 there were no hard hats.

25 Are there any other questions or comments? If not, we

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1 will move on to the next item, Section 3, Safety Director
2 and Staff.

3 3.1 A safety director, (title may be safety engineer,
4 safety inspector,) et cetera, and staff shall be appointed
5 for all shipyards having 1,500 employees or more. (See
6 section 3.25 for duties and responsibilities.) The safety
7 director shall report to, and be responsible to the general
8 manager.

9 MR. R. R. CLARK, (Pennsylvania Shipyards, Beaumont,
10 Texas): I question as to whether or not the staff function
11 should be under general manager. I think a better word would
12 be "top management". In our yards specifically, I do not
13 know how it is with the rest of the yards, but the general
14 manager is principally interested in production. As a matter
15 of fact, he is head of the production department, and as
16 such, I am wondering as to whether or not safety would
17 receive from the general manager in his capacity as produc-
18 tion chief, the interest it deserves.

19 I think safety should be a staff function, and any
20 recommendations of the safety department should come through
21 top management, through the line of authority to the general
22 manager, if he is the production chief.

23 CHAIRMAN ROCHE: That is a very good point.

24 MR. BARON D. SNIDER, (Marine Ship Corporation, San Anlito,
25 California): I beg to differ with the remark that has just

8hs

1 been made. I believe one of the difficulties that safety
2 has its proper place in production, and especially since the
3 outbreak of the war. I am not citing my own company as being
4 the acme of a safety program, how it should be run, et cetera,
5 but we have found by setting the safety department up as a
6 division of the production department, that safety has be-
7 come inseparably wrapped up with production, and by having
8 the safety department report directly to the production
9 department, you have full compliance and responsibility.

10 CHAIRMAN ROCHE: That is the other side of it. I think
11 what the argument is here the definition of your term "top
12 management", and the fact that "general manager" in one
13 plant may not fulfill the functions of a general manager in
14 your plant. What we need then is a definition of what we
15 mean by "top management", or by "general manager". Will you
16 agree with that?

17 MR. CLARK: I believe it specifically mentioned, or
18 that he specifically requested it be connected with produc-
19 tion, and he doubted whether the safety division setup under
20 production would be as essential as it would outside of pro-
21 duction. I believe it is more effective outside of the pro-
22 duction department.

23 CHAIRMAN ROCHE: What is your suggestion for the change?
24 Will you suggest a change?

25 MR. CLARK: I do not have any specific change to make on

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1 it, other than my original suggestion, which was "top manage-
2 ment". It was brought out this morning without the coopera-
3 tion of top management, we are not going to do anything with
4 the safety program, and to be absolutely frank, in think in
5 order to properly institute a safety program, we are going to
6 have to have the brass hats in on the thing.

2

7 In other words, it is going to have to come from the
8 top of the heap, and I also seriously question whether or
9 not the question came up about the removal of a hazard, that
10 would probably slow up production a little bit, which way
11 the production chief would lean. His interest is principally
12 in production, and I am thoroughly convinced that our praise
13 there should be "top management". I believe if we use the
14 term "top management" that that would be sufficiently in-
15 clusive.

16
17 MR. SNIDER: I think that would still leave it up to
18 us to be interpreted.

19 CHAIRMAN ROCHE: You mean by the top management, the highest
20 management?

21 MR. CLARK: Yes.

22 CHAIRMAN ROCHE: All right, let us say in the Kaiser
23 Shipbuilding Company that Mr. Kaiser looks upon safety in
24 his yard as his responsibility as much as anybody else's, and
25 he holds all of the general managers in his yard equally

10hs

1 responsible, not only for production, but for safety, too.

2 I agree with you that there should be some definition,
3 perhaps, and if you would be willing to offer one, we would
4 be delighted to have it. No one has ever done that, that I
5 know of.

6 MR. GREENLEE: Why use the wording, then?

7 CHAIRMAN ROCHE: All right, then you give us a better
8 one. We are trying to make it as good as possible.

9 MR. S. T. SMITH, (Consolidated Steel Corporation, Los
10 Angeles, California): I heartily concur with the first
11 gentleman. In our particular plant, we are dealing with the
12 treasurer and assistant president of the company, and it is
13 a healthy situation to know that you are with the top manage-
14 ment more so than with your production management, and I would
15 say, "top management" instead of "production".

16 CHAIRMAN ROCHE: Would you agree with the term "highest
17 operating executive"? That brings it down in some cases to
18 a superintendent.

19 MR. SNIDER: Aren't the companies under the Maritime
20 Commission required to have what is known as an executive
21 committee on safety?

22 CHAIRMAN ROCHE: Yes.

23 MR. SNIDER: Well, why wouldn't they report directly to
24 the body that is supposed to be responsible for that?

25 CHAIRMAN ROCHE: Because the executive committee is not

llhs 1 operative. We want an individual thing. We want it brought
2 under the eyes of the man who is responsible for the profit
3 and loss in the company. Perhaps I should have said the man
4 or the men.

5 MR. GRAHAM (Delta Shipbuilding Company, New Orleans,
6 Louisiana): I would suggest that the top management be
7 comprised of representatives from the general superintendent,
8 or whoever has control, or holds the title in charge of pro-
9 duction, and executive vice-president, or president of the
10 company, as top management, and the safety engineer. All
11 three are interested in production, economy and safety. I
12 think that could comprise the top management, very satisfact-
13 orily, rather than an individual, who is interested in a
14 particular department.

15 CHAIRMAN ROCHE: You got a good point, with one excep-
16 tion, the safety engineers are employees of the shipbuilding
17 company, rather than of the Maritime Commission.

18 MR. GRAHAM: They are charged by Washington with the
19 responsibility for safety in the yard, in which they operate,
20 aren't they?

21 CHAIRMAN ROCHE: Yes, the resident plant engineer.

22 MR. GRAHAM: Yes, the resident plant engineers are
23 charged for the safety in the yards.

24 MR. GREENLEE: He is an ex-officio member of the execu-
25 tive safety committee by Maritime Commission order.

12hs

1 MR. GEORGE F. SCHMOHL: Speaking of resident plant
2 engineers, I take it that you mean Maritime engineers? What
3 about the Navy?

4 CHAIRMAN ROCHE: In the Navy, the same thing would hold
5 true. I do not know, frankly, exactly on that, but I can in-
6 quire. Do we have a resident engineer in the Navy Yard?

7 COMMANDER CARLSON: Each engineer in the Navy Yard,
8 operates directly under the management.

9 MR. CLARK: On this top management thing, the gentleman
10 back here from the Delta Shipbuilding Company, New Orleans,
11 spoke about a certain procedure that should be followed.
12 That is the line of authority from top management. My con-
13 ception of top management includes all of the corporate
14 officers, and those staff officers performing the function
15 of management, and how this safety department gets up to the
16 top management should be left to the individual shipyard,
17 to whatever operating practice would be most suitable for
18 that particular yard.

19 CHAIRMAN ROCHE: Now, because we are pressed for time,
20 I know it is getting late, and this is your set of standards,
21 and so we can get a definition that will be satisfactory to
22 the group on this, we will appoint a committee to go into
23 that matter. I am going to appoint Mr. Clark, Mr. Snider,
24 and the gentleman from Houston to formulate a definition that
25 will fit under paragraph 3.1, and report on that at this

13hs

1 meeting tomorrow morning. Mr. Clark will be chairman of
2 that committee.

3 MR. DESJARDINES, (Navy Department, Washington, D. C.):
4 Why not use the highest ranking executive?

5 CHAIRMAN ROCHE: I will ask the committee to take that
6 under advisement. I will drop that matter now, and continue
7 with the balance of the material.

8 By the way, I meant to put on that committee Mr. Graham
9 instead of the gentleman from Houston, and I am going to add
10 Dave Kaye.

11 3.2 The staff in the safety department in addition to
12 the safety director, shall consist of:

13 3.21 An assistant safety director in yards having 5,000
14 employees or more.

15 3.22 One safety engineer (safety inspector) for each
16 additional 3,000 employees.

17 Example: If a yard has 35,000 employees there would be
18 required a safety director and an assistant plus 10 safety
19 inspectors.

20 3.23 The staff of engineers shall be distributed over
21 the three shifts in proportion to the number of employees on
22 each shift.

23 3.24 One clerk and/or stenographer for the first 5,000
24 employees and one clerk for each additional 7,500 employees.
25 (It is not to be assumed that the time of safety inspectors

14hs

1 or the safety directors can be spent on clinical detail.)
2 All office functions, while adequately supervised by the
3 safety director, should be carried on by clerks so the great-
4 est possible amount of time of the safety director and his
5 staff may be spent in the shipyard.

6 MR. GRAHAM: I think it is entirely inadequate. The
7 National Safety Council offers the broadest experience of
8 any organization which we know, and they have the only real
9 experience to offer, and they never suggest that there be as
10 many as one man trying to handle 3,000. It is a job almost
11 impossible. We are doing a war job with production as the
12 paramount issue, and the management is not going to be able
13 to give us the time necessary to follow through with the
14 educational work we need. Therefore, I think that we should
15 be suggesting one man to a thousand as a minimum.

16 CHAIRMAN ROCHE: I would like to hear some more discus-
17 sion on that.

18 MR. H. E. PACKARD: (Los Angeles Shipbuilding and Dry-
19 dock Corporation) Something like that would create a
20 terrific effect upon us, and would work a considerable hard-
21 ship on a lot of us. For example, if we have 8,000 men, that
22 will only give us two men. We will say we have 8,000 men
23 divided up into three shifts, and so how can you put two men
24 in three shifts?

25 CHAIRMAN ROCHE: The answer is "at least". You have got

15hs

1 to be logical about it. If you have got three shifts, you
2 need three men.

3 MR. PACKARD: I do not think we should have anything
4 like that, because in most of them they have been staffed
5 for some time. I know that I have more men than that, and
6 some of these economical heads of departments are apt to get
7 the idea that we have got too many, and are going to get
8 ambitious, and ask us to cut down our staff. I had to fight
9 very hard to get my men to the present level, and I would not
10 want to lose them at this time.

11 CHAIRMAN ROCHE: What is your recommendation?

12 MR. PACKARD: I think that it should be one man to 2500,
13 or one man to 1500.

14 CHAIRMAN ROCHE: These figures are the consensus of the
15 group meeting we had here in Chicago, and they are their
16 figures.

17 MR. SAM T. SMITH, (Consolidated Steel Corporation, Los
18 Angeles, California): Again, that imposes a penalty on us
19 who have a functioning organization that has maybe one man
20 to a thousand, and I would say, "At least one safety engineer
21 to 1,000 men."

22 CHAIRMAN ROCHE: Please understand that this is a mini-
23 mum. I emphasized that several times, that these are mini-
24 mum standards, and one thing we have all got to realize is
25 this: That it is all right to want 25 or 30 safety engineers,

16hs

1 and it is all right to try to get them, but it is a very
2 difficult job to actually get them. They do not grow these
3 days.

4 MR. GRAHAM: I simply maintain that the minimum require-
5 ment is not adequate to function properly. I think that your
6 minimum is too high.

7 CHAIRMAN ROCHE: I agree with you.

8 MR. GRAHAM: I think it is too high, because it is
9 impossible to operate with the number that you state here.

3 10 MR. R. J. BEHLEY: (Travelers Insurance Company) The
11 Service and Supply Department of the Government is request-
12 ing one to 1500. That might help in standardizing this idea
13 of Government control.

14 MR. CARTER KENDALL (Bethlehem Steel Company, Bethlehem,
15 Pennsylvania): The one thing you overlook is the length of
16 time a yard has been operating. Most of our yards have been
17 operating for quite a few years, and production people are
18 pretty well trained. We do not need as many as one to a
19 thousand in some places. If you make that a minimum, then
20 you work a hardship on us.

21 CHAIRMAN ROCHE: In spite of the fact your yard may be
22 operating a long while, the question of increase of employ-
23 ment, and bringing in new unexperienced workers, is something
24 to consider, and also the losing of your regular production
25 personnel. That all has to be considered, and so there is

17hs

1 something in this business of increasing perhaps safety
2 supervision. Would you still hold that view with that in
3 mind?

4 MR. KENDALL: Yes, I think so.

5 CHAIRMAN ROCHE: What would be your suggestion?

6 MR. KENDALL: I would say about 1500.

7 CHAIRMAN ROCHE: One to 1500. That seems to be the con-
8 sensus of the group.

9 MR. WALTER J. CONLON, (St. John's River Shipbuilding
10 Company, Jacksonville, Florida): The thing that puzzles me
11 is the clarification of the purpose of this booklet. It seems
12 that there is a difference of opinion as to the purpose of
13 this book. Is this to be a set of standards that we adopt,
14 or is this merely to be a guide to possibly refer to at
15 intervals, or is management going to adopt this?

16 CHAIRMAN ROCHE: This is a set of standards to be adopted
17 as a minimum.

18 MR. CONLON: By the safety department?

19 CHAIRMAN ROCHE: By each shipyard, by management, and
20 the safety department as a minimum requirement, and it out-
21 lines only minimum requirements.

22 MR. PACKARD: I think that the 5,000 is a little high.
23 It would probably help a lot of us, if that was brought down
24 to around 3,000, to begin with.

25 CHAIRMAN ROCHE: I was wondering why nobody thought of

18hs

1 that.

2 MR. PACKARD: If you were going to put in a starting
3 figure of 5,000 men, you can use two shifts, and if you have
4 a safety director and one assistant, that will be tough. I
5 think we should cut that down to at least 3,000, and if not
6 3,000, to possibly 2500. I am more inclined to 2500.

7 CHAIRMAN ROCHE: Well, would you say this: Change that
8 figure to 3,000, and then under paragraph 3.21, have it read
9 this way:

10 "An assistant safety director in yards having 3,000
11 employees or more, except that there shall always be at
12 least one safety engineer per shift." Is that all right?

13 MR. PACKARD: Yes.

14 CHAIRMAN ROCHE: Is that satisfactory that we adopt the
15 figure of 3,000 for the initial, and 1500 for the final?

16 MR. SINNOTT: Are we talking now about shipbuilding, or
17 what? If you change that to safety engineer on each shift,
18 you might have a little difficulty with a small job of only
19 ten or fifteen men.

20 CHAIRMAN ROCHE: Well, you have got to be logical and
21 reasonable about this whole thing.

22 MR. SINNOTT: You might have thirty or forty ships in
23 the yard, and you might have none of them in the actual
24 building of a ship.

25 MR. GRAHAM: The theory of a good safety program is that

19hs

1 the foremen and the leadermen take an active part. Under the
2 production conditions which we are operating today, the fore-
3 man does not play that part, and for one man to have to do
4 the selling job and the educational work for fifteen hundred,
5 I repeat that that is almost an impossibility.

6 CHAIRMAN ROCHE: I agree with you that under the present
7 setup, and the present operating methods in some of the yards,
8 but where a determined effort has been made to secure the
9 cooperation of foremen, and where recommendations such as are
10 submitted here, and such as Jack Wolff has talked about are
11 made, and carried out, we do get the cooperation of foremen
12 very definitely, and there are several such yards that are
13 only getting that.

14 MR. GRAHAM: I think if this would be a mandatory
15 standard by which we are to operate, it would get a better
16 chance of success.

17 CHAIRMAN ROCHE: It might almost be considered that.

18 Now, that has been changed from the 3,000 in the initial,
19 to 1500 for the additional employees, and I will change that
20 example later on.

21 Now, how about 3.24? One of the troubles we frequently
22 find in yards is that the safety engineer does all of his
23 own clerical work. In fact, some of them stay there nights
24 to do it. Is that satisfactory? If so, we will continue.

25 MR. T. J. WHELAN, (Travelers Insurance Company, Hart-

20hs

ford, Connecticut): In paragraph 3.1, I would suggest that you put a provision in there that this applies to yards having 1500 employees or more. There are many yards throughout the country on small ship construction that do not quite reach that figure. Why should not these provisions apply to the smaller yards under 1500?

CHAIRMAN ROCHE: You tell me. Does anybody agree with that, that yards having less than 1500 employees need a safety engineer, or can the personnel director take care of that?

(Cries of, "No".)

What is the low figure?

MR. GRAHAM: Five hundred.

MR. DESJARDINES: I think that is rather low.

CHAIRMAN ROCHE: I think so, too.

MR. KENDALL: I do not know how you can get any figure on a thing like that at all. Back in the days before Pearl Harbor, and before the war, we had a number of repair yards that did not have a thousand employees. Some days it would operate two hundred, and then a ship would come in, and we would jump from two hundred to twelve hundred over-night.

We have a safety engineer in every yard.

CHAIRMAN ROCHE: I agree with you.

MR. KENDALL: I do not think you can set any figure on it.

CHAIRMAN ROCHE: Well, shall we say then that the safety

2lhs

1 director and staff shall be appointed for all shipyards? Is
2 that agreed, regardless of the number of employees?

3 MR. JOHNSON, (Kaiser Company, Portland, Oregon): I would
4 like to see in that same paragraph some provision for a wage
5 scale for inspectors, or whatever you call them. I mean
6 literally that. I have heard so many times from people all
7 over the country that they cannot get, or they cannot keep
8 competent inspectors, because they are not allowed to pay them
9 an adequate wage. They are paying them a helpless wage, and
10 they expect them to contact foremen and supervisors and I do
11 not think that that is right. I think it should be in there
12 that an inspector gets not less than a journeyman's wage.

13 CHAIRMAN ROCHE: I will show you some of the scars where
14 the stitches have not been pulled out yet, because I brought
15 that matter up. That is a matter for the labor relations
16 division, as such, and not the safety division, and it is
17 being taken care of.

18 MR. JOHNSON: Well, the stabilization board said, why
19 not put it in there, and then they will have something to
20 back them up?

21 CHAIRMAN ROCHE: I am afraid that we cannot get away
22 with that, but it is being taken care of, and you can count
23 on that. I know that where you get a good man who makes a
24 good inspector, and you pay him \$40 a week, maybe, and the
25 first thing you know he is out welding, and making more money,

22hs

1 and getting in overtime, and lots of fellows have been lost
2 that way, and some of these fellows are making less than \$40
3 a week.

4 So, there is some need for stabilization there, and
5 treating these men and these inspectors should be treated
6 in a different manner, and I agree with you, but I do not
7 think it is part of the safety standards to set the wage
8 scale, because we would have zone agreements, and everything
9 else to take care of, and you know what that is.

10 MR. J. M. HAYDON, (Moore Drydock Company, Oakland,
11 California): On 3.1, safety director, about the number of
12 employees, et cetera, I think there should be something in
13 there to cover what I have in mind. I happen to know of one
14 yard where the safety director was the fire chief, the first-
15 aid man, and captain of the guards. In this particular case,
16 I know he was all three, and I think his duty should be safety
17 director, and nothing else.

18 CHAIRMAN ROCHE: You will find that clearly outlined
19 under 3.25.

20 MR. SCHMOHL: I think an inspector should have some
21 electrical and other experience before he is trained as an
22 inspector. In most cases, we have to train our inspectors,
23 and I believe that you cannot get an average man in that
24 category, who does not run around \$1.20 an hour, and I think
25 if you put in there that the requirements for the inspector

23hs

1 is to be so and so, that we will be able to control the wage
2 scale in that way without setting it.

3 CHAIRMAN ROCHE: You have got a very good point there.
4 We have considered that, but in the interest of keeping this
5 thing from getting too bulky, it was left out. The consultant
6 will assist in discovering these men in each case, and train-
7 ing the men whom you are going to use as inspectors in the
8 yard, and give you a hand in that way. That is going to be
9 done somewhere along the line in the training program, but
10 it is going to be done specifically for shipyards.

11 MR. SNIDER: In regard to 3.1, you say a safety director,
12 et cetera, and shall be appointed for all shipyards having
13 1500 employees or more. See Section 3.25 for duties and
14 responsibilities. "The safety director shall report to and
15 be responsible to the general manager."

16 Suppose the function of the safety organization were a
17 safety director from the parent company, will that change
18 the status of that any?

19 CHAIRMAN ROCHE: Yes, you report to the general manager
20 of his yard, and to him. In other words, anything that is
21 better than what we have here, we are not kicking about, but
22 it must be at least this.

23 MR. SNIDER: Then I would like to submit that you add
24 the words "and to".

25 CHAIRMAN ROCHE: All right, we will put that in there,

24hs

1 and I will catch that in the minutes.

2 Now, we will continue with 3.25, duties and respon-
3 sibilities.

4 3.25 Duties and responsibilities. The duties and
5 responsibilities of the safety director shall include:

6 (a) Complete responsibility for formulating, administer-
7 ing and making necessary changes in the shipyard accident
8 prevention program within the limits of authority granted by
9 the shipyard management. The safety director shall also be
10 required to correlate the shipyard accident prevention program
11 with the minimum standards of the U. S. Maritime Commission.

12 Any objection to that?

13 (No response.)

14 (b) Submission of regular monthly, weekly or daily
15 reports on the status of safety directly to the general
16 manager of the shipyard.

17 May I say right there, that that "general manager" term
18 will be put in agreement with whatever our committee decides
19 for that term.

20 (c) Acting in an advisory capacity on all matters per-
21 taining to safety and health (see paragraph "F" following) to
22 the management, general manager, superintendents, foremen,
23 quartermen, leadermen, purchasing department, engineering
24 department, commissary department, or contractor.

25 MR. JOHNSON: I question the help proposition.

25hs

1 CHAIRMAN ROCHE: Most of the yards do not have hygienics,
2 and somebody has to take care of that.

3 MR. JOHNSON: They asked us what medical school we
4 graduated from in our yard.

5 CHAIRMAN ROCHE: What we want is that they will ask for
6 your assistance. For example, I have run into the same condi-
7 tion in other yards, and have found that the medical depart-
8 ment never makes trips through the yard, and they do not know
9 what the term is that is used in the yard, and they do not
10 know whether it is toxic or not. Well, the safety engineers
11 can bring that to their attention, and get some action in
12 that way.

13 The safety engineer may not dodge the responsibility
14 for his post in the health and hygiene program in the yard.
15 That is definitely a part of his job.

16 (d) Maintenance of the accident record system, making
17 all necessary reports, personal investigation of all fatal
18 or serious accidents, investigation through his staff of all
19 accidents, securing supervisors accident reports, checking
20 corrective action taken by supervisors to eliminate accident
21 causes.

22 And you can interpolate there "through his staff wherever
23 possible." We know that the safety engineers have only 24
24 hours a day, just like anybody else.

25 (e) Supervising, or closely cooperating with the train-

26hs

1 ing supervisor, the safety training of all employees. (See
2 Section 3.26).

3 (f) Correlating safety work with medical (first aid)
4 department to insure proper selection and placement of em-
5 ployees according to physique, experience and intelligence
6 and for the purpose of securing or giving information that
7 will tend to control existing or potential accident causes.

8 I know one yard where the safety engineer does all of
9 the hiring and he does first aid work, too. The last thing
10 he did was to take the general manager to the opera the night
11 he had to work. I am telling you we are outlining your
12 duties specifically, and anything extra gets extra compensa-
13 tion.

14 (g) Making personal inspections and supervising
15 inspections by staff and by special employee committees,
16 for the purpose of discovering and correcting unsafe condi-
17 tions or unsafe work practices before they cause accidents.

18 (h) Exchanging information with other shipyards on best
19 safety methods and consulting with U. S. Maritime Commission
20 on safety problems which cannot be solved with methods or
21 information at hand.

22 (i) Making certain that all federal, state or local
23 laws, ordinances or orders bearing on industrial safety are
24 complied with.

25 (j) Securing any necessary help or advice from state

27hs

1 department of labor representatives on matters pertaining
2 to safety.

3 And we better put in there "and health".

4 MR. E. E. WHITE (Sun Shipbuilding Company, Chester,
5 Pennsylvania): In paragraph (h), "consulting with the U. S.
6 Maritime Commission on safety problems which cannot be
7 solved with methods or information at hand", don't you think
8 that a staff safety director goes beyond the bounds if he
9 consults with the Maritime Commission if the matter should
10 have been taken up with his own management, instead of the
11 Maritime Commission?

12 CHAIRMAN ROCHE: What I should have explained is that you
13 will have a regional safety consultant in this area for that
14 purpose.

15 MR. WHITE: Not with the plant engineer, or any Maritime
16 Commission?

17 CHAIRMAN ROCHE: No, with the regional safety representa-
18 tive, that means. Would you rather have it put in there that
19 way?

20 (Cries of, "Yes".)

21 All right, it will be "consulting with the U. S. Maritime
22 Commission, regional safety consultant." We will change it
23 that way.

24 Now, on (i) does anyone object to the words "safety and
25 health", because you may have occasion to contact your health

28hs

1 department.

2 MR. JOHNSON: It says under (f) you say, "proper selec-
3 tion and placement of employees according to physique,
4 experience, and intelligence, and for the purpose of securing
5 or giving information that will tend to control existing or
6 potential accident causes." From a labor standpoint, I would
7 like to add there, "except in instances where a local union
8 supplies the man."

9 CHAIRMAN ROCHE: That is going to be taken care of, we
10 hope. There is a conference going on now with the A. F. of L.,
11 and the C. I. O., and other unions, if there be any, and the
12 management representatives, which tend to smooth out that
13 point, and I think we will have a lot less trouble with that
14 for which every one of us is thankful.

15 Then, if there is no objection, we will add the word
16 "health" in paragraph (j).

17 (k) Initiating activities that will stimulate and
18 maintain the interest of employees in safety.

19 (l) Acting as secretary of all safety committees and
20 in such capacity he shall prepare an agenda for each such
21 meeting covering the business to be discussed and, he shall
22 prepare for the record, minutes of each such meeting.

23 MR. SNIDER: That is impractical in many shipyards,
24 according to your committee setup, and according to the
25 number of hours in a day.

29hs

1 CHAIRMAN ROCHE: That is the safety director, and you
2 interpolate there "through his staff." Obviously, you could
3 not be there 24 hours a day. You can put in "and/or" if
4 you want, but any of these activities, the safety director
5 as such, is the administrator, and he makes it click. I do
6 not care if he ever goes to a safety meeting, if he gets a
7 good safety record in his yard, but he will go to them, I
8 know, or he will not get that.

9 MR. PACKARD: I know my particular yard has used this
10 original program that came through with the inspection, more
11 or less as a Bible, and we are going to have to be careful
12 there in our wording, because inasmuch as most people know
13 nothing about safety, and they have steered around it as
14 much as possible, now they have come face to face with it,
15 and they have to do something about it, and they are very
16 apt to go by the line.

17 CHAIRMAN ROCHE: Well, let us go on with our next para-
18 graph.

19 (m) Directing the activities of his staff including
20 the assistant safety director, so that the shipyard accident
21 prevention program will be efficiently operated. It is
22 expected that the safety director may delegate certain
23 responsibilities to his staff engineers, such as that of
24 acting as secretary of certain of the safety committees.
25 Permission for such delegation of authority is expressly

30hs

1 given in the interest of efficiency and for training the
2 safety staff.

3 (n) Submission of the required reports on the status
4 of safety in the shipyard to the U. S. Maritime Commission
5 at the time and intervals hereinafter requested.

6 3.26 The duties of the assistant safety director, the
7 staff engineers and clerks, shall be as delegated by the safety
8 director.

9 In other words, he is boss of the safety department.

10 Now, we will come to No. 4, accident prevention forms
11 and reports.

12 MR. BEHLEY: You made a point about full-time staff
13 directors for employees here in connection with this, and
14 so don't you think that that should be brought in there some
15 place? We may get a haphazard setup some place within the
16 law.

17 CHAIRMAN ROCHE: Don't say law. This is not a law. If
18 we are going to say we should have a safety director in every
19 shipyard, and not say the number of employees, I do not think
20 we can say "a full-time safety director", because where you
21 have only two or three hundred, or five hundred men, and we
22 have a lot of yards like that, I do not think you can expect
23 to get a full-time safety director there.

24 MR. BEHLEY: How about adding it where we have 3,000 and
25 1,500?

3lhs

1 CHAIRMAN ROOPE: How do some of you men from the ship-
2 yards feel about that?

3 MR. PACKARD: I like it the way it is.

4 MR. GRAHAM: The safety director's work is a full-time
5 job in any manner, regardless of the size of the yard.

6 CHAIRMAN ROOPE: I agree with you, but they do not all
7 devote full-time to it. You take the several yards out here,
8 who are building small craft and have maybe 200 men, they
9 do not have a full-time safety engineer, and I would not
10 recommend a full-time safety engineer for a plant that size,
11 because they cannot support them.

12 MR. GRAHAM: I do not agree with you, because they can
13 support them if they have one death in ten years.

14 CHAIRMAN ROOPE: We have got to be practical about this.
15 To begin with, we have not enough safety engineers to go
16 around right now, and we have the big job of training them,
17 and those of you who have been trying to hire them will know
18 that. Let us keep that point in mind, however, for tomorrow
19 on full-time, because I can see where the point might come
20 up.

21 The next thing for consideration is No. 4, accident
22 prevention forms and reports.

23 4.1 The safety director shall cause to be designed
24 and put into use at least the following forms and records:

25 4.11 Supervisor's report of accident.

32hs

1 (a) Giving all vital data on case plus statements as
2 to unsafe act and/or unsafe condition, reason unsafe act or
3 condition was permitted to exist or occur and the immediate
4 corrective action taken or recommended. (Sample attached.)

5 Let me say this: Most yards have such forms, and they
6 will not be changed if they are any good at all, but this
7 is a suggested form, and already I have had several suggested
8 corrections for it.

9 MR. GRAHAM: What supervisors do you mean?

10 CHAIRMAN ROCHE: The immediate supervisors. What we
11 would call in the manufacturing industry a foreman's report of
12 accident, but we do not do that in shipyards, because you know
13 the difference in terminology. You don't dare say even
14 "leadingman", because that means a different thing in different
15 sections of the country, as I found out, to my sorrow.

16 Now, take a good look at that form, and if any of you
17 have anything on it, will you see me after a while, and we
18 will go at it again?

19 4.12 Safety Engineers' recommendation form.

20 (a) Form used by safety staff to record recommendations
21 made during inspection. Used for follow-up. Made in trip-
22 licate; one to leaderman or quartermen on job, one to general
23 manager, or other designated executive, one to safety depart-
24 ment files after use to check performance. (Sample to be
25 included)

33hs 1 So many times these forms are issued to a man on the
2 job, and they are never collected. You will notice down at
3 the bottom of this form, the specifications provide approxi-
4 mately three by five, and you can have them made up in pads.
5 A lot of yards have them, and this is about the consensus of
6 the forms that I saw, and if there is anything like that,
7 they will not be changed in your yard, but if you do not have
8 them, we will ask you to put them in.

9 4.13 U. S. Maritime Commission reports.

10 (a) To be submitted monthly to U. S. Navy - Maritime
11 Commission. To include over-all breakdown of predominant
12 accidents, types and causes, accident frequency and severity
13 rates. Total number fatal cases, total of lost time cases
14 and the time lost, total all cases including first aid and
15 number retreatments. Also to be shown are cumulative
16 frequency and severity rates January 1 to date and changes
17 in frequency and severity rates from preceding month. A
18 brief statement of what is being done to control each of the
19 predominant accident causes. This form to be used also for
20 report to management of shipyard. To be submitted in trip-
21 licate so as to reach U. S. Navy-Maritime Commission not
22 later than 15th of month following month record covers.
23 (Sample attached.)

24 We have got a new form for the U. S. Maritime Commission.
25 It is a combination form to do a double job, with a copy to

7 In other words, what is desired/^{is}that we want to know the
8 cause of the accident, and what is wrong. We did originally
9 want to include a definite statement for each group of such
10 items as to what you were doing to improve the conditions, but
11 it would make it too bulky, and we were trying to simplify
12 it.

13 When we have finished with this, it will be on an eight
14 by eleven sheet. That will enable you to tell us after you
15 have filled out the form, what are the predominant hazards, so
16 that you will not use the scattershot method of engineering,
17 but the direct approach method. You will be able to tell what
18 is wrong, and what is causing the most trouble, and therefore
19 intensify your work on the greatest hazard.

20 Now, on the reverse side, I am going to take a rest for
21 a minute, and I am going to ask Max Kassoris to get up and
22 talk about that briefly.

23 MR. MAX KOSSORIS: This form is a substitute for the
24 Maritime Commission form that you have been filling out, and
25 this is pretty much of a summary type. We need to know, of

35hs

1 course, the identification, the name of the company, and the
2 location of the yard, the average number of employees, et
3 cetera. Now, some of you are going to ask me what do you
4 mean by "average number of employees", as of what time. We
5 did not put that on the form, I do not believe, but Item No.
6 4 gives us the total employee hours worked, and Item No. 3
7 gives us the average number of employees, on the payroll dur-
8 ing the 15th of the month.

9 Now, there are all kinds of ways of getting the average
10 of that type, but that is the simplest and the most useful.
11 Have any of you any suggestions for making it any simpler
12 than that?

13 Now, you are going to have women, so it is employees,
14 instead of man-hours. That is a question of adding up the
15 total number of hours of the work your employees work, and
16 you can get that from your payroll, or estimate it very
17 closely.

18 You will also notice, we are listing fatalities, perman-
19 ent impairments, temporary total, and then total, and under
20 the total is "non-disabling injuries." Now, reading across
21 the column, in the first two columns is the number, and in
22 the last two columns are days lost. Under the number, you
23 split that up into those that occurred during the month, and
24 those of greater severity than formerly reported. Those that
25 occurred during the month, and any of those that occurred and

1 were reported during the earlier month, and subsequently
2 turned out to be more severe in terms of disability who are
3 listed, there is a temporary total, and a permanent impair-
4 ment under Items 7 and 6, respectively.

5 MR. GRAHAM: How can you determine that? You cannot
6 tell what the severity is until the accident is concluded,
7 so how do you know which is the greater?

8 MR. KOSSORIS: You recorded for any earlier month.

9 MR. GRAHAM: Suppose you have a man who has been severely
10 injured through a fracture, and you expect him to be injured
11 for a year, and another one with the same injury, and you do
12 not know which is the greatest severity.

13 MR. KOSSORIS: You do not estimate that. If a man has
14 a fractured arm, so far as you know, all you know that it
15 is a temporary disability. If he has lost his arm, then you
16 know it is a permanent impairment. However, if, say, three
17 months later the fracture develops and he is further impaired,
18 then you just report that under item 6-(b), and that indicates
19 that an earlier injury has now turned out to be a more severe
20 injury.

21 All we are trying to get is a count of the fatalities
22 that are permanent and temporary. If you wish to put this
23 on an annual basis, and let these ride, that is all right,
24 but on a monthly basis, you have to use a make-shift arrange-
25 ment, in order to catch up.

37hs

1 Under the "Days Lost" there is a column for injuries
2 during the month, and that is simply the time that you have
3 lost for injuries that occurred during that particular month,
4 and if people are injured in earlier months, and are still
5 out in the month reported here, you can cover that absence
6 under column "D".

7 Now, we have to break this up in this way, because on
8 a monthly reporting basis, you cannot accurately accumulate
9 anything, because you have to give it recognition as it comes
10 up, and so by breaking it in this way, you should have no
11 difficulty whatsoever.

12 Under the non-disabling injuries, we are just asking for
13 the number that occurred during the month.

14 The frequency rate is shown as Item No. 10, and that
15 is explained there immediately following that heading. It
16 is a very simple operation, and you put it directly on the
17 form to save the trouble of having to look for it in any
18 other place.

19 We are not asking for the severities for the very simple
20 reason you cannot develop a severity rate on the monthly basis,
21 not knowing what your time losses are going to be. A man gets
22 hurt in April, and does not get back to work until July, and
23 you cannot tell me in April what the severity rate is, be-
24 cause you would not know the total time.

25 MR. KAYE: However, the doctor's estimate will give you

38hs

1 a fair comparison, wouldn't it? That would give you something
2 to work on, and what you would lose on one case, you would pick
3 up on another case, so at the end of the year it would come
4 out approximately right.

5 MR. KOSSORIS: There is no objection to keeping them, if
6 you want to, and I suppose many of you do, but so far as we
7 are concerned, all we are after is the frequency rate, and if
8 we know the distribution in terms of fatalities, permanent
9 impairments, temporary, et cetera, we have a pretty good
10 idea of what that story is.

11 MR. CONLON: Do you mean the total employees now at
12 work?

13 MR. KOSSORIS: You can take that information from your
14 payroll.

15 MR. CONLON: That is what I was going to ask you about,
16 I believe that most of us keep our payroll by the week, and
17 it is very difficult to get it exactly, and we have been doing
18 it for the Maritime Commission on a four or a five week period.

19 MR. KOSSORIS: Couldn't you break your week on the number
20 of days, if it is two days out of the week, or two-sixths,
21 or one-third?

22 MR. CONLON: Well, it is very difficult to get them to
23 do that, because it requires a lot of work in the payroll
24 department to break it down that way.

25 MR. KOSSORIS: Well, what is your suggestion? What do

39hs

1 you have to offer on that?

2 MR. GRAHAM: Don't they all sign a daily labor report?

3 We take our records from the daily labor report.

4 MR. KOSSORIS: Then you have got daily reports, and
5 it is very simple to add them up.

6 MR. GRAHAM: Well, we have to reconcile that, and I
7 think that is easily done.

8 MR. KOSSORIS: Do all of the rest of you have your
9 records on that basis?

10 MR. I. G. JONES, (Southeastern Shipbuilding Corporation,
11 Savannah, Georgia): It is absolutely impossible for us to
12 get it on anything other than a four or a five week basis.
13 It is like pulling teeth now to get it from the department
14 on that basis, and I would like to see it on either a four
15 or a five week basis.

16 MR. KOSSORIS: What you are going to do there is that
17 if you are going to mix the thing up, and have some of them
18 on a monthly basis, and some on a four or five week basis,
19 when we start compiling them, and comparing them with each
20 other, the experience will not be quite the same. It may not
21 make any difference, I do not know.

22 MR. JONES: On this injuries on fatalities, are we going
23 to use the 6,000?

24 MR. KOSSORIS: You make no charges whatsoever.

25 MR. JONES: Don't you think that should be X'd out then?

40hs 1 I am referring to "c" on fatalities.

2 MR. KOSSORIS: Well, you may have days lost during the
3 month because of injuries.

4 When it comes to permanent impairments we can estimate
5 pretty closely what those losses amount to, but in terms of
6 actual time lost for work, that is another story. The time
7 charges do not take that into account, and this will.

8 Are there any other questions on the form?

9 MR. LESSIONS, (Great Lakes Engineer): Could we take
10 the consensus so far, whether these hours should be based
11 on a weekly basis, or a monthly basis, rather than certain
12 days? Most of us figure our man hours per week, and on a
13 four-week basis would be much easier figuring than breaking
14 them up in the middle.

15 MR. KOSSORIS: What is your pleasure on that?

16 MR. GRAHAM: Isn't it a matter of record in regard to
17 the man-hours worked? I believe that information is available
18 to every department that wants it, isn't it?

19 MR. CONLON: We have 13 four-week periods throughout the
20 year.

21 MR. JOHNSON: (Kaiser Company, Portland, Oregon) I
22 think we are exaggerating the importance of a few man hours
23 more or less. I do not see why they cannot take four full
24 weeks and take the two extra days, or whatever they are work-
25 ing. What if they do miss 10,000 man hours, you will catch it

4lhs

1 all up at the end of the year, anyway. I do not think it
2 makes very much difference.

3 MR. KOSSORIS: It makes a much neater setup for compari-
4 son to have it on a monthly basis than to have it at differ-
5 ent times of the month, say, from the 5th to the 13th, or
6 whatever the time might be.

7 Suppose we leave it on that basis, and ask you to
8 estimate for whatever period you have and ask you to give
9 us the estimate so far as your man hours are concerned.

10 MR. WHITE: Couldn't you extend that to the 15th of
11 the month, instead of the 10th of the month?

12 CHAIRMAN ROCHE: It is the 15th of the month. That is
13 an error at the top of the page.

14 MR. SMITH: I have a question on this setup. Suppose
15 yards have private contractors coming on the yard doing
16 incidental jobs, and there are Maritime and Navy inspectors
17 in the yard, but are they to be included in this setup, and
18 are they all to meet with these same requirements?

19 CHAIRMAN ROCHE: If it is a sub-contract, and they are
20 paid by the shipyard operators, then they must be compelled
21 to meet the requirements that are met by your people in the
22 yard. We had a case like that involving asbestos, because
23 eventually it is going to come back on your shoulders, and
24 somebody will have to pay the bill.

25 MR. E. S. WINFREE, (Pennsylvania Shipyards, Incorporated,

42hs 1 Beaumont, Texas): I think Mr. Smith's question was suppose
2 a ship came in for repairs, and supposedly belonging to Texas,
3 we as a shipyard repair that ship, and they are not actually
4 working on Maritime contracts, then how would you report that?

5 CHAIRMAN ROCHE: Do we want reports where work is done
6 in a Maritime yard, but not on Maritime work on employees
7 involved in that work? For example, repairing a ship belong-
8 ing to the Texas Company. I would say no, offhand.

9 MR. RING: I would say, "No" offhand, but the percentage
10 of that work is going to be so small and infinitesimal that
11 I do not think it will reflect any degree of change whether
12 we have it or do not have it. I think that could be included
13 or not included, as you all decide here.

14 MR. WALLACE I. TERRY (Moore Drydock Company, Oakland,
15 California): It would help us a great deal, I know in our
16 particular case, if we could lump the whole thing all together.

17 Now, take an example where a man is injured in our
18 machine shop, and he may be working on Navy work, maybe
19 Maritime, maybe repair, and it is pretty difficult to ascer-
20 tain whether or not that was a Maritime job he was working
21 on or not. The man does not know half the time himself.

22 MR. RING: I doubt if there would be, say, one out of
23 five hundred cases, taking the whole thing over-all, that
24 would be allocated to a private job, and I do not see why
25 you cannot include all of it right in the single report, so

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1 that you will have a uniform rule all the way through.

7

2 For example, a man who is turning a lathe today for a
3 private job, may for the next 29 days be working on Maritime
4 Commission or Navy work, and similarly with every other classi-
5 fication.

6 So, I think in view of the fact it is so small, you might
7 as well lump it right in, and include it all in there.

8 MR. SMITH: My question then is in this regard: We have
9 quite a number of private contractors who come into our yard
10 who do insulating work, and doing maybe construction work
11 while we are still operating, and also the Navy and the
12 Maritime men, who are doing routine inspection work on the
13 job. That is what I had in mind.

14 CHAIRMAN ROCHE: That is the way I understood your ques-
15 tion, and he thought that I did not. Where you have a contrac-
16 tor in the yard, he may not endanger your men, or he may en-
17 danger your men by his operations.

18 MR. SMITH: The question was this morale affect of these
19 particular employees of ours seeing these other fellows
20 allowed to do as they please.

21 CHAIRMAN ROCHE: That is why when we discussed this
22 matter, we designate the responsibility to the engineer, so
23 that when contracts are let to outside contractors, you will
24 write into the contract the safety provisions that they are
25 expected to follow, and they will usually be the same that

44hs

1 you have in your yard.

2 MR. RING: That is the thought that I had on arising.
3 If you put an over-all blanket catch-all provision in your
4 contract, that a sub-contractor's employees should be covered,
5 then it is understood and agreed that the sub-contractor's
6 employees will be bound by and will adhere to all of the
7 safety rules, regulations and requirements in effect in the
8 yard. Then, you have the whole thing taken care of, and your
9 legal department can work that out very quickly.

10 MR. SMITH: I have taken this up on numerous occasions
11 with our top management, and we cannot seem to reach an
12 agreement on that, because we do have several sub-contractors
13 in the yard, and they have been allowed to do these things,
14 and it has worked a handicap, and it is one of our definite
15 problems.

16 CHAIRMAN ROCHE: If you will write me a letter, I will
17 be glad to give you that in the form of a recommendation.

18 All right, among the other forms, you will see several
19 of them there, and the only reason I list them at all is so
20 they would be included here. They are all very simple.

21 Now, various forms will be made available to shipyards
22 on request. Please write in if you do not have them, and we
23 will be glad to help you in the preparation of your own forms,
24 or give you some information on existing forms.

25 MR. KOSSORIS: Did I understand you to say the super-

1 visor's report is an optional form?

2 CHAIRMAN ROCHE: No, it is not an optional form. That
3 form must be used in one way or another. If you have a form
4 use it, and if you have not a form, use that one, and by the
5 time the regional consultant gets around, he will find whether
6 it is any good or not.

7 MR. KOSSORIS: Well, if we are to draw off statistics
8 from these forms, and we have 35 or 40 different forms being
9 used, that will be very difficult.

10 CHAIRMAN ROCHE: Well, most of them are like that.

11 MR. RING: Can they all conform to that?

12 CHAIRMAN ROCHE: Most of them do conform to it.

13 MR. RING: Would it be much trouble to make the other
14 forms exactly like this?

15 MR. FRAZIER: I would like to submit our forms for your
16 consideration.

17 MR. RING: Let us get down to brass tacks on this thing.
18 We are not going to be able to check this deal in any way at
19 all if we are going to be vacillating about the forms that
20 come in. Why don't you have a committee appointed, or some-
21 body appointed to go out and bring in a standard form that
22 you will all-agree to, so that we won't have any question
23 about it. We will say when we promulgate the standards that
24 this is the form to be used for the supervisor's report, be-
25 cause if you change it around in one little way or another,

46hs

1 first of all it makes it difficult, so far as analyses of
2 them are concerned, and secondly, it leads to difficulty,
3 so far as interpretations are concerned.

4 Now, we have the opportunity with everybody gathered
5 here today, to do something that I do not believe any other
6 industry with as broad a scope as this has ever had a chance
7 to do, namely, get down to bed rock, and say this goes for
8 all of us. If that is not good enough, and we do not want
9 to impose anything on you that you do not want, but if that
10 is not good enough, tell us what is good enough, and let us
11 understand that we will use that form, and that only.

12 I do not see any other way that we can get going on
13 this thing. We are here to standardize things, and you cannot
14 standardize them by letting a little slide off to the right,
15 and a little slide off to the left, because the first thing
16 you know, you are all out in the middle again.

17 CHAIRMAN ROCHE: Let us have such a committee appointed
18 on that form, then.

19 MR. WHELAN: I take it, then, that this supervisors form
20 is not to go to the Commission?

21 CHAIRMAN ROCHE: Yes, it comes to the Maritime Commission,
22 definitely.

23 Now, we will appoint a committee to make a study of that
24 form and report on it tomorrow morning. I am going to appoint
25 on that committee Carter Kendall, as chairman, Dave Lester,

1 and I. G. Jones. I am going to ask you fellows to get to-
2 gether this evening and be prepared to report tomorrow. By
3 the way, I would also like to add to that committee Max
4 Kassoris.

5 (b) The following formula shall be used in determining
6 accident frequency and severity rates for shipyards.

7 1. Accident frequency =

$$\frac{\text{Number Disabling Injuries X 1,000,000}}{\text{Total Man Hours Worked for Period Covered}}$$

10 2. A disabling injury shall be considered to be
11 any injury which results in a man being unable to report for
12 work on the next regular day or shift after the accident, or
13 one which calls for a standard time charge being made regard-
14 less of whether time is actually lost. If time is lost due
15 to the injury, subsequent to the initial return to work, then
16 the injury shall be accounted as disabling.

17 4.14 Minutes central safety committee.

18 4.15 Minutes supervisors safety committee.

19 4.16 Inspection committee forms.

20 a. Minutes of meetings should show date and time of
21 meeting, names of those present, action on unfinished business,
22 brief description of new business discussed and action taken
23 or ordered by the committee on each item. The discussion
24 should always include the predominating accident hazards of
25 the yard and the means suggested to control them.

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1 b. Various inspection committee forms will be made
2 available to shipyards on request.

3 4.17 These forms, and any others pertaining to industrial
4 safety or health shall be filed and made available to authori-
5 zed representatives of the U. S. Navy-Maritime Commission
6 upon request.

7 MR. SNIDER: I would like to go back to that part refer-
8 ring to a disabling injury which results in a man being unable
9 to report for work on the next regular day or shift after the
10 accident, or one which calls for a standard time charge being
11 made, regardless of whether time is actually lost. What does
12 "unable to report for work" mean? Our insurance carriers
13 do not permit us to bring a man back to work if he has a
14 patch over his eye.

15 CHAIRMAN ROCHE: The answer is if he is there ready for
16 work, that it is not a disabling injury.

17 MR. SNIDER: Who is to decide that?

18 CHAIRMAN ROCHE: You in your yard. If the man is there,
19 it is up to your medical officer to decide that. We cannot
20 make any decisions of a medical nature, because we have to
21 leave that up to the doctor, and that is a condition that
22 has to be corrected locally, if you do not agree with me.

23 There is a definition on the form, paragraph 1, that is
24 a standard, and it is generally accepted as that definition.
25 It does not leave much leeway; if a man is there ready to do

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1 work, he is not a lost case.

2 I suggest that we move on, as it is getting rather late.

3 5. Safety committees.

4 5.1 The safety director, in cooperation with the ship-
5 yard general manager, shall cause to be formed and put into
6 effective operation at least the following safety committees.

7 5.11 Central safety committee

8 a. Membership: management representative (chairman),
9 safety director, (secretary) superintendents, foremen, medi-
10 cal department representative, quartermen or leadermen, and
11 one employee.

12 Now on this safety committee, the safety director as
13 such should be a secretary, and he should not delegate that
14 responsibility.

15 b. Membership of all but management representative
16 medical department representative and safety director shall
17 be (may be) rotated -- terms of 2 months each but rotation to
18 be arranged so only 1/2 of committee changes each month.

19 Now, there is considerable leeway there, and if you
20 want to keep him on for three months that is all right, but
21 do not make it a permanent committee.

22 c. Meetings - Shall be monthly or more often as
23 necessary.

24 In the case of most of these central committees they meet
25 now and again, and their average is about 12 or 15 times a

50hs

1 year, but not at regular intervals, and it is up to the
2 safety director to see that they have to meet at least once
3 a month, or 12 times a year.

4 MR. CONLON: This setup now countermands the old Maritime
5 Commission instructions in regard to an executive safety
6 committee, and a general safety committee?

7 MR. RING: Anything in conflict with this that has gone
8 on in the past, will be disregarded.

9 CHAIRMAN ROCHE: Now, if you want to have the Maritime
10 man on there, you can, of course. These are minimums. If
11 you want the Maritime on there, put him on.

12 d. Duties - This is the policy forming committee for
13 safety work. They review the monthly report as submitted to the
14 U. S. Navy-Maritime Commission and other records to determine
15 the course of safety work for coming period. They decide such
16 matters as type of safety equipment to be used and how it
17 shall be made available to men, types of safety training to
18 be used, whether accident prevention plan is being adhered
19 to, inter-plant contest awards, etc. Some such committees
20 review the investigation on fatal or serious accidents, and
21 make recommendations. All committee members are expected to
22 make practical suggestions to improve shipyard safety. They
23 also review reports of other committees to make certain
24 suggestions and recommendations are properly followed
25 through.

1 e. Secretary - The safety director shall act as
2 secretary, prepare an agenda, take minutes, prepare a report
3 of committee meeting and distribute copies of reports to
4 members. He shall follow through with other committees,
5 the suggestions and recommendations of the central safety
6 committee.

7 MR. WHITE: I do not believe I understand paragraph "a".
8 Does that mean one superintendent, one foreman, or does it
9 mean all of the foremen?

10 CHAIRMAN ROCHE: No, just the representatives.

11 MR. WHITE: The representatives from each craft?

12 CHAIRMAN ROCHE: No, just representatives. You could not
13 possibly get them from each craft. I think in one yard, we
14 would have 300 foremen in there, but representatives we would
15 say of two or three. We will leave that up to the individual
16 yard for their best decision on it.

17 MR. PACKARD: I wonder if we could get this over to the
18 Navy on this safety committee, or the safety engineers using
19 a particular type of safety equipment. I know the Navy,
20 generally speaking, is very good that way, and in certain yards
21 certain individuals who are reserve officers and who know
22 nothing about safety, dictate the terms of what type of equip-
23 ment we are to purchase, and it makes it very embarrassing
24 and difficult.

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1 CHAIRMAN ROCHE: That is true probably in some cases,
2 but you will find in your medical standards, that the types
3 of approved equipment are specified, and there will be little
4 or no leeway there. It will contain a decision practically
5 of what companies you will have to buy the equipment from.

6 MR. PACKARD: Can we get these reports that came down
7 from the Navy to the various yards?

8 CHAIRMAN ROCHE: It probably will, and the Navy, of
9 course, has its own plan on it.

10 Would you like to comment on that question?

11 COMMANDER CARLSON: I understand they are preparing a
12 list now, and that can be referred to as a Bible. However,
13 I think we can work that out all right if you will just write
14 me in regard to your individual case.

15 CHAIRMAN ROCHE: Thank you, Commander. It has been
16 suggested that we all now go down to see Dr. Drinker's demon-
17 stration on welding and ventilation, and after he has fin-
18 ished we shall remain there and finish our deliberations down
19 there, because we have got to be out of this room by five
20 o'clock anyway, and I think we may be a little late.

21 (Whereupon, an adjournment was taken at 3:45
22 o'clock p.m. to 5:00 o'clock p. m.)

23
24
25

AFTER RECESS

(The meeting was resumed, pursuant to recess, at 5:00 o'clock p. m.)

CHAIRMAN ROCHE: I suggest that those safety men in the rear move up to the front and they will be able to hear much better.

When we finished upstairs, we were just starting Page 6, "Supervisors' Safety Committee." That is on Page 6, and it is 5.12.

MR. DAVID KAYE: Before you start with that, I would like to refer to 5.11, in connection with membership on the Central Safety Committee. I am not trying to plug any particular organization, but why couldn't there be a representative of labor and a representative of management specifically representing labor and management committees?

CHAIRMAN ROCHE: That is a very good point. The question was, why couldn't there be a representative of management and a representative of labor on the Central Safety Committee, and especially designated to represent the labor-management committee. The answer to that is that there may be. These are just minimum requirements, and only minimum requirements. You can put anybody else on that committee that you want to, including the chief of police of the nearest town, if you think it will do you any good.

MR. KAYE: Then while this is a minimum requirement, why couldn't you say that it is so recommended?

1 CHAIRMAN ROCHE: Because some of the yards do not have
2 labor-management committees. We hope that all of them will
3 have. We can include, if you like, where there are labor-
4 management committees, if it is agreeable that we have such
5 representation. I see some head shaking. I would say this:
6 This being the minimum requirements, if you want to put them
7 on, go ahead, and it is a good idea, in my opinion, and if
8 you have not got one or don't want one, why, leave them off.

9 MR. FRAZIER: I would say that you leave it as it is,
10 and put them on if you want them on.

11 CHAIRMAN ROCHE: All right, that will be the decision.
12 Is that all right with you, Mr. Kaye?

13 MR. KAYE: All right.

14 CHAIRMAN ROCHE: He will take it for an answer, but he
15 is not satisfied.

16 Now, we will continue with 5.12, the "Supervisors'
17 Safety Committee."

18 a. Membership - Management representative, safety
19 director, medical department representative, superintendents,
20 foremen, quartermen, and leadermen. This is a rotating com-
21 mittee; rotation should be arranged so all of the supervisory
22 staff serve in their respective periods, i.e., superintend-
23 ents change each four months, foremen each two months, quarter-
24 ment and leadermen each month. In no case should an entire
25 group change at one time. Where a department or unit of a

4k

1 department has an unusually poor record then the responsible
2 supervisory staff - superintendent, foremen, quartermen or
3 leadermen should be retained on the committee until their
4 record is at least equal to the shipyard average.

5 b. Meetings - Shall be monthly or semi-monthly or more
6 frequently, as necessary.

7 c. Duties - The primary purpose of this committee is
8 the stimulation and maintenance of interest and the educa-
9 tion of its members in accident prevention. The shipyard
10 accident record shall be reviewed, the predominant types of
11 accidents and the predominant causes of these accidents
12 shall be discussed. Suggestions and recommendations to im-
13 prove the records are solicited from each member. At least
14 one timely subject must be discussed at each meeting; i.e.
15 such as eye injuries and their prevention, electric shocks,
16 hand tool accidents, et cetera. Methods of avoiding accidents
17 due to these operations should be presented by the committee
18 members.

19 d. The committee shall review reports of all fatal and
20 serious accidents and suggest preventive action. It shall
21 review reports of inspection committees and check on the
22 quality of the suggested corrective action for unsafe condi-
23 tions or practices reported.

24 MR. KENDALL: Which is the senior committee?

25 CHAIRMAN ROCHE: The Central Committee is the senior

1 committee.

2 MR. KENDALL: And then you would have the senior com-
3 mittee passing on the Central Committee?

4 CHAIRMAN ROCHE: No, but they shall act on recommenda-
5 tions. I reversed that, or I turned it around. In other
6 words, they will do as they are told by the Central Safety
7 Committee.

8 MR. KENDALL: In other words, they shall carry out the
9 suggestions?

10 CHAIRMAN ROCHE: Yes, they shall carry out the sugges-
11 tions and recommendations.

12 MR. KENDALL: That is better. It is a little bit loose
13 there.

14 MR. KAYE: Under Section C, you say, "The shipyard acci-
15 dent record shall be reviewed, the predominant types of
16 accidents and the predominant causes of these accidents
17 shall be discussed." Why wouldn't it be permissible to add
18 "and appropriate steps taken to eliminate them"? The suggestions
19 and recommendations sometimes are not actionable, but if you
20 put in specifically that an appropriate action shall be taken
21 for their elimination, you have got something pretty specific
22 to work on.

23 CHAIRMAN ROCHE: We are in hopes by this time the condi-
24 tions that have caused the accidents have already been taken
25 care of, except as a general overall spread. That is, on

6k 1 groups of accidents. Individual cases should be taken care
2 of by that time. The question that in Paragraph (c) after
3 this sentence, the second sentence, "The shipyard accident
4 record shall be reviewed, the predominant types of accidents
5 and the predominant causes of these accidents shall be dis-
6 cussed," there be added "and appropriate action shall be taken."
7 Do you agree that that should be in or leave it out, that is,
8 leave it the way it is?

9 MR. KENDALL: Well, if the Central Committee is the
10 policy-forming body, they should take the action, rather
11 than the advisory.

12 CHAIRMAN ROCHE: It is just a double check, because
13 they are giving a more thorough review than the Central Com-
14 mittee can give, because of the close contact.

15 e. The committee shall act on the suggestions and
16 recommendations of the central committee.

17 Outside speakers such as safety engineers, insurance men,
18 state department, laborers or men from other shipyards, may
19 be used from time to time to stimulate interest of committee
20 members in accident prevention work. Sound film strips,
21 motion pictures or other similar media on safety subjects
22 can and should be used if available and practicable.

23 f. Secretary - Same as for central safety committee.

24 Now, we come to the inspection committees, if we are
25 through there.

7k

1 a. Number - One committee for each department and
2 each hull.

3 b. Inspection - Weekly or more often as necessary.

4 c. Membership - At least two employees and a supervisory
5 employee of each job being inspected. The safety director
6 or staff safety engineer may and should also accompany the
7 committee.

8 d. Duties - to inspect their department or hull for
9 the purpose of discovering and having corrected unsafe acts
10 and unsafe conditions likely to cause accidents. On each
11 section of a job they should be accompanied by a responsible
12 supervisory employee. They are observers only - the foreman,
13 quartermen or leadermen shall do all corrective work. Where
14 a condition is discovered on which there is disagreement the
15 superintendent shall make the necessary decision. Hazards
16 immediately dangerous to health, life or limb should be cor-
17 rected by the accompanying supervisor at once.

18 By that I mean that the inspection committee is not to
19 go around and correct the men themselves. There is nothing
20 that irritates a foreman or a supervisor more than to have
21 some inspector come around and give orders to his men.

22 MR. GRAHAM: I do not agree with that clause where a
23 condition is discovered on which there is a disagreement where
24 the superintendent shall make the necessary decision.

25 CHAIRMAN ROCHE: Will you propose a substitution?

1 MR. GRAHAM: I would say an executive committee which
2 represents management, production and Maritime Commission.

3 CHAIRMAN ROCHE: They shall make the decision?

4 MR. GRAHAM: That is right.

5 CHAIRMAN ROCHE: There is only one trouble with that,
6 and that is that there is too much time wasted in getting a
7 decision from another committee, as this may be something
8 that needs immediate action.

9 MR. GRAHAM: Well, you covered immediate action in the
10 next clause in that paragraph.

11 CHAIRMAN ROCHE: You do not believe that they can or
12 that they should go to the superintendent?

13 MR. GRAHAM: No, sir, I do not.

14 CHAIRMAN ROCHE: You would rather wait for a meeting of
15 the committee?

16 MR. GRAHAM: The superintendent might feel that he is in
17 charge, and he might decide to disregard the recommendation
18 entirely, and then you are lost.

19 CHAIRMAN ROCHE: I see what you mean. What do you think
20 of that point? The point is objected to to this sentence:
21 Where a condition is discovered on which there is a disagree-
22 ment, the superintendent shall make the necessary decision,
23 and it is suggested that the decision be referred to the
24 Central Safety Committee, which will take some time.

25 MR. GRAHAM: I do not agree that it will take some time,

1 because the Central Committee must be subject to the immedi-
2 ate call, and I mean by that, the same day.

3 CHAIRMAN ROCHE: Then in some of the yards they would be
4 meeting three times a day.

5 MR. DESJARDINES: The Chairman of the Central Committee
6 would have the last say.

9 CHAIRMAN ROCHE: What is your pleasure on that? Origin-
7 ally, it read the yard manager would, which would have taken
8 in Mr. Desjardines' point as the Chairman of the Safety
9 Committee, but the yard manager again is a busy man and the
10 superintendent of a particular job can and frequently will make
11 the decision.
12

13 Now, if it is disagreed, it can still be referred to a
14 central committee and should be.

15 MR. GRAHAM: After he disagrees?

16 CHAIRMAN ROCHE: If he makes a decision, and there is
17 still a disagreement between the committee members, then, of
18 course, it should be referred to the central committee.

19 MR. GRAHAM: You know there is a conflict between the
20 recommendations of the safety department and the operations
21 department. If the operations department head wanted to make
22 a decision, the safety department is out on a limb.

23 CHAIRMAN ROCHE: I think you have got something there.

24 Well, what is your pleasure on that? How many of you
25 believe that you should leave it as it is? (Quite a few.)

1 How many of you think it should be changed? (A few.)

2 It looks like it will have to stay as it is.

3 Now, again, let me point out that that is a minimum re-
4 quirement, and if you want to take that to your central com-
5 mittee in your yard, that is perfectly all right to go ahead
6 and do it. I mean, these are what are known as rubber stand-
7 ards. The only rubber standards we have in the country. You
8 can stretch it, as long as you stretch it in the right direc-
9 tion.

10 e. The committee shall submit written reports to the
11 safety director and indicate whether accident producing con-
12 ditions or practices have been corrected. These reports shall
13 be referred to the supervisory safety committee by the safety
14 director. If necessary because of dangerous conditions, he
15 may refer them at once to the general manager.

16 MR. FRAZIER: You skipped over the underlined portion
17 in paragraph "d".

18 CHAIRMAN ROCHE: No, I read that in a very loud voice.

19 MR. FRAZIER: Then I would suggest that you change the
20 "should" to "shall".

21 CHAIRMAN ROCHE: Thank you, sir. I think everybody will
22 agree to that.

23 a. Staging inspectors, electrical inspectors, crane
24 inspectors, boiler inspectors, et cetera.

25 b. Membership - Specially qualified individuals or teams

1 permanently assigned to work.

2 c. Duties

3 1. Staging Inspectors - Daily or continuous inspections
4 of all stages shall be made on each hull - or other locations
5 where stages are used. Report shall be made of all defects
6 to the rigger foremen for immediate correction. Copy of the
7 daily report shall be submitted to the safety director.

8 Again, that is flexible. In some yards the staging in-
9 spection is done by the stage rigger foremen, and they are
10 authorized and qualified to make immediate repairs. The only
11 thing we have been missing, however, are reports which will
12 indicate a trend that we did get a lot of staging effects
13 that we want to know about, so that with that we can take
14 appropriate action to see that they do not occur again, and
15 cut down on any unnecessary stage repair work.

16 2. Crane Inspectors - Weekly inspections shall be
17 made of all cranes and rigging. Reports shall be submitted
18 to proper department head for correction of unsafe conditions
19 or practices. Copies of reports on defects shall be made to
20 the safety director.

21 3. Other Inspectors - As above and at indicated fre-
22 quency.

23 MR. JOHNSON, (Portland, Oregon): The one objection I
24 make is to having so many of these committees and duties that
25 it seems to me that you are taking all of the authority and

12k

1 duties of your safety inspectors and putting them on com-
2 mittees. I wish we would consider that, and probably in
3 many of these cases here, a safety inspector, a qualified
4 safety inspector, can act as this committee. He can take
5 up the safety steward with him, if he wants to be a com-
6 mittee, but do not leave the safety inspector out of all
7 these primary inspection duties.

8 CHAIRMAN ROCHE: That is a very good point, and you
9 will notice there the membership it says "specially qualified
10 individuals or teams permanently assigned to work," and that
11 practically makes it the safety inspectors.

12 Now, there are very few safety men who are qualified
13 crane inspectors. In insurance companies you get special-
14 ists, for example, the company that I was with. We had ele-
15 vator men, and they did nothing but inspect elevators. We
16 had some boiler men and they did nothing but inspect boilers,
17 and we had unfired pressure vessels in some cases before we
18 had a large number of them, and those men inspected nothing
19 but that.

20 You have different specialists, and that is exactly what
21 you are doing in this case. I think there are very few of
22 you here who would like to go out and make a complete crane
23 inspection, isn't that right? Some of us are qualified, I
24 know, but very few, and you do not very often run into one.
25 While you might be able to make a complete crane inspection,

13k 1 you certainly would not be an inspector of boilers, first,
2 because you would not be permitted to, and secondly, because
3 you are not qualified to do that particular type of work.

4 MR. CONLON: I was going to say the same thing that
5 this gentleman back here said. I was going to ask who is to
6 appoint these men? Are they to be appointed by the safety
7 department, or by the various superintendents?

8 CHAIRMAN ROCHE: That is a very good point. They should
9 be appointed on consultation with the proper department
10 heads by the safety engineer, and will very properly become
11 a part of his department as they do in some yards.

12 MR. CONLON: It looks like they are going to overlap.

13 CHAIRMAN ROCHE: Well, I realize that the crane in-
14 spectors like to maintain control of the cranes in their yards,
15 and the riggers like to take care of their own men, and
16 that is all right. The main thing is to get the inspection
17 done, and the conditions corrected.

18 MR. GREENLEE: Under the membership of the central safety
19 committee, the management has a representative, and he is the
20 chairman. I judge from some of the discussions following
21 that that probably the general manager is to be that man, is
22 that right?

23 CHAIRMAN ROCHE: Not necessarily. However, he may be.

24 MR. GREENLEE: Well, if he is not, just what is the mode
25 of keeping him informed, or of at least securing his O.K. on

14k 1 all of the recommendations that are made?

2 CHAIRMAN ROCHE: Copies will be given to him as is indi-
3 cated under the duties of the safety engineer for keeping the
4 general manager informed of the progress of safety in the
5 yard.

6 MR. GREENLEE: Is it just a question of keeping him in-
7 formed, or will he be given the privilege of saying, "Yes,"
8 or, "No"?

9 CHAIRMAN ROCHE: Well, not only be given, but he will
10 probably take it, and he usually does.

11 MR. GREENLEE: Well, it is not here, and I thought it
12 ought to be here.

13 CHAIRMAN ROCHE: So, in other words, we have purposely
14 avoided saying that the general manager in the yard must do
15 this and must do that, because there is no use bumping your
16 head against a stone wall. We are leaving it up to him to
17 appoint a management representative on these committees, and
18 it may be himself, and we are leaving it up to the safety
19 engineers to keep him properly informed of conditions in the
20 yard with respect to safety, health, hygiene, et cetera,
21 and that is where they all come under.

22 MR. GREENLEE: Has anyone figured how much of a staff
23 with all of its committees, et cetera, that a safety engineer
24 is going to have?

25 CHAIRMAN ROCHE: That has been covered. I do not know

15k

1 whether you were upstairs there a little while ago when we
2 covered that matter, and in fact, we have even increased it
3 considerably.

4 MR. GREENLEE: It looks to me that with a force of
5 twenty thousand men, we are going to have at our yard prob-
6 ably two or three hundred instead of the relatively few that
7 you had up at the other meeting.

8 CHAIRMAN ROCHE: We have cut the minimum to three thous-
9 and, and for an assistant safety director, and for each
10 thousand thereafter, there should be one additional.

11 MR. GREENLEE: That does not cover all of these committee-
12 men?

13 CHAIRMAN ROCHE: Those are entirely separate.

14 MR. GREENLEE: The safety engineer appointed in consulta-
15 tion with the heads of the department?

16 CHAIRMAN ROCHE: Those are separate.

17 MR. GRAHAM: You have so many committees you have already
18 pointed out; the safety director only has twenty-four hours to
19 work in. He will spend an entire day to just keep up with
20 the committees. I think you have too many committees.

21 CHAIRMAN ROCHE: Well, how do you get your crane in-
22 spected?

23 MR. GRAHAM: By the master mechanic.

24 CHAIRMAN ROCHE: Then he is your crane committee.

25 How do you get your boilers inspected?

1 MR. GRAHAM: We do not happen to have any boilers in-
2 spected by anybody, except the Maritime.

3 CHAIRMAN ROCHE: Well, what about the rigging?

4 MR. GRAHAM: That is checked by the carpenters.

5 CHAIRMAN ROCHE: Then the carpenters do the inspection.

6 MR. GRAHAM: Well, we inspect it and they correct it.

7 CHAIRMAN ROCHE: It is perfectly all right if you want
8 to take three or four of your men and make staging inspectors
9 out of them.

10 MR. GRAHAM: Well, that is part of their duties.

11 CHAIRMAN ROCHE: Do you have them all on hulls?

12 MR. GRAHAM: All of the hulls are covered.

13 CHAIRMAN ROCHE: You do not have any stagings in the
14 shop?

15 MR. GRAHAM: The men in the shop also work on the hulls,
16 and they have to be able to work anywhere.

17 CHAIRMAN ROCHE: The point I make is this: That you do
18 not need to call them safety engineers. You can have men out
19 of the riggers, and/or men out of the stage director, or men
20 out of any of the shops, or housekeeping committees.

21 MR. GRAHAM: Don't you think the Central Committee and
22 the supervisors committee and the labor-management committee
23 is sufficient?

24 CHAIRMAN ROCHE: No, I do not, and neither does this
25 committee that met in Chicago. You need the additional men

17k 1 who are making inspections of their own jobs. For example,
2 one safety engineer on the hull cannot keep the hull in good
3 condition, not even on a Victory ship, and you are making
4 bigger ships than that in some of these yards. I have seen
5 that so many times where you get a condition corrected in one
6 spot and you walk down the line and correct some place else,
7 and by the time you return there are three or four other
8 places for you to correct. So, he does need some help. All
9 of this is educational.

10 I think if you put a man on an inspection committee, you
11 will make a convert of him. If you do not believe that, try
12 it with some of your tough nuts sometimes. These are educa-
13 tional committees. You get some good out of them, it is true,
14 but get conditions and practices discovered and corrected,
15 but the biggest thing you are doing is selling them on safety.
16 If they report a man for not wearing a hard hat, or not
17 wearing goggles, or not using the proper ventilating equipment,
18 or putting up effective stagings, or what have you, they are
19 not going to do that themselves, at least not for a week or
20 so, and we discovered service on committees really means con-
21 verting these fellows to your way of thinking, to helping you
22 with your safety program.

23 On any program that I have ever conducted, or operated,
24 it has been my endeavor to get as many men at one time or
25 another, certainly not all at once, serving on a committee,

1 and the toughest cases that we ever had, the fellows who
2 would not wear goggles, the men who would not use guards
3 with which to protect themselves, were Christians after a
4 little service on a safety committee.

5 Now, you can lump all of these, and call them house-
6 keeping committees, if you want to. These are minimum re-
7 quirements, but you are certainly going to need inspection
8 of cranes, boilers, and continuous inspection of staging.
9 There is not a yard I visited that did not have staging
10 inspectors, not one, and most of them were staging men, or
11 staging directors.

12 Are there any more comments on that particular section?

13 MR. WHITE: In looking over this, it seems like a
14 duplication here on the central committee and the super-
15 visory committee of your leaderman, quartermen, foreman,
16 et cetera. On the central committee, or the policy committee,
17 should be the management, the safety director, the medical
18 representative, and the superintendent that covers every one
19 of your divisions or crafts in your yard. They are the people
20 who would naturally form the policies of the safety, and when
21 you came to your supervisory committees with your safety
22 directors, your foremen, and your superintendents, who are
23 the supervisors of that who under them come the leaderman
24 and quartermen, who they direct, and then comes the safety
25 general committee, which is a committee from every craft in

1 the yard who meets, and they are all polled, and all of their
2 suggestions are brought to your central committee who acts
3 upon them, or the supervisory committee who acts on them, and
4 then in our case with thirty safety inspectors, it does not
5 seem like they have a thing to do.

6 CHAIRMAN ROCHE: Who does not have anything to do, the
7 safety director?

8 MR. WHITE: No, because everything is done for him.

9 CHAIRMAN ROCHE: Well, a good safety engineer works that
10 way. Let me say this: Perhaps we should specify the size
11 of the central committee. That is a small committee, but with
12 our present system of labor management operation, we should
13 have representation on any policy-forming groups affecting
14 the welfare and the activities of the men in the yard, and
15 that is what I say a representation from your various super-
16 visory groups, or supervisors, and your labor, and one from
17 the employees. I would be satisfied, if you would, they
18 would have two superintendents, one foreman, one medical
19 department representative, one quartermen, one leaderman and
20 one employee, plus your management representative, your safety
21 director, and your secretary, which is plenty for a policy-
22 forming group.

23 MR. WHITE: The only trouble about quartermen and leader
24 men, is if you take them out of the boiler shop, they are no
25 interested in anything else. I think the four superintender

1 should be on there.

2 CHAIRMAN ROCHE: That is all right, to put the four
3 superintendents on there, or whatever it is.

4 MR. WHITE: If you pick a quartermen out of the air who
5 happens to be in the boiler shop, and who is not interest in
6 hull construction, or anything else, he is of little value to
7 us in the general advisory end of it.

8 CHAIRMAN ROCHE: However, you do get valuable representa-
9 tion for that committee, whether he has the overall picture or
10 not. At least, his group, the leaderman, is being represented
11 on that committee. You do not expect that each and every
12 individual on here is going to have the same intense interest
13 in safety problems that you are going to have, but at least,
14 you are getting the viewpoints of the representative leader-
15 men on this question of policy that will be raised for this
16 committee. And they are the men in general who will have to
17 enforce these rules, and they should have representation on
18 this committee.

19 Now, getting down to your supervisors' committee, that,
20 of course, is a supervisors' committee, and again the size must
21 be left up to the individual plant because of the differences
22 in the names of individuals and the differences in numbers and
23 the differences in responsibility of leadermen in one yard and
24 another yard.

25 MR. GRAHAM: Is it proposed that these special inspectors

21k

1 be paid as special inspectors, or are they employees from the
2 various departments?

3 CHAIRMAN ROCHE: It depends on the yard. In some yards,
4 the safety department has the department, and in other yards
5 they work for the particular department in which they are in-
6 specting. That is left up to the yard.

7 MR. GRAHAM: Are their duties or responsibilities con-
8 fined to that of inspecting?

9 CHAIRMAN ROCHE: Not necessarily, as it may be a part-
10 time job. A weekly inspection of a crane, where there are
11 only two cranes in a yard, is not going to take a week. In
12 other words, they are inspectors so long as they are working
13 on inspection. After that, they go back to staging or rig-
14 ging, or whatever they are doing.

15 MR. GRAHAM: In some yards they are on the payroll of
16 something else?

17 CHAIRMAN ROCHE: Yes, that is true. They have taken
18 some of the stage riggers who are qualified men to make
19 stage inspectors, and that is all they do all the time.

20 MR. WHELAN: In Paragraph 1 under "duties", on Page 7,
21 Staging Inspectors, you state here that staging inspectors
22 shall report all defects to the rigger foreman for immediate
23 correction. However, in some yards the rigger foreman has
24 nothing whatever to do with staging. Why not make it "Stag-
25 ing Foreman"?

11

22k

1 CHAIRMAN ROCHE: That is all right. I would suggest
2 you make it the "Proper Foreman," because there is a differ-
3 ence there. Or you can make it "Responsible Foreman." We
4 will change that from "Rigging Foreman" to "Responsible Fore-
5 man." There is a difference in authority.

6 a. Committees in addition to those specified in these
7 standards, may be formed and operated if desired.

8 Somebody a few moments ago said that that is a lot of
9 committees to have, but you should see the number of com-
10 mittees that they have in some yards. Every craft has a
11 committee on each shift. I have seen as many as thirty in
12 some yards. It seems to me all they do is have meetings, but
13 if they help your safety program that is fine. There is no
14 question but a certain amount of it does help some commit-
15 tees.

16 b. Representatives on all committees, when of a super-
17 visory status, should be appointed by the shipyard general
18 manager and held responsible by him for active and inter-
19 ested participation in the work of the committee. Employee
20 representation may be secured in the same manner, or by
21 appointment of employee committees, union shop stewards or by
22 election by union members or by any other feasible means.

23 c. The services of production employees having related
24 duties may be taken advantage of on inspection committees.
25 Stage erectors or repair men may serve as permanent and con-

23k

1 tinuous staging inspectors, a man or men from the ventila-
2 tion crew may be utilized for checking on ventilation prac-
3 tices. The reports of state or insurance inspectors will
4 be considered adequate on boilers, air compressors and re-
5 ceivers, or on other pressure vessels.

6 In the Century Room you will find an exhibit of materi-
7 als on the board from the National Safety Council. Those of
8 you who are publishing house organs can get from the National
9 Safety Council a considerable amount of material without cost
10 that can be used in your magazines. They include mats, cer-
11 tain posters which are available that are appropriate. That
12 one you see on the wall, while not suitable for your maga-
13 zine, if any of you want copies of that, let me have your
14 names and addresses, and I will see that you get as many as
15 you want, without charge.

16 Also, those of you who are operating in a country where
17 there is a snow condition in the wintertime, we will give you
18 all of the posters you need on driving safely with snow on
19 the ground. Those of you operating car pools, where there
20 is snow on the ground, will be given a sufficient number of
21 booklets, four-page leaflets, for your employees, rules for
22 auto pools in the winter. That is not the exact title, but
23 it is illustrated on the board, plus a lot of other things.

24 If you want anything, let me know. There isn't any
25 charge for any of them, and if you select some on which there

1 is a charge, I will let you know how much it is.

2 The time for the safety training of an employee to start
3 is at the inception of his employment. After a physical ex-
4 amination, which should be made to make certain that the em-
5 ployee is physically capable of performing safely the work
6 he is requesting, the man shall have explained to him the
7 safety policy of the company by a representative of the
8 safety department. This may be done individually, in general
9 groups or in craft groups and the instruction may be sup-
10 plemented by printed instructions in the form of rule books
11 or instruction cards.

12 MR. JACK WOLFF: May I say there that I have listened in
13 on several instruction programs that were given by a member
14 of the safety department, and in principle, they were doing
15 the right thing, but it was not being done in the right way.
16 It was not very effective. For example, a great many national
17 statistics were thrown at the new people coming in, and
18 reference was made that the hold could be filled with de-
19 capitated bodies, and cut off arms and hands, in the course
20 of a year, and I questioned whether it did very much good.
21 Consequently, I would suggest that every safety engineer go
22 farther than just to assume, because a safety man is giving
23 the instructions to the new man, that it is being done in a
24 way that will be effective with that new man.

25 CHAIRMAN ROCHE: That is a good point, and that brings

25k 1 up a beautiful opportunity to tell you this: I would like
2 to tell you of Jack Wolff's work which he spoke about this
3 morning. It will be his job to assist in developing such
4 preliminary inspection instructions for your men. It will
5 be his job to correlate all safety training and to elaborate
6 on any phase of it with you fellows. That does not mean that
7 it is going to be compulsory, of course. His program will
8 be so prepared so that it will fit your particular yard, and
9 it will be made at your request.

10 I heard that talk on the decapitated arms and legs, and
11 it is not a very good one, and certainly a welder is not very
12 much interested in national statistics. What he needs is
13 more specific instructions.

14 6.2 Employees shall have in their possession, and be
15 instructed in the proper use of, all necessary personal
16 protective equipment before being started on any job.

17 6.3 General safety rule books, craft safety rule books
18 or safety instruction cards may and should be supplied em-
19 ployees. Such books should be concise but complete enough
20 to furnish written record of all important safety rules. No
21 rule shall be included which will not be strictly enforced.
22 The assistance of U. S. Navy-Maritime Commission safety en-
23 gineers will be given in the preparation of such rule books
24 if desired.

25 There are several very good sets of books and instruction

26k

1 cards available. One of the best I have seen was developed
2 by Frank Johnson in Oregon, utilizing a lot of cartons, but
3 specific craft construction. Instead of a lot of hurrah in
4 the books that lead the fellows to throw the books away, he
5 has really given them something.

6 6.4 All employees shall be instructed in their specific
7 duties by their immediate supervisor and they shall be made
8 familiar with the hazards of the job and instructed care-
9 fully, in how to avoid them. It shall further be the duty
10 of the supervisor to constantly check all employees so un-
11 safe working practices may be corrected before accidents
12 occur.

13 There is certainly nothing new about that. That should
14 have been done for years. If you talk to the average super-
15 visor, he will tell you that he is doing that, and again
16 that is where Jack Wolff's program comes in, and the JIT
17 training program comes in. That is the job instruction train-
18 ing. So, training methods in industry generally, as well as
19 in shipyards, have improved considerably over the past year.

20 6.5 Safety instruction shall be correlated with all
21 apprentice and craft training schools. Safety instruction
22 in such schools or training courses shall include, an ex-
23 planation and demonstration^{of}/the need for the safety equip-
24 ment or safe practices specified and the strict enforcement
25 of all safety requirements in the classes. The instructors

27k

1 shall, by their own example, impress upon the learners the
2 importance of the safety requirements.

3 6.6 Safety bulletin boards shall be located at each hull
4 and shop, and at such other locations where they may be de-
5 sirable, on which safety posters, letters or bulletins from
6 the shipyard management or safety department, and other safety
7 material may be posted.

8 6.61 The bulletin boards shall be located where the
9 majority of the employees at a particular location will see
10 them.

11 6.62 The bulletin boards shall be well constructed, have
12 a locked glass cover and shall be lighted at night.

13 6.63 Safety posters and other material on bulletin
14 boards shall be changed at least semi-monthly or more often.
15 (Posters will be made available by the U.S. Navy-Maritime
16 Commission for the use of shipyards. However, posters may
17 be selected by the shipyard safety department from any source.)

18 We are going to try to get you specific posters. Is
19 there any objection to that "semi-monthly" change? Person-
20 ally, I would leave mine up much less than that. I would
21 say that you should change them more often, but with our
22 present set-up, it is practically impossible to do anything
23 better. There is a lack of applicable posters, and there are
24 not enough good ones to go around, and we hope to supply
25 those.

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1 MR. DESJARDINES: We have our own artist, and we make
2 it a practice to have our Navy yards display posters of
3 some specific action.

4 CHAIRMAN ROCHE: That is exactly what we are going to do
5 in this set-up.

6 MR. KENDALL: Will you ask the group how many are using
7 jumbo posters? I am referring to the billboard size.

8 CHAIRMAN ROCHE: There are about a dozen using them.
9 We are going to try to produce some posters worth while, but
10 we have not had any good ones lately. We have inspired the
11 men to boredom.

12 6.7 Where shipyard house organs (magazines or news-
13 papers) are established, (it is recommended that they be
14 established in all yards having 5,000 or more employees,)
15 the safety director shall arrange to have a reasonable pro-
16 portion of the space devoted to safety (articles, items
17 and cartoon cuts relating to safety will be made available
18 by U. S. Navy-Maritime Commission safety engineers.)

19 Now, please do not ask us for any until after the first
20 of the year. The publicity division is working on them now,
21 and in the meantime we will have this stuff that I told you
22 about upstairs.

23 6.8 Sound film strips and motion pictures on safety
24 subjects should be used where practicable. Public address
25 systems, where installed, may be used for safety messages to

1 to shipyard employees especially during lunch hours or at
2 shift changes.

3 Some of those public address systems are being used to
4 very good advantage.

5 7.1 A safety supply store shall be established in each
6 shipyard where safety shoes, safety hats, protective impact
7 goggles and tinted welding goggles shall be made available
8 to shipyard workers. Shoes may be sold at or near cost to
9 employees but safety hats and impact and tinted goggles shall
10 be issued to each employee but shall remain the property of
11 the company to be returned when the employee ends his em-
12 ployment. Equipment such as work clothes, gloves, welders
13 helmets, may also be stocked and sold to employees if de-
14 sired.

15 7.11 Goggles may be stocked in the central tool room or
16 first aid department but should be fitted as described in
17 paragraph 7.2 following.

18 MR. KENDALL: You say there again "shall". You say,
19 "A safety supply store shall be established." Now, it is my
20 impression there have been some rather flat statements made
21 by the Maritime Commission that you shall not have the stores
22 within the confines of a Maritime Commission yard.

23 CHAIRMAN ROCHE: And I have been definitely instructed
24 to include this by the Commission.

25 MR. KENDALL: You are all going to get it?

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1 CHAIRMAN ROCHE: We hope so. It is a tough thing to
2 have your men buying shoes from Ginsburg, and Klein, and
3 Mulcahey, and then come in with every possible kind of
4 equipment at a variety of prices.

5 MR. KENDALL: Along the same lines, we have found that
6 unless you can sell safety shoes on a payroll deduction basis
7 you do not sell the shoes. At least, you do not sell very
8 many of them. What can be done along that line?

9 CHAIRMAN ROCHE: That is a law that would require an
10 Act of Congress to change. I sympathize with you, but I do
11 not know what you can do about that.

12 MR. FRAZIER: I beg to differ with you. In our ship-
13 yards we sell all we can get, and the men come in and pay
14 cash for them, and there is no payroll deduction. The cash
15 is put on the barrel head, and they get the shoes, and I have
16 sold as many as a thousand dollars' worth a day.

12 17 CHAIRMAN ROCHE: That is right, and that seems to be the
18 general experience.

19 MR. CLARK: I would like to propose a problem here. You
20 say safety caps and impact and tinted goggles shall be issued
21 to each employee, but shall remain the property of the com-
22 pany to be returned when the employee ends his employment.
23 Well, we have eight thousand men in the yard at the present
24 time, and we have yet to issue a safety hat or goggles that
25 remained the property of the company. We have sold them to

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1 the men the same as we did the shoes. Now, if we start now
2 issuing these hats, then we have got to consider the morale
3 problem that will confront us of major proportion. There-
4 fore, I doubt very much if it is feasible for us to adopt
5 any such plan. I think it was you who suggested this morn-
6 ing the main difficulty with this. It is true that you issue
7 the hats on a tool check, and when the man quits, he has lost
8 the tool check and lost the hat, and he pays you for the hat
9 and goes on.

10 So why not sell it to him in the first place? I say
11 that, especially in view of the fact that you might have a
12 very difficult problem on your hands of morale in New York.

13 Now, that to my mind is a question that somebody is
14 going to have to answer for me, because I cannot answer it
15 myself.

16 CHAIRMAN ROCHE: All right, let us have some other
17 discussion on that.

18 MR. CONLON: Let him but it, or not, as he pleases.

19 (Off the record.)

20 MR. DESJARDINES: In regard to paragraph 7.1, I do not
21 like the reference in there to the word "tinted" goggles.

22 CHAIRMAN ROCHE: I have been looking for a good name
23 for that, and that is the simplest one that I have been able
24 to find. Under "goggles" we cover Bureau of Standards that
25 are approved.

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1 MR. DESJARDINES: You could call it "absorptive lenses".

2 CHAIRMAN ROCHE: The suggestion has been made also that
3 we call it "filtered lenses".

4 MR. WHITE: You do not mean the combination of the two
5 impacted and tinted?

6 CHAIRMAN ROCHE: Definitely. Impact and tinted. They
7 practically all have them.

8 MR. WHITE: I am reminded that at night the glasses do
9 not have to be tinted for a chipper, does it?

10 CHAIRMAN ROCHE: He should have them tinted, if he is
11 working in close proximity to any welding operation. I think
12 we can solve this problem by taking out the word "shall", and
13 putting in the word "should", in this paragraph, but that is
14 not solving the problem. In my opinion, we should say "shall".

15 MR. KENDALL: I would suggest that you leave the word
16 "shall" in there. I can see your point, but we are interested
17 in getting this equipment to the men, and we are not getting
18 our welders to wear absorptive or filtered lenses under their
19 welding hood, because they do not want to buy them.

20 MR. PACKARD: What we are doing now is asking for a de-
21 posit for the hats which is returnable any time they wish
22 to terminate their employment, and if they have a secondhand
23 hat given to them, we just charge them one dollar or one
24 dollar and fifty cents, whatever it is worth as a deposit,
25 but they get their money back.

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1 CHAIRMAN ROCHE: There is your answer. I would suggest
2 that you take a deposit from them equal to the amount of the
3 hat.

4 7.2 The attendant of the safety store should be skilled
5 in fitting safety shoes, and if goggles are also issued, he
6 should be trained in proper fitting and servicing of goggles.

7 8.1 Impact resisting goggles of a type suitable for
8 the particular job and also of a type meeting the require-
9 ments of the U.S. Bureau of Standards shall be worn by every
10 employee exposed to the hazard of eye injuries. Practically
11 every employee in the shipyard, with the exception of those
12 working inside offices, are either directly exposed to eye
13 injury from the work they do, or indirectly through working
14 near operations likely to cause flying objects.

15 8.2 Except where temporary lack of goggles make it
16 impossible, each employee shall have his own pair of goggles.
17 If it is necessary to reissue goggles to different employees,
18 the goggles must be sterilized after each use.

19 8.3 Goggles supplied employees should be carefully
20 fitted to their face to prevent irritation and to prevent
21 the entrance of foreign objects around the eyes. (See
22 paragraph 7.2)

23 8.4 All employees working in proximity to arc welding
24 operations shall be required to wear anti "flash" goggles, of
25 at least No. 4-5 shade, (or equivalent) of a type meeting the

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1 requirements of the U.S. Bureau of Standards. (See Section
2 9.1 on Welding for Additional Eye Protection for Welders.)

3 MR. KAYE: There might be some question shade 4 or 5.

4 CHAIRMAN ROCHE: Or its equivalent. You can use letters
5 or numbers.

6 MR. DESJARDINES: No. 3 is very satisfactory, and I be-
7 lieve that No. 4 or 5 is rather dense.

8 CHAIRMAN ROCHE: I use No. 3 myself, but this 4 or 5
9 is recommended by the AFA Standards.

10 MR. DESJARDINES: Should you not mention A, B or C?

11 CHAIRMAN ROCHE: Or the equivalent.

12 MR. JOHNSON: I think that "4 or 5 shade" should be
13 taken out, because I believe they should go to the A, B, C,
14 or medium or dark.

15 CHAIRMAN ROCHE: If you trust me, I will put in the
16 proper designation to fit that, and get in touch with Mr.
17 Johnson.

18 MR. WHITE: Did you ever wear a tinted glass in a tank
19 chipping at night?

20 CHAIRMAN ROCHE: No, I have been in many a tank, but not
21 at night.

22 MR. WHITE: You could not do it.

23 CHAIRMAN ROCHE: Why not?

24 MR. WHITE: You cannot see. That means that a man has
25 to have two pairs of goggles.

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1 CHAIRMAN ROCHE: However, you have got to protect your
2 chippers against eye flash, whether you remove the welding
3 operations from inside the tank while they are chipping, or
4 whether you supply them with tinted goggles that protect them.
5 You have a choice of the lesser of two evils; which is it
6 going to be? You admit there is a problem there?

7 MR. WHITE: Yes, I do. That means that thousands of men
8 will have two pairs of goggles in their pockets. I might not
9 be a very good safety engineer, but I would never put a man
10 in a tank under any artificial light with a tinted goggle,
11 because he cannot see.

12 MR. DESJARDINES: I have not had any experience on that.

13 MR. FRAZIER: We have had trouble at times on that, where
14 men complain that they cannot see, and we issue them clear
15 lenses, and they work satisfactorily. In fact, the clear
16 lens is approximately as protective from eye flash as is your
17 tinted goggles. We have records to prove that on certain
18 things. There is a misconception, I believe, so far as your
19 tinted goggles are concerned. We work on the theory that if
20 you have a shade it will protect you, and with your experi-
21 ence in welding, I believe you will find the curved lens,
22 even in the clear, will also cut down your rays, and you can
23 become immune at times over a certain period of time to eye
24 flash rays.

25 That is the reason these men visit the first aid stations,

1 They get the misconception that if you do not have a green
2 goggle, you have got a flash burn, and I believe the answer
3 to that is, whether it be tinted or otherwise, that you do
4 receive great benefits from you plain lenses, but it must
5 be of a curved nature. A flat lens will not protect you.

6 CHAIRMAN ROCHE: The data we have accumulated does not
7 indicate that.

8 MR. BOWMAN: It might be that the men who are given these
9 goggles are more apt to wear the clear lenses, because they
10 are not as heavy as the tinted ones.

11 CHAIRMAN ROCHE: What do you recommend?

12 MR. BOWMAN: No. 2. I do not have any reason for it.
13 That type of glass is very light.

14 MR. W. W. WALL: You have only two rays of light that
15 you have to contend with, which is infra red and ultra violet.
16 You can cut out with clear glass all of your ultra violet, but
17 not infra red, which runs 45 per cent of your burns. So, you
18 would say about 55 per cent of your chance is cut down with
19 a clear goggle.

20 CHAIRMAN ROCHE: It is true there is some protection
21 given by clear glass, but it is true that we have had eye
22 flash with clear glass goggles being worn. You do not cut
23 out sufficient for long exposure to give adequate protection,
24 and I believe we should go on record as recommending either
25 goggles or removing the welding operation where when somebody

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1 who is exposed who does not have adequate protection. If you
2 do not agree with the provision here, we will have to have
3 some solution, and some practical, useable solution that will
4 give protection to the employees, and certainly assist in
5 every way so as to not stop production.

6 MR. FRAZIER: Do you mean by that, not designating
7 either tinted or clear, but that either will be satisfactory?

8 CHAIRMAN ROCHE: No, sir. We are designating tinted.

9 MR. WHITE: You cannot wear tinted glasses at night.

10 CHAIRMAN ROCHE: We have only had two people who have
11 raised objections to it.

12 MR. JOHNSON: I believe that a lot of the eye flash
13 can be overcome by using clear goggles at night, and side
14 shields, and enforcing the rule on welding shields. You do
15 not need to have it any bigger than two pieces of paper to
16 do it.

17 CHAIRMAN ROCHE: Possibly we should put in another para-
18 graph here on shields, on the use of welding shields.

19 MR. GRAHAM: Would anybody like to make a suggestion as
20 to the type of welding screen that should be used, whether
21 it should be three sided, with a hood, or not?

22 CHAIRMAN ROCHE: We have some in there.

23 9.1 All welders shall be made familiar with the hazards
24 of their work and they should be instructed in safe methods
25 of performing the various types of jobs to which they are

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1 assigned.

2 9.2 Personal protective equipment used by welders shall
3 include:

4 9.21 Welders' protective hood provided with the proper
5 shade of tinted glass for protection against the harmful rays
6 of the arc and a clear cover glass to protect the shaded
7 glass.

8 a. The shades or their equivalent, recommended are:

9 Up to 30 Amperes - No. 6-7 Shade

10 30 to 75 Amperes - No. 8 Shade

11 75 to 200 Amperes - No. 10 Shade

12 200 to 400 Amperes - No. 12 Shade

13 Over 400 Amperes - No. 14 Shade

14 b. Shades may also be selected from the following
15 table:

Rod Diameter	Welding Glass Shade No.
1/16	10
3/32	10
1/8	10
5/32	10
3/16	12
7/32	12
1/4	12
5/16	14
3/8	14

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1 c. The welders' hoods should be inspected at least
2 weekly to detect possible light leaks, cracked protective
3 glass or badly fouled or missing cover glasses. Any defects
4 discovered shall be corrected at once.

5 9.22 Protective leather welders' jacket, long sleeved
6 wool shirt with buttoned collar and leather welders' gloves
7 and safety hat.

8 a. It has been found satisfactory in the hot summer
9 months to substitute flame proofed cotton shirts. If this
10 is done the flame proofing, which must be reapplied after
11 each washing, should be done under the direction of the ship-
12 yard. This entails that laundering also be done by the com-
13 pany; commercial laundries are rapidly undertaking this type
14 of work.

15 That is substituting for the wool shirt. Now, I know
16 that you use those down in the South, and some on the West
17 Coast in the hot country. Does everyone agree that that
18 should be left in there if they are flame proof?

19 9.23 Hardened and tinted protective goggles with side-
20 shields to be worn under the hood for protection against
21 harmful rays where the hood is raised and for protection
22 against flying scale and chips. The goggles should be of
23 a type meeting the requirements of the U. S. Bureau of
24 Standards and of at least No. 4-5 shade or equivalent.

25 MR. WHITE: All of this seems to fall upon what they

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1 must do. Are you going to follow up by recommendations for
2 punishing anyone for the violation of these rules?

3 CHAIRMAN ROCHE: We are not. We are not going to follow
4 up with the punishment of anyone for violation of these rules.
5 The safety engineer's job is to lay down the company's policy
6 to a man as soon as he starts. From then on, he continues
7 to train that man in safety, and it is his job to so train
8 the man that he is willing to obey the safety rules. If you
9 want to punish them, that is your job, and not the Maritime
10 Commission's job.

11 MR. WHITE: You would not make a recommendation that
12 some disciplinary action be taken if some man violated this
13 thing continually?

14 CHAIRMAN ROCHE: No, I would not, with anything published
15 by the Maritime Commission. That would be asking for too
16 much.

17 MR. SINNOTT: Is it your idea that these various yards
18 are to pay for this laundering if the shirts are flame proofed?

19 CHAIRMAN ROCHE: No.

20 MR. SINNOTT: They can be laundered now without the
21 flame proofing being taken out of the shirt.

22 CHAIRMAN ROCHE: That is the first time I have heard
23 about that.

24 MR. SINNOTT: The duPont people prepared some prepara-
25 tion, and I understand they can be laundered in a special

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1 preparation.

2 CHAIRMAN ROCHE: I will tell you, when you get a large
3 number of them, it means that you have got to get some laundry
4 to put this business in for you.

5 MR. SINNOTT: I know around New York, they have a laundry
6 that does that.

7 CHAIRMAN ROCHE: That is right, but none of the duPont
8 products now, so far as I know, laundered in the regular way
9 will be any good after laundering. They have to be re-flame
10 proofed, and that business of special preparation, it looks
11 to me like adding more cost to it.

12 You say who should pay for it? Frankly, I do not know.
13 I think that depends upon the local conditions. Most of the
14 magnesium plants which employ many thousands more people than
15 we do, pay for the laundering and the re-flame proofing of
16 the shirts.

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17 It just strikes me that this paragraph means that the
18 company is to pay for the laundering.

19 CHAIRMAN ROCHE: It does not say that, but it is left
20 up to them. As a matter of fact, we come to that under
21 "women" a little later on, and that is left up to the yard
22 to decide one way or the other.

23 9.24 Safety shoes with leather soles and heels.

24 MR. FRAZIER: Does this cover the welder's boots that
25 you are speaking of here?

1 CHAIRMAN ROCHE: Yes.

2 MR. FRAZIER: You know they were stopped in production
3 on those about three months ago, and in order to get the
4 assistance of a body, I think we should write to the War
5 Production Board on that order 217 to get some action on
6 that, because we are unable to get women's shoes.

7 CHAIRMAN ROCHE: We will go to town on that.

8 MR. FRAZIER: That is on the order M-217.

9 CHAIRMAN ROCHE: What do you think about corded heels?

10 MR. FRAZIER: I think they are all right.

11 CHAIRMAN ROCHE: All right, I will get a definition of
12 that, and we will put it in there.

13 MR. FRAZIER: That is, corded soles and heels.

14 MR. WHITE: Do all welders have to wear safety shoes?

15 CHAIRMAN ROCHE: Yes.

16 MR. FRAZIER: Down South they have devised a boot which
17 is being used.

18 CHAIRMAN ROCHE: If it has a safety sole in there, it
19 is all right.

20 MR. FRAZIER: That takes the place of having to wear
21 anything above your ankles.

22 CHAIRMAN ROCHE: That is all right.

23 9.3 Welding screens, constructed of flame proofed
24 fabric on wood or metal frames, metal on metal frames, or
25 plywood sheets joined by rings, of a size sufficient to pro-

1 tect men working nearby from the harmful effects of the
2 electric arc rays should be used on all electric welding
3 operations.

4 Of course, you are going to have difficulty in some
5 spots, but where you can use them, use them, and that ply-
6 wood sheet business I saw on the West Coast is possibly the
7 cheapest and the best screen of any. It is two plywood
8 sheets about 14 x 16 joined together with a couple of rings,
9 an inch and one-half inch in diameter, and the holes are
10 drilled in the wood so that when you put them together here
11 they are self-supporting, with no joints from which light
12 can leak through. They overlap, and it makes a good solid
13 shield that can be used, and it is very light, and I found
14 other shields that have weighed as high as two hundred pounds.
15 the men would not use them, because they would not carry
16 them around, but they do carry the plywood shields around,
17 and it is a swell job.

18 MR. GRAHAM: Do not they object to the extra piece of
19 equipment that they will have to move?

20 CHAIRMAN ROCHE: That does not weigh any more than
21 this (indicating).

22 MR. GRAHAM: The way we have over come that is by sug-
23 gesting that they bracket the screen to hold the welding rod
24 box, and we put a hood on the top. We have four pieces of
25 screen, and I think you will find that that will work out

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1 better than carrying an additional piece of equipment.

2 CHAIRMAN ROCHE: I would like to see them made as cheaply
3 as possible without using metal, and there is a definite need
4 for thousands of these screens.

5 MR. GRAHAM: For a screen that small, there is plenty of
6 scrap sheet metal around in the yard, of, say, 16-gauge, that
7 will provide the welder with sufficient material, if he is
8 not careless.

9 CHAIRMAN ROCHE: Whose yards were those screens in the
10 West developed for?

11 MR. HOGAN: In the Oregon yard.

12 CHAIRMAN ROCHE: They are very fine.

13 By the way, I believe we should change "should" to
14 "shall", and after that, we will add the words "where prac-
15 ticable". Perhaps that is why I put the word "should" in
16 there.

17 We have to get out of this room very shortly, and a lot
18 of this stuff that you find from here on you will want to do,
19 I know, and you will want to add to it, because it covers
20 specific craft practices for the most part. So will you take
21 these with you tonight and write in in pencil or ink the
22 corrections that you would like to have included, and sign
23 your name, your company connection, and your address on them,
24 and give them to me tomorrow morning, and I will, in turn,
25 put those corrections or additions in there where it can be

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1 done. Is that satisfactory to you?

2 Then we will have that discussed with these four men
3 who are coming in, and we will get a consensus on this and
4 put this thing into effect.

5 Now, I want to thank you for your close and careful
6 attention, and for the interest that you have taken in this
7 job.

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with Dec.
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8 (The meeting adjourned until 10:00 o'clock a. m.,
9 Tuesday, December 8, 1942.)

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UNITED STATES MARITIME COMMISSION

and

UNITED STATES NAVY

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:
MEETING IN REGARD TO MINIMUM REQUIREMENTS :
:
FOR INDUSTRIAL HEALTH AND SAFETY IN SHIP- :
:
YARDS. :
:
-----X

Held in the Century Room, Hotel LaSalle, Chicago,
Illinois, on Tuesday, December 8, 1942, at ten o'clock a.m.,
Mr. Daniel S. Ring, Chief, Shipyard Labor Relations, United
States Maritime Commission, presiding.

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CHAIRMAN RING: I have a number of announcements to
make. First of all, anybody who has not registered should
register immediately. There are cards available and they
can be obtained at the little desk outside the door. We
want a complete record of everybody who has been here.

Secondly, there is quite a report by the Bureau of
Labor Statistics on injuries in shipyards during the year
1941 that is in the course of preparation. That is a review
in general of conditions in 92 shipyards with respect to the
injuries sustained there and a breakdown as to the nature of
those injuries. The Bureau of Labor Statistics is present-
ing that in written form in the near future, in printed

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1 form, and there are 11 yards with approximately 3,500 in-
2 juries that are completely broken down on a practical statis-
3 tical basis. By "practical", I mean that there is an analysis
4 of the cause and the means of prevention of each and every
5 one of those injuries. Now, if you want them, you can get
6 those reprints of that article by communicating with Mr.
7 Roche and he will have the Bureau of Labor Statistics send
8 them to you. I would think that everybody here would want
9 copies of that. Now, if there is anybody here that does not
10 want a copy, say "me."

11 Hearing no "me's", we will just give this list of at-
12 tendance here to Mr. Roche, who will transmit it to the
13 Bureau of Labor Statistics and ask them to send about five
14 copiesto each one of you. That will amount to about 500
15 copies.

16 We have with us today, and I would like to have him
17 come up and just say "hello" to you, Dr. Peterson of the
18 American Medical Association. We want to have Dr. Peterson
19 come up and say "hello."

20 DR. PETERSON: (American Medical Association) Hello!
21 (Applause.)

22 It is a real pleasure to be here and meet with you
23 today. The notice of the meeting came to my attention a
24 little late, otherwise I could have participated in what
25 you talked about yesterday.

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1 I see one or two references in your standards to the
2 work which the Council on Industrial Health has been doing.
3 I am sure that that body will be greatly interested in learn-
4 ing the results that you achieve through this conference and
5 through the work which Dr. Drinker and Mr. Roche have been
6 carrying on.

7 I believe that you are thoroughly alive to the vital
8 problems which are confronting you and the profession at
9 large during these trying days and what steps we are taking
10 to arrive at some satisfactory solution. I think if we all
11 attempt to figure these things out together, we will make
12 considerable progress.

13 Thank you very much. (Applause.)

14 CHAIRMAN RING: I want to say that I have a telegram
15 from John Green, president of the Industrial Union of the
16 Marine and Ship Building Workers of America, affiliated with
17 the C. I. O., which, as usual, I have left upstairs in my
18 overcoat. John said that he wanted to extend his regrets
19 for being unable to attend here. He was meeting in Washing-
20 ton under circumstances that prevented him from leaving,
21 and he wanted to extend to this conference his sincere wishes
22 for a successful prosecution of the objectives thereof.

23 I want to have that in the record, because I know if he
24 could have been here he would have been here.

25 Realizing that the safety men are prone to be a little

1 less technical than the medical people, I suppose that we
 2 can just call on the safety men for a report now, and then
 3 they will have their minimum standards bundled up and tied
 4 up and ready to go.

5 I will call on Mr. Roche to report for the safety men.

6 (Mr. Roche here assumed the Chair.)

7 CHAIRMAN ROCHE: As you know, we did not finish our
 8 job yesterday. We had to postpone it. I asked each of you
 9 to write your suggestions and recommendations of the part
 10 not finished in the craft safety operation section of the
 11 standards. I hope you have all done that.

12 I have a report from the committee of which Mr.
 13 Clark was chairman. I would like to present that at this
 14 time.

15 Your committee appointed to make a change in the
 16 language in paragraph 3 wishes to report as follows: That
 17 the last sentence of the above-named paragraph be changed
 18 to read as follows:

19 "The safety director shall report to and be responsible
 20 to the highest ranking managerial executive or his designated
 21 representative."

22 Three of the four committee members were present at the
 23 deliberations, Mr. Snider being absent.

24 Will someone please move that report be accepted?

25 (The motion was made, seconded, put to a vote, and

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1 CHAIRMAN ROCHE: May I have a copy of that before you
2 go today?

3 MR. KENDALL: Yes.

4 CHAIRMAN ROCHE: We still have the procedure of appoint-
5 ing the committee for the group as a whole. We have about
6 three hours' work to complete that. If we get a committee
7 we can begin the safety part of that job. I would say there
8 is about an hour and a half's work, perhaps, left.

9 So I am going to leave that authority with Dan Ring
10 for this action. He would like to finish this job before
11 we leave today, but I would like to have immediately, or as
12 soon as the committee is appointed all the suggestions and
13 criticisms you have written in longhand. I have several
14 already.

15 MR. KENDALL: Mr. Chairman, in reviewing that form, we
16 also took a crack at the monthly injury summary. But we
17 suggest you include in the top of that form the address,
18 with a notation as to the number of copies and where they
19 should go. We are not really certain as to how many copies
20 you want of that. Do you want four?

21 CHAIRMAN ROCHE: Three.

22 MR. KENDALL: Is that the total?

23 CHAIRMAN ROCHE: That is the total for us. The yards,
24 of course, will want to keep one.

25 MR. KENDALL: That should appear on the form, in our

1 opinion.

2 We also had in mind possibly the addition of an item,
3 under item 10, "Frequency Rate", to include the accumulated
4 year to date frequency. That would overcome the objections
5 that were raised yesterday on the four paid periods against
6 five paid periods, automatically carrying that out and taking
7 it along and also giving you a much better picture of your
8 frequency, because one swallow does not make a summer, and
9 one month might be terrible and the next might be fine, and
10 your year to date will give you a better picture.

11 (Chairman Ring here resumed the chair.)

12 CHAIRMAN RING: I think that is fine. Suppose we have
13 a motion for the adoption of the recommendations of the com-
14 mittee in that respect, that is, if somebody agrees with him,
15 of course. Move it yourself, Mr. Kendall.

16 MR. KENDALL: I so move.

17 (The motion was seconded, put to a vote, and carried.)

18 CHAIRMAN RING: Now, with respect to the situation that
19 the committee on safety finds itself in, we do not want to
20 go away from here without things wrapped up and done in a
21 proper manner. I think, after the time that has been spent
22 in coming here and the sacrifice that everyone has made to
23 be present at this meeting, it would be little short of a
24 crime if we left, say, an hour and a half's work between the
25 complete job as far as the safety standards are concerned

8e 1 and the condition that it is now in.

2 I think, therefore, that unless there is objection I
3 will appoint a committee to get to work on this as soon as
4 we have finished with the lecture that we will have this
5 morning, and I will then to report to this meeting at 2:00
6 o'clock for final action.

7 Do I hear any objection to that? There is no objection.

8 The committee, I think, should be composed, in view of
9 the excellent results from the safety committee thus far, of
10 Mr. Kendall, Mr. Kaye, Mr. Frazier, and Mr. Frank Johnson.
11 Now, we ought to have somebody from labor on this committee.
12 I think we will designate Mr. Fail and Mr. Graham, with Mr.
13 Roche serving ex officio.

14 We have the privilege of having with us Dr. Hedwig
15 Kuhn, who knows a great deal about eyes and knows a great
16 deal about their effect in industry. He has kindly con-
17 sented to show some slides here and, rather than move into
18 the medical part this moment, I think we will change the
19 line of procedure to permit Dr. Kuhn now to present and
20 illustrate a slide lecture that I know everyone will be in-
21 terested in, and then we will have the medical department
22 report immediately after that, at which time Mr. Kendall,
23 Mr. Roche, and the committee on safety can really start go-
24 ing.

25 I will now turn the meeting over to Dr. Kuhn.

Insert
Helen
Dr. Kuhn
lk

1 DR. HEDWIG S. KUHN, (National Society for the Prevention
2 of Blindness, Hammond, Indiana): The thing that shipyard
3 safety men, medical men and production men are interested in,
4 as in all industries, is "Eyes for the Job," which means
5 for-Safety and for-Production. That falls into a few very
6 simple categories.

7 The first problem, of course, is one you all know about,
8 and have already talked about here, and that is goggle pro-
9 tection. Perhaps the road of eye protection is one that
10 has been laid by Harry Gilbert, who has done more to be the
11 pioneer in goggle protection than perhaps any one person in
12 the country. This is, protection to the eyes. If you will,
13 however, please, keep the two things separated, - protection
14 to eyes, and protection from defective eyes.

15 An all-out program is practically the only goggle solu-
16 tion in most industries, so that it includes management,
17 when it goes into a plant, and visitors, when they go into a
18 plant, - then the men will also be sold on it.

19 The various types of goggles you have seen. You who
20 are in this room know that "cover-alls" are obsolete, and
21 that to put a pair of goggles over a pair of glasses is out.
22 People who are unfortunate enough to have astigmatism know
23 by experience that if their glasses are tilted even a little
24 bit they get a blur. To put a goggle cover-all on top of
25 glasses and tilt the lens makes a hazard instead of creating

2k

1 safety.

2 We have goggles for many purposes; splash, light and
3 gases, and then we have the newest development, the prescrip-
4 tion goggle, which has eliminated the "cover-all" goggle.
5 Because of the prescription goggle and because of the elimina-
6 tion of the "cover-all", fitting and adjusting is essential.
7 Most of your toxic fumes trouble, of course, are really
8 simply ventilation problems, and not protection problems to
9 the eye itself.

10 Then in discussing accidents, because of eye defects,
11 one has the other side of the picture, from accidents to the
12 eyes. Your men have broken arms and broken shoulders and
13 accidents because of eyes, and I think that is the thing that
14 most generally safety men completely overlook.

15 As one example, you have all seen this ad in the papers
16 of the Better Vision Institute, - "He says my eyes are O.K."
17 "Oh, yeah! That is what I thought." This could have been
18 taken out of a case in our office, where the fellow came in
19 with a foreign body in his eye. After checking him through
20 we found he had no depth perception. He was amenable to
21 questioning, and I asked, "Have you had many accidents,"
22 and he said, "I have had a lot of foreign bodies." I said,
23 "I don't mean that. Did you ever get your fingers in a
24 machine?" He pulled his left hand out of his pocket and he
25 had three fingers off. That is what I mean when I say

1 accidents from eye defect.

2 You have a crane operator with a visual defect. You
3 have an accident, and you report it, but you make no mention
4 often of whether the other fellow caused the accident, or
5 the fellow who was reported as being hurt having been the
6 cause of it himself. In other words, that crane operator
7 can by dropping a load break a shoulder. He is the fellow
8 you want to find out about, not the fellow with the broken
9 shoulder. The man who had somebody drop something on him
10 can be blind in both eyes and yet that defect has no relation-
11 ship to his accident, while the possible eye defect of the
12 crane operator does, - if this crane operator has no depth
13 perception, that was a definite contributing cause of that
14 accident. That type of record is becoming a part of the
15 safety man's plans for reporting, and must become a part,
16 otherwise defects and accidents cannot be correlated with
17 statistics at all. Truck drivers and tractor drivers and
18 men on scaffolding, et cetera, fall in the same category.

19 This brings up the first major question: What do we
20 need to know about an employee's eyes for safety?

21 We need to know four things basically.

22 1. Acuity, or sharpness of vision, for distance and
23 near, with and without glasses. That is essential. It is
24 essential for legal reasons, compensation reasons, and it is
25 essential for our records.

4k 1 2. You need to know about depth perception. Mind you
2 now, that does not mean you are going to do anything about it,
3 often you cannot, but you do need to know.

4 3. Muscle imbalances for near and close. You can put
5 a crane operator on a crane who has absolutely perfect vision
6 in each eye, 20/15, and if he has a muscle imbalance he may
7 start the day beautifully, but after three or four hours he
8 fatigues, and he ends up working on a dangerous job visually
9 unstable. (To me a definition of the accident prone man is
10 a clumsy person, or an awkward person, and therefore he is an
11 unsafe person. Isn't that what any safety man feels? There-
12 fore, ^{if} you are visually clumsy, then you are unsafe, and a
13 person with a muscle imbalance is visually clumsy.)

14 4. You need to know what sort of color appreciation a
15 man has.

16 And, finally, for certain precision jobs you need some
17 near vision tests.

18 The Snellen chart at twenty feet for industrial records
19 is impossible. That does not, in the first place, give you
20 an accurate record, because 90 per cent of the time it cannot
21 be accurate. The light is wrong, the nurse is looking the
22 other way, when she covers one eye, or, as in our district,
23 South Chicago, among the people that come to work over in
24 Indiana, classes are held. The men get all the Snellen charts
25 and learn them backwards and forwards, so they can come in

5k 1 the employment office and give you anything you want. Often
2 the chart hangs over their heads as they wait, - as I saw in
3 one large ordnance plant. Here the chart is in the waiting
4 room, and the nurses take the vision tests while the next
5 fellow sits there and memorizes it. So that kind of a visual
6 record does not mean anything. Then why take it? When you
7 are through with you, you haven't got anything. Therefore,
8 all your visual findings can best be done binocularly in a
9 compact battery of tests, run by a layman, under medical
10 direction, handled in a way that lay people also can use the
11 information, and not in any academic laboratory manner. It
12 is awfully important to remain practical and not to be
13 academic and to lay down really minimum rules in time of war,
14 but stick to the minimum.

15 These are the elements of "visual performance," as we
16 call them, or if you want to speak in an engineer's terms, I
17 have reduced it to a simple term of "visual skills," which
18 is actually what it is.

19 The slides that I am now going to show you are based on
20 a year's lost time accidents in a plant. They will show you
21 the relationship and correlation between vision, these visual
22 elements I told you about, - acuity, muscle imbalance, depth
23 perception and color-in the all-out plant average of a plant
24 that has about twenty thousand people, and the same attri-
25 butes among the men, with accidents.

6k 1 To get these accident figures it was an almost impos-
2 sible job, because the accident records were so inadequate
3 that we could correlate them only with difficulty. Now that
4 safety men are beginning to keep real accident reports,
5 which include illumination, and a check mark of attentiveness
6 or of a man being on an off shift, or what the foreman's
7 idea about the man is, - you can go to the statistical labor-
8 atories, as we did at Purdue, and ask them to correlate
9 what relationship, if any, visual factors have.

10 This need for real correlation was shown in California,
11 where they never could get any correlation between traffic
12 accidents and eye defects until they suddenly thought, "We
13 only know that a man has got poor vision, we have no record
14 of which eye, or what kind of accident." If a car hits you
15 from the right side and you are blind in that eye, that is
16 one thing. If a car hits you from the right side and your
17 left eye is blind, that is another thing, and correlated
18 with full information you do get definite relationships.

19 In this slide the top row of columns represents a cross
20 section of the plant, and the first column is acuity, with
21 20 per cent defects; the second column is uncorrected acuity,
22 that is when everybody had their glasses on in the plant,
23 showing 8 per cent. The third column is depth perception,
24 with 14 per cent defective, and the fourth one is color,
25 2 per cent, the fifth one being muscle balance, or 16 per
cent.

7k

1 In the lower row of columns are the percentages of these
2 same five categories among the men who have lost time acci-
3 dents. In each instance the per cent is higher, especially
4 in the men who remain uncorrected in spite of glasses. From
5 this slide you get the idea that there is something besides
6 acuity and that all of these visual factors play a part in
7 accidents.

8 This leads us right into the second basic question, -
9 what do we need to know about an employee's eyes to insure
10 maximum production and minimum waste, which I presume you are
11 also interested in.

12 We need to know the same facts, and this next slide
13 simply is a rough dramatization of what we mean by visual
14 skill. This is a young lady looper and a crane operator.
15 The crane operator must often operate at a span of 150 feet,
16 but your looper works at eight inches eight hours a day
17 straight ahead, not down. Now, the two people cannot fill
18 both of those jobs with the same visual equipment.

19 The next slide shows you the percentages on sixteen
20 thousand employees that were checked in the Calumet district,
21 and the per cent of defects of these five things talked about,
22 i.e., acuity defects, 21 per cent, uncorrected acuity, 12
23 per cent, depth defects, 16 per cent, color defects, 5 per
24 cent, and muscle imbalance, 22 per cent; and this is the
25 same in any industry. It would probably be the same in the

8k

1 shipyards as anywhere else.

2 The next slide shows you that people that apply for a
3 job have almost the same average, almost the same percentage
4 of defects, and that a person does not get a visual defect
5 by going into industry. He may have an accident, but you
6 don't get a muscle imbalance.

7 From this type of information you can set up a job
8 classification which should be kept very simple, - Class A,
9 the fellow that has to be absolutely perfect; Class B, the
10 fellow that does not have to be perfect (intermediate); and
11 Class C, the people that have to be perfect especially for
12 close-in production work.

13 Why all this? Primarily to eliminate the visual bottle-
14 necks to efficiency and the visual aptitudes, the thing that
15 Mr. Wolff is doing with training in your overall analyses.
16 You cannot train visual defects, such as acuity, but you can
17 train muscle balances, and you can sometimes train depth
18 perception. That makes for accuracy and makes for safety.
19 Every day the army and navy air corps recruiting headquarters
20 send down the boys that have muscle imbalances, and they are
21 trained until they can pass 100 per cent and go on ahead
22 and fly planes. If we can do it, for aviation, we can do it
23 for industry as soon as industry sees the results accomplished.

24 The next two slides show you the relationship between
25 visual performance and production accuracy. One is the visual

9k

1 performance records for inspectors. You have good vision,
2 fair vision and poor vision, and the correlations are direct
3 with speed of work. In other words, your speed, you notice,
4 is highest with your poor vision. The foreman will pick
5 out an inspector and say, "That girl is my best inspector,
6 she is snappy and speedy." But actually she is the one that
7 lets things go through. Accuracy of work, at the bottom of
8 the column that you saw, is inverse. In other words, the
9 better your vision, the more accurate you are, and the poorer
10 your vision, the less accurate you are.

11 The other slide demonstrates the same thing for clerical
12 work, in which your record forms are shown by the columns
13 resting on the table, indicating the relative amount of work
14 accomplished by people who passed the vision test and failed
15 in the three jobs indicated. In other words, you will do
16 more work and do it more accurately if you can pass all these
17 visual tests.

18 Now, this last slide I just threw on to show you how
19 nature or survival of the fittest eliminates automatically
20 the people that cannot do their job. This is according to
21 the specialized occupations, - three groups, crane operators,
22 clerks and loopers. The crane operators, you see, are the
23 most perfect in all groups, and the clerks' acuity without
24 glasses is very bad. Do you know why? Most clerks are near-
25 sighted without their glasses. They cannot see, which does

10k
1 not make them poor clerks, perhaps quite the contrary, but it
2 is just a matter of record. Among the loopers, muscle im-
3 balance is very high. The girl working eight inches from her
4 eyes is in a predicament unless she has special visual skills.

5 Now, what to do with the situation as is, - i.e., with
6 the employees at work. 1. You check the visual skills of
7 these employees in the departments of critical production.
8 (I repeat, we must be realistic about programs in war times
9 and not suggest an all-out program when industry could iron
10 out trouble spots but has no time for an all-out program,
11 now, at least.)

12 2. Correct the defects among the critical production
13 employees, wherever possible.

14 3. Shift the employees, if necessary.

15 What to do with new applicants? 1. Allocate them and
16 place them according to their visual skills, and I am sure
17 Mr. Wolff will bear me out in wishing that the people that
18 he trains were tested and picked and allocated, so he could
19 teach them what they can do. 2. Correct them before hiring,
20 wherever possible, with glasses, or with training, or with
21 surgery.

22 Now, just a word about the welders, and just a comment
23 on your statement in the outline here. Welding is mainly a
24 problem, I believe, of protective equipment and its use. I
25 think the welder that wears his equipment, where that equip-

1 ment is adequate, has no troubles. It is the fellow that
2 breaks the rules accidentally or ignorantly that has trouble.

3 We did a little job in research on welders on Vitamine A.
4 Welding does not make a bit of difference. Welders have no
5 depletion of visual purple.

6 Now, in your Section C, No. 1, under flash burns and
7 foreign bodies in the eye; Mr. Ring has said that when you
8 put in your records the word "shall" it means a certain
9 things, and you say, "An eye flash shall be treated only by
10 a doctor." I wonder if you have any idea what that means?
11 An eye flash is a simple thing to take care of. We have a
12 lot of flashes, but nothing compared to what the shipyards
13 have, and we train our nurses to take care of flashes. The
14 only thing we do is to make sure to see the cornea at the
15 time or within 24 or 36 hours so we know there has been no
16 injury to it or other trouble. But to anesthetize the eye,
17 to make ice compresses, to follow it up with directions at
18 home, all of it under medical supervision and outlined by
19 the doctor, I grant you is something a nurse can do, and if
20 it is stated that, "It shall be treated only by a doctor,"
21 it means that that one thing has to be violated. My sugges-
22 tion would be that you indicate it should be done under a
23 doctor's direction, and leave it to his discretion how to
24 handle these things.

25 Another thing came up. One of the doctors asked me what

12k

1 to do in cases where flash symptoms do not develop for seven
2 or eight hours afterward and they report to a general hospital
3 and that general hospital does not know anything about in-
4 dustrial accidents or flashes and does not handle them well.

5 May I suggest that your Maritime Commission, either through
6 its medical consultants or the U. S. Public Health Department,
7 issue a very simple sheet of instructions to general hospitals
8 in the industrial areas with directions on how to take care
9 of a case that comes in with a history of a flash. There is
10 no more uncomfortable man, and there is no man who suffers,
11 not damage, but suffers pain and discomfort as much as the
12 man with a flash who is not treated properly.

13 I was very much amazed to hear this morning the comments
14 made that welders are off three or four days in the yards.
15 Our welders go back on the job. They are given and medication
16 to use during the day and told where first aid can give them
17 ice compresses once or twice during the day, if necessary.
18 They are not off the job, except very rarely, nor are foreign
19 bodies off the job, unless serious.

20 The comment was made that if you have a patch on a case
21 you send him home. You cannot put him on a crane or a scaf-
22 fold, but you can let him go back to work, and if your men
23 are crane operators, do not put them on the crane, but you
24 can give them something to do and not have them be absentees.

25 The final suggestion to you from a mere ophthalmologist

.3k 1 is, first, that where possible you think about visual tests,
2 even on the Pacific Coast, where labor has not yet under-
3 stood that tests for new applicants will come, I can tell you
4 that in one plant here labor is the instigating power behind
5 an all-out visual testing program to increase production in a
6 plant doing vital war work. I am sure that as soon as labor
7 knows this is not a discriminatory test, but a test that will
8 add to one's merit rating, bring in more money, they will not
9 be against it; 2. Make a visual survey at the key spots of
10 your plant, to find out what you have, where you think your
11 trouble is; 3. Have a goggles program to protect eyes; 4.
12 Use of the visual data you have to protect other people
13 from defective eyes, and, finally, 5, have a rehabilitation
14 program.

15 You have been very kind. Thank you.

16 MR. RING: Dr. Kuhn knows by now when you put out, you
17 lay yourself open for any attack on anything you have said.
18 I am wondering if there are any questions? Dr Kuhn did not
19 know she was going to be subjected to this cross examination,
20 and I am going to take this on my own. Has anybody any ques-
21 tions they would like to ask?

22 DR. CROFT: I would like to ask what would be the simplest
23 and most accurate way of examining a test to put a man through
24 before employment? If we are going to have pre-employment, I
25 would like to ask the simplest to maintain accuracy.

14k

1 DR. KUHN: For the last two years we have been working
2 on a new instrument. It is not fully on the market yet,
3 but it is being released, in spite of priorities. But I
4 am sure shipyard people would be in the vanguard of the
5 right and need for this instrument. It is an instrument
6 designed and manufactured by Bausch & Lomb Optical Company.
7 However, we have had to set up a compromise program which
8 has been put to use these last two years, in which we have
9 drawn up for the telebinocular, entirely new record forms
10 and entirely different interpretations of tests.

11 MR. RING: Of course, this is way over my head, but are
12 there any more technical questions?

13 I want to say to Dr. Kuhn that we appreciate very, very
14 deeply the time and the sacrifice that she has made to be
15 with us, and we are very, very thankful to have had the
16 opportunity of listening to her discourse, and I am sure it
17 will be very helpful to everyone here.

18 Thank you very much, indeed, Doctor.
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1 DR. SPENCER: Could we possibly have copies of Dr.
2 Kuhn's address? I think we would all profit by it if we had
3 it.

4 CHAIRMAN RING: Suppose we put in an order now for
5 mimeographed copies to the extent, I would say, of about
6 500 of Dr. Kuhn's remarks. The stenotypist can prepare that
7 for us and deliver it to the Maritime Commission, and I will
8 have it distributed to everyone who is here.

9 I think we are ready to take up the report from Dr.
10 Drinker on the medical and health standards, and now I think
11 that that committee on which Mr. Roche is ex officio member
12 and which is composed of Mr. Kaye, Mr. Kendall, Mr. Frazier,
13 Mr. Johnson, Mr. Fail, and Mr. Graham, may roll up their
14 shirts and get together and be ready to report here at 2:00
15 o'clock with a comprehensive program that will enable us to
16 get the minimum standards of safety out of the way.

17 I will now turn this meeting to Dr. Drinker.

18 DR. DRINKER: I would suggest in this report that we
19 skim through a rehash very rapidly of the things which we
20 know are not controversial and let us get them out of the
21 way, and then come back to the items on which we ask the
22 committee to report, because that will unquestionably have
23 to have a little discussion.

24 On Section A, medical facilities, it was suggested that
25 we had too few clerks down there under paragraph 4 and that

1 we should change that where it says "at least two clerks" to
2 "at least three clerks."

3 Are there any objections to that? I assume that is
4 approved, then.

5 There was a suggestion that there be a station wagon
6 provided within the yard to be used as an ambulance inside
7 the yard. I do not think we need to make that obligatory,
8 but we could put it in as a suggestion. You remember, it
9 was said that a station wagon running around about the yard
10 worked out better than an ambulance, because of the feeling
11 the people had of an ambulance going around. It seems that
12 is a matter of preference and could be left to the medical
13 and safety groups, especially to the medical, in the yard.

14 Is there any objection to that? It seems to be O.K.

15 It was suggested that in "physical facilities" there
16 be a statement definitely in that list that there be a pro-
17 vision for a clerk and registration desk which will be put
18 in so there will be a distinct room for the registering and
19 purely clerical part of it as distinguished from the records
20 that you might want to get only the nurses or the doctor to
21 take.

22 It was also suggested that in the "physical facilities"
23 we state definitely that provision may be necessary in cer-
24 tain districts, as in the south, for what amount to facil-
25 itate handling four groups; that is, male, female, white,

(was US Navy)

Castleman's US Govt Contractor Regs w/=with
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DATE 1942
0 if undated

- ☐ Walsh Healey Act Safety & Health Standards
- ☐ government agency report
- ☐ magazine article
- ☐ meeting ☐ agenda ☒ minutes ☐ attendees
- ☐ memorandum
- ☐ letter
- ☐ Navy regulations for shipbuilders
- ☐ other