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ANNUAL REPORT FOR 1941
of
THE INDUSTRIAL HEALTH SECTION

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PLANT SURVEYS

During the year 1941, 30 different industrial plants employing approximately 15,706 employees, were studied. Firms engaged in manufacturing heavy metals and printing plants comprise most of the firms studied this year. The industries studied may be classified as follows:

Metals	40.0%
Printing	40.0%
Chemicals	13.4%
Ceramics	3.3%
Textiles	3.3%

The samples collected necessitated making 1,112 separate analyses in the laboratory. A number of different substances which affect unfavorably the health of exposed workers was detected, such as dusts (silica, lead, arsenic, zinc, ganister, manganese); carbon monoxide; benzol, methyl alcohol, carbon tetrachloride, etc.

It has always been believed that employees in isolated locations in the plants, as for instance crane operators, were not exposed to gases and fumes, at least to concentrations not as high as the workers at the breathing level of the operation. However, we found that on certain operations where gas is given off that the crane operator has a higher exposure than those on the floor level, especially in connection with the lighter gases which tend to

rise to ceiling height. This was particularly evident in crane operator's cabs over the gas-fired soaking pits in steel mills and over galvanizing pipe operations where the men were exposed to excessive concentrations of zinc and lead fumes.

In addition to the above, the plants of three Group policyholders were visited and advice given regarding hazards or medical service.

Our policyholders have continued to send in for analyses, mostly for free and total silica, materials constantly used in the plant, as, for instance, bricks used in blast furnaces, pre-heating furnaces in steel and iron foundries, as well as abrasive powders used in the plants. We have also during the year analyzed materials used in our Home Office buildings.

Requests for plant surveys and information were received from Group policyholders and others in all lines of industry. Some of the more important firms which we have served are:

Allis-Chalmers Mfg. Co.
Milwaukee, Wis.

Combustion Engineering Co. Inc.
New York City

Idaho-Maryland Mines Co.
Grass Valley, Calif.

✓ Johns-Manville Co.
New York City

Sears-Roebuck & Co.
Chicago, Ill.

Standard Oil Co. of N.J.
New York City

Armstrong Cork Co.
Lancaster, Pa.

Otis Elevator Co.
Yonkers, N.Y.

Union Carbide & Carbon Co.
New York City

United States Leather Co.
New York City

Electro-Metallurgical Co.
Alloy, W. Va.

Rochester Gas & Electric Co.
Rochester, N.Y.

Congoleum-Nairn, Inc.
Kearny, N.J.

Electric Storage Battery Co.
Philadelphia, Pa.

Clearwater Mfg. Co.
Clearwater, S.C.

Continental Baking Co.
New York City

Caterpillar Tractor Co.
Peoria, Ill.

Chrysler Corp.
Detroit, Mich.

Monsanto Chemical Co.
St. Louis, Mo.

Ralston Purina Co.
St. Louis, Mo.

General Electric Co.
New York City

Colgate-Palmolive-Peet Co.
Jersey City, N.J.

St. Joseph Lead Co.
New York City

Carnegie-Illinois-Steel Corp.
Pittsburgh, Pa.

Curtis-Wright Corp.
Caldwell, N.J.

Certain-Ted Products Co.
New York City

General Motors Corp.
Detroit, Mich.

New York Employing Printers Assoc. Inc.
New York City

Requests for assistance were received from thirty-two states of the United States, three provinces of Canada, from China, Santiago, Chile, and from Honolulu, Hawaii.

TRAVEL CREDIT

Although our budgetary allowance for travel during the year 1941 amounted to \$4,000, our actual expenses for travel amounted to \$239.67. Our gross expense for travel amounted to \$3,366.85, but credits received from Group policyholders for incidental expenses incurred while in the field amounted to \$3,127.18, making an actual expenditure of \$239.67.

RESEARCH STUDIES

A method for the determination of aniline was developed in order to determine the exposure of employees in a dye house at a cotton mill insured under a Metropolitan Group plan.

One of the large Groups engaged in the manufacture of steel uses bricks of a high amorphous silica content for furnace linings. Methods for the determination of crystalline free silica are fairly well defined, but the

determination of amorphous free silica in combination with combined silica, presents a very difficult problem. A fairly accurate procedure was developed.

Acrolein, a substance very irritating to the respiratory tract, is given off on the heating of animal and vegetable fats. As the binder used in core making contains high percentages of linseed oil, acrolein is present around core ovens and in the atmosphere of the foundry after pouring the moulds. A method for the sampling and determination of acrolein was developed.

Investigations of unsanitary conditions and possible sources of contamination were made of the plumbing system and in the Commissary Department of the Home Office.

Portable equipment was built for air sampling, using higher voltages for use in field surveys. Equipment for use on 25 cycle alternating current was perfected.

Studies are in progress of methods for decontamination in case of air raid gas attacks and for the control and protection of refrigerating equipment.

SPECIAL INQUIRIES

Six hundred seventy-four (674) special inquiries were received during the year. The information requested covered a wide range of subjects, such as the inauguration of a system of pre-employment and periodic physical examinations, installation of a medical department, toxicity of certain solvents, gases, and fumes. Many were occasioned by cases of illness among policyholders and certificateholders, usually chronic and severe, and are pleas for information as to where skilled and honest diagnosis can be obtained. All these queries are carefully considered and the effort is always made to put the individual in touch with the nearest competent medical treatment.

X-RAY INTERPRETATIONS

We have been continuing to read and interpret X-rays of the chests of employees of our Group policyholders. Five hundred twenty-five (525) were received during 1941.

MEETINGS AND ADDRESSES

During the year Dr. McConnell and Mr. Fehnel attended 28 meetings in different sections of the country. Some of the papers presented included the following:

"Mobilization of Industrial Hygiene for National Defense" - Chairman's address of the Industrial Hygiene Section of the American Public Health Association.

"Respiratory Diseases and Air Conditioning" - Second Symposium on Industrial Health held at the Medical College of Virginia.

"Medical Service in Industry" - Address before meeting of the Pharmaceutical Advertising Directors Club of N.Y.

"The Potential Hazards of Some of the Newer Solvents" - presented before meeting of the Medical Society of the State of New York.

Lecture on volatile solvents before a class of Navy medical officers at the College of Physicians and Surgeons.

Dr. McConnell addressed Dr. Flinn's class at Columbia University on "Ventilation and Air Conditioning". This class is composed of graduate students in industrial hygiene.

Dr. McConnell addressed a group of 96 foremen from the two Camden plants and the Philadelphia plant of the Armstrong Cork Company.

Due to Dr. McConnell's appointment as Consultant to the Division of Industrial Hygiene of the United States Public Health Service, it was necessary to decline the following speaking engagements:

1. Annual meeting of the National Safety Council - paper on Health Hazards and Their Correction in the Leather Industry.

Mr. Herbert L. Clover, Industrial Relations Dept. of the International Shoe Company also asked that Dr. McConnell give a paper on the leather industry at this meeting.

2. Home Office Underwriters meeting - paper on the leather industry.

3. American Conference on Industrial Health - paper on Health Service in Small Groups.

4. Massachusetts Safety Council - dinner meeting with industrial key safety people.

5. Invitation to act as Chairman of Cold Committee of the American Association of Industrial Physicians and Surgeons.

6. Discussion of paper "Health of Executives", Association of Industrial Physicians and Surgeons and American Association of Industrial Hygienists at Cincinnati, Ohio.

LITERATURE

During 1941, 23,855 publications were sent on request. Of these, 20,189 were sent out through Welfare Division order, although a letter of transmittal was sent from this office.

CORRESPONDENCE

The incoming letters to the section during the year amounted to 1,980 and the outgoing numbered 1,190.

COMMITTEES

In addition to serving on a number of committees which have been active during the year, Dr. McConnell and others have been asked to serve on several new committees and reappointed to others in the year 1941.

New Committees

Mr. Fehnel has been appointed a member of the Constitutional Committee of the American Industrial Hygiene Association.

Mr. Ferry has been appointed a member of a committee to draft a constitution and by-laws for the Greater New York Section of the American Industrial Hygiene Association.

Re-appointments

Dr. McConnell has been reappointed a member of the following committees:

American Society Heating and Ventilating Engineers - Technical Committee on Air Conditioning in Industry.

American Society of Refrigerating Engineers, Committee #2 Biology.

American Society Heating and Ventilating Engineers - Technical Advisory Committee on Sensations of Comfort.

American Public Health Association - Committee on Ventilation and Atmospheric Pollution.

American Public Health Association - Committee on Standard Methods for the Examination of Air.

Mr. Fehnel has been reappointed a member of the membership committee of the local section of the American Industrial Hygiene Association.

Miss Rantoul has been reappointed a member of the Committee on

Standard Practices in the Problem of Compensation of Occupational Diseases for the year 1941.

HOME OFFICE CONDITIONS

Our assistance has been requested with increasing frequency by the different departments of the Home Office building charged with maintenance. These include queries regarding illumination, ventilation, health hazards of different operations, etc. We are also assisting with plans for air raids, especially in connection with decontamination procedure in case of a gas attack.

An idea of the range of these activities will be seen from the following:

Analyzed cleaner materials used in the Home Office; made 103 analyses.

Inspected exhaust hood. Recommended new type respirators.

Inspected complaint of cyanide cleaning bath in typewriter repair room.

Investigated use of carbon tetrachloride in Transcription Division.

Visited the Employment Section of the Personnel Division and the office of Mr. Wilson and Mr. Cunningham. Made recommendations re illumination.

Analyzed materials which were reported to have been used by a porter suffering from dermatitis.

Inspected illumination in new private dining room for executives.

Inspected complaints of ammonia in water supplies of Main Building.

Tested two sections of pipe from Printing Plant to determine cause of pipe failure. Tested also for corrosion pipe from Unit No. 6 pantry, warming cabinet and steam return line.

Visited a section where multigraphing machines are operating. A solvent (consisting of 90% ethyl alcohol and 10% acetone) is fed to a wick of these machines.

GROUP HEALTH CLAIMS

We have continued to cooperate with the Group Actuarial Division in an attempt to ascertain the cause of the poor claim experience of a number of Groups.

PUBLICATIONS

The booklet "First Aid Service in Small Industrial Plants" has been revised.

The leaflet "Hygiene for Working Women" has been revised.

Dr. McConnell prepared a paper on "The Industrial Health Service" for the Metropolitan Underwriter.

Reviewed proposed revision of American Welding Society welding handbook.

Reviewed article on Tuberculosis.

Reviewed revision of booklet "Industrial Safety Education in Schools".

Reviewed outline of Mrs. Bigler's handbook on nursing.

Reviewed and suggested changes in paper for Executive Service Bulletin on control of hazards in defense industries for the Policyholders' Service Bureau.

Reviewed revised edition of "First Aid".

Reviewed first draft of the "Report of the Workshop on Camp Standards" of the American Camping Association.

Continued to review articles for Health Bulletins for Teachers for
the School Bureau.

TESTIMONIALS

There are attached several letters which express appreciation for
our service.

...*W. McConnell*.....
Assistant Medical Director