

PLAINTIFF'S EXHIBIT

MBL-298

SOCONY-VACUUM OIL CO., INC.

FIFTH ANNUAL MEDICAL MEETING

Hotel Chase, St. Louis, Missouri

September 28, 29, 1950

002535

184200

C O N T E N T S

Page

List of People Attending the Medical Meeting	1
Opening Address	
Mr. Walter H. Ware	2
Industrial Medical Departments as an Effective Part of our Industrial Relations Organization	
Mr. William H. Montgomery	2
Opening of the Medical Session	
Dr. Arthur E. Hoag	4
Summary of Case Findings of 350 Biennial Examinations of New England Division Truck Drivers	
Dr. John T. Quinby	6
Progress in the A.P.I. Cancer Research at the Kettering Laboratory	
Dr. Marshall Clinton	10
Problems of the Medical Department at Socony Paint Products Company	
Dr. Guy R. Hopper	12
Health and Medical Problems of Socony-Vacuum Overseas Operations	
Dr. George M. Saunders	15
The Nurse's Part in a Safety Progrsm	
Mrs. Doris K. Krieger, R.N.	19
The Use of Antihistamines in the Treatment of Colds	
Dr. Warren M. Longergan	22
Rehabilitation of the Injured Socony-Vacuum Employee	
Dr. Frederic O. Epp	25
The Periodic Check-up Examination	
Dr. Carl H. Schulte	29
Discussion of Nurses' Problems	
Opened by Mrs. Doris K. Krieger, R.N.	31
Epidemiological Studies of Cancer in the Petroleum Industry	
Dr. John J. Phair	32
Medical Aspects of Nuclear Energy	
Dr. Allan McLellan	34
Phillips Petroleum Company's Mobile Unit	
Dr. Kieffer Davis	35
Safety and Medical Departments in Refineries	
Dr. Arthur E. Hoag	36
Discussion of the "Plan for Total and Permanent Disability Benefits"	38

002536

184201

LIST OF PEOPLE ATTENDING MEDICAL MEETING

Augusta, Kansas

Dr. Frederic O. Epp
Mrs. Elnora Tinker, R.N.

Boston, Massachusetts

Dr. John T. Quinby

Buffalo, New York

Dr. Marshall Clinton
Mrs. Ann Lanier, R.N.

Casper, Wyoming

Dr. Allan McLellan
Mrs. Judith Oppedahl, R.N.

Detroit, Michigan

Dr. Carl H. Schulte
Miss Eileen Brooks, R.N.

East Chicago, Indiana

Dr. D. R. Johns
Mrs. Antoinette Bracco, R.N.

East River Operations, Brooklyn, N.Y.

Dr. M. N. Howard
Mrs. Elizabeth Maguire, R.N.

East St. Louis, Illinois

Dr. T. C. St. John
Miss Paula R. Keirle, R.N.
Mr. N. J. Holten

General Petroleum Corp., Los Angeles

Dr. E. P. Luongo

Kansas City, Missouri

Miss Elizabeth Ploger, R.N.
Mr. E. F. Kendall

Metuchen, New Jersey

Dr. Guy R. Hopper
Miss Anita M. Harris, R.N.

Milwaukee, Wisconsin

Dr. J. J. Gaunt
Miss Louise Tullgren, R.N.

Olean, New York

Dr. N. P. Johnson
Miss Madeline Averill, R.N.

Paulsboro, New Jersey

Dr. N. K. Chesley
Miss Elizabeth K. Lafferty, R.N.

St. Louis, Missouri

Dr. Warren M. Lonergan
Miss Maxine Borowiak, R.N.
Mr. Walter H. Ware
Mr. Robert G. Barnum
Mr. H. G. Vorhees

Trenton, Michigan

Dr. M. R. Schmidt
Mrs. Helen Hertel, R.N.

Home Office -- 26 Broadway, New York

Mr. W. H. Montgomery
Mr. J. H. Herbert
Mr. R. G. Harmon
Mr. E. R. Alden

Dr. Arthur E. Hoag
Dr. George M. Saunders
Miss Olga A. Ericson, R.N.
Mrs. Doris K. Krieger, R.N.
Miss Marge V. McHugh, R.N.
Miss Dorothy M. Mehl, Secy.

Guests

Dr. D. Arcila
Dr. Kieffer Davis
Dr. John J. Phair

FIFTH ANNUAL MEDICAL MEETING
September 28, 29, 1950
Hotel Chase, St. Louis, Missouri

Opening Address

Mr. Walter H. Ware, Manager, Lubrite Division, St. Louis, Missouri

We are very proud that you selected St. Louis for your Fifth Annual Medical Meeting. We feel very close to the Industrial Relations Department in New York. Mr. Montgomery was in St. Louis before going to New York and we have a friendship which has been a lasting one. We also feel particularly kindly toward the Industrial Relations Department in New York because they sent Mr. R. G. Barnum to us. Mr. Barnum was brought here because of his conception of what an Industrial Relations Department should be. Mr. N. J. Holten has done the same at the refinery in East St. Louis.

(Mr. Ware then gave an interesting history of the Lubrite Division).

This year the Medical Department for the Lubrite Division was opened and we are very proud of it. It renders good services to our people and it is a very efficient Department. We feel that all of the Medical Departments are a great service to Socony-Vacuum employees. We feel that our Medical Department is functioning very well and will be more widely used as time goes on.

(A brief history of St. Louis was then given and Mr. Ware suggested possible points of interest which the group might like to see).

Dr. Hoag, we are certainly delighted that you chose St. Louis as your meeting place this year. You are to be congratulated on all the fine work you are doing.

Industrial Medical Departments as an Effective Part of our Industrial Relations Organization

Mr. W. H. Montgomery, Manager, Industrial Relations, 26 Broadway, N.Y.C.

I would like to add my welcome to that of Mr. Ware's. I have been out of the

002538

country for many years and St. Louis was the first home I had in the United States until I went to New York.

These annual medical meetings have been one of the greatest things to happen in Socony-Vacuum. The meetings get bigger each year. As you see, this program and what it is doing throughout the country, I think we can all be proud of a part which is so effective in our Industrial Relations work.

Last year we had only one or two Medical Departments in our Marketing Divisions. Now we are working on getting them in all of the divisions in the middle west and other places in the eastern part of the country. We are approaching the time when we will have a coordinated program throughout all of our domestic operations. All of us must give Dr. Hoag credit for his vision in seeing it and pushing ahead in getting this whole program going.

Last year we talked about the fact that we are inclined to think of people in groups rather than as individuals. Security is becoming so ingrained in our thinking in the present day. The pioneering spirit is the thing that has made this country so great.

I want to talk about one phase of Industrial Relations which is receiving a great deal of attention from society, that is, employee communications. Many times in talking about employee communications, we try to talk of it as a two-way street. When I talk about it, I try to get a person to think the same way as I do. If I am honest about this, I have to admit that my ideas are selfish because they will help me rather than helping the other person to solve the problems which he has.

In a great many instances, Socialized Medicine falls into the same category. We want the other fellow to think as we do in this matter, too. We hear in Congress all about big business. We try to tell them that big business is good, but we want the government to leave us alone and not bother us. Maybe business has become too big and can create too much influence. We talk about Communism and we try

to say that people have a greater advantage under our system. I have seen bums around the street who are not interested in our system of government. We think that the American way of life is the best, but we do not get our reasons across to others. The September issue of FORTUNE magazine (Page 77) gives a great deal of stimulus. The author points out things which should be obvious to us, but we get involved and do not see the truth.

I think that perhaps the thing this all means is that we have come to think a bit as though our American system was built on rights, such as right of ownership and the freedom of choice. There are not too many definite rights, however. All of our rights are limited. What do we mean then? It is the variation of the degree of control we have over these rights. We have gotten away from trust. Our employees are better protected by the faith that they have in the contract the Company has with its employees.

The important thing is the faith and trust we have in the people we come in contact with. The feeling of distrust must be stopped. Too often we go around with a chip on our shoulder. Too few times do we try to understand why a person does as he does. If we try to find out what the other person's problems are and if we can have more trust, we will have a great deal more success than we have had in the past.

I sincerely believe that each operation in the Company can adopt some of these principles to its work. Medical Departments can help in getting this whole idea across. If we can be more understanding and more cooperative, we can make more progress than we have been able to make up to the present time.

Opening of Medical Session

Arthur E. Hoag, M.D., Medical Director, 26 Broadway, N.Y.C.

Dr. Hoag opened the Medical Session by saying that Mr. C. F. Beatty was sorry

that he could not attend our Medical Meeting, but that he had to be out of the country at that time. Mr. Beatty's letter to Dr. Hoag is quoted here:

"Because I expect to be out of the country at the time, I shall be unable to attend this year's Medical Meeting in St. Louis. I will appreciate it, therefore, if you will express my regrets to those present.

"Unquestionably these annual meetings have been in a great measure responsible for welding together our various units into a well coordinated Socony-Vacuum group in an activity which is such an integral part of our whole approach to Industrial Relations. This view I know is held by many of my colleagues, and only the other day when discussing our medical programs with our president, Mr. Jennings, he remarked, 'After all, what could be more important to us than the good health of all employees.'

"I will appreciate it sincerely if you will extend my personal greetings to all in attendance at the meeting, and express to them my hope that each will go back to his or her work having both contributed and received information and inspiration which will aid in the important job of all medical units in promoting the physical and mental well-being of every employee of Socony-Vacuum."

Dr. Hoag then continued with the following remarks:

The growth of our industrial medical program has been quite phenomenal since 1946, although we have had a progressive medical program for over 25 years. Management and our Industrial Relations people have recognized the importance of having healthy employees in our organization. Consequently, they have made possible the progress which we have made in the field of preventive medicine.

At the present time, we have 21 Medical Departments in our refineries and our marketing divisions. This number is increasing as rapidly as space becomes available. Out of the 21 medical units, 15 have been certified by the American College of Surgeons. We are very proud of this fact because it means that our employees

are obtaining medical care of the highest standard.

Since we must always be forward-looking, it is only logical to anticipate that in the near future we will have a new Medical Director who will take over in my place and carry on our Socony-Vacuum Medical program.

Industrial medicine (or as some industrial physicians prefer, 'medicine in industry') is the prevention of injuries and diseases as well as the early detection of conditions which might interfere with an employee's health. Following early detection, proper and early treatment can be carried out and in this way prolong the life and usefulness of an employee.

Health examinations (or what we commonly call periodic health examinations) have as an objective, early detection of diseases such as tuberculosis, diabetes, cancer, cardiovascular diseases, arthritis and many other conditions. If these conditions are found early enough, they can be arrested or cured.

During the past year and a half, in our summary monthly reports, we have rated the Medical Departments on the percentage of periodic health examinations performed during the month so that you can compare what you are doing in relation to the other Medical Departments. I think that you who have been conscientious in this respect have been more than repaid for your work, because you have been able to help in the curing or arresting of many serious medical conditions.

I am hoping that this Fifth Annual Medical Meeting of our Industrial Relations and Medical personnel will be an incentive for continued cooperation and for the continuation of a forward-looking medical program.

Summary of Case Findings of 350 Biennial Examinations of New England Division
Truck Drivers

Dr. John T. Quinby, Physician, New England Division, Boston, Massachusetts

The New England Marketing Division of Socony-Vacuum offers a biennial physical examination to all its driver personnel. This report covers the case findings in

the examination of 350 truck drivers in our Division in 1950. These examinations were conducted partly in our own two Clinics and partly by Company-approved physicians in the many Socony-Vacuum stations in New England outside the Greater Boston area. The breakdown was 122 examinations in the Medical Department and 229 outside, making a total of 351 examinations.

I should like to speak briefly first about the examinations conducted outside the Boston area in New England. These were made in each locality by Company-approved physicians. The examination findings were then forwarded to the Medical Department in Boston and reviewed with particular reference to any serious defects which demanded correction or follow-up. The names of such drivers were then given to the Claim and Safety Department, with our recommendations for further medical study or temporary discontinuance of driving until some defect constituting a driving hazard had been investigated and corrected, if possible.

There was some variability in the completeness with which the examination forms were filled out by different doctors. Our review of these 229 examination forms disclosed 12 drivers whose findings were considered important enough to require follow-up study. Their diagnoses were as follows:

Hypertension	5
Heart disease (reumatic & coronary) . . .	2
Diabetes, uncontrolled	2
Albuminuria	2
Cancer of the rectum, post-operative . . .	1
	<u>12</u>

One driver, on whom an apparently serious finding was noted, is a good example of the way in which this form of examination, with an adequate follow-up, may rule out serious defects and afford reassurance to the employee:

J. D. was a 53-year old driver at one of our New Hampshire stations. The Company-affiliated physician noted moderate cardiac enlargement, auricular fibrillation and thought that there was a diastolic murmur at the apex.

Through the Medical Department, it was arranged for this man to see a cardi-

ologist who was fortunately able to make a diagnosis of probably no heart disease. The irregular rhythm was shown by electrocardiogram to be mere frequent auricular premature beats, a finding usually of no disease significance. There was no enlargement of the heart by fluoroscopic examination and careful auscultation of the heart showed the apical murmur, which was soft, to be actually systolic in time and therefore not indicative of rheumatic heart disease. Here is an instance of an employee who presented what was really a very unusual finding on physical examination and it was happily possible to show that no disease existed.

I should like to turn now to a somewhat more complete review of the case findings in the Greater Boston drivers whom we examined at our Department Clinics. There were 122 of these men covered in this report. The examinations were conducted in the six-month period beginning with January of this year. We found it best to make as complete an examination as possible at the first visit, including recommendations and arrangements for any follow-up studies needed, such as chest X-rays, blood sugar tests, and so on.

The conduct of the examinations was speeded up by the use of a self-taking history form. After he had filled this out, the employee was examined in regard to height, weight, blood pressure, chest expansion, visual examination, collection of urine specimen and any hematology called for by the Company nurse. Most of the men had had a survey chest film in November of 1949. The doctor then looked over the history form as the patient was undressing, amplifying it where needed and following that the physical examination was done. At the end of the physical examination, a few minutes were taken to ask the employee, "Were there any points about your health that you would like to bring up at this examination?", and to discuss such questions.

Finally, a summary statement about his health was given the driver and an attempt made, where feasible, to arrange appointments for any follow-up studies suggested.

We found it interesting to put together a sort of type description of the truck drivers as a group. The opportunity to examine a number of them and to contrast them, with let's say, executives as a group, furnished us with a picture of the "typical" driver employee. These men were on the whole bigger men than the average. Their build was commonly both tall and stocky. Their classification as overweight is bona fide, however, they were also overweight for height and age even considering their muscular build. Naturally, they all have hearty appetites, to put it conservatively. Together with this, they showed a marked incidence of hypertension of a mild and benign sort. Very few of them had severe hypertension and none of them had any symptoms referable to hypertension. They also had a higher than normal incidence of diabetes and glycosuria of slight degree without clinical diabetes. Dental defects ran unusually high.

The driver group showed a rather good I.Q. and good emotional and social adjustment, combined with strikingly poor writing and spelling ability, as reflected in the self-taking history sheet. When they do show evidence of stress, they seem to do so through excessive and regular use of alcohol.

The value of the biennial examination is well shown by the low incidence in our drivers of the following conditions: visual defects of significant degree were very few. Although a number of dental defects were noted, there were many drivers in whom severe dental defects and inadequate dentition had been picked up on previous examinations and bridgework or plates secured, so that now their dentition is functionally excellent. Inguinal hernia was noted in only two cases and here was of minimal degree. However, many of the men had had hernias repaired which were picked up at earlier biennial examinations.

This useful role of the biennial examination, we feel, may now be amplified with the establishment of a Medical Department in the New England Division. The chief advantages here are two: it is much easier to arrange for correction or further study of defects noted. Secondly, the Department makes possible a continuity

of medical supervision for these men. Each driver's folder constitutes a rather complete picture of health and his medical problems. It forms an accurate base line to which we can refer any subsequent questions that arise concerning his health and which we can amplify as we come to know his physical and personal make-up better. Thus, it is the basis for a continuing contact between the employee and the Department, to further his best health and efficiency.

Progress in the A.P.I. Cancer Research at the Kettering Laboratory
Dr. Marshall Clinton, Plant Physician, Atlas Works, Buffalo, New York

The American Petroleum Institute has been carrying on experiments at the Kettering Laboratory in Cincinnati for the last three years under the auspices of its Medical Advisory Committee. Last year when we reported on this work, much of it was still in a planning stage. During the intervening period considerable fundamental and valuable data has been accumulated. Furthermore, methods of condensing the data so that they can be of practical value to management, are being achieved. The work may be divided roughly into three phases:

- (1) Animal studies to determine, directly, carcinogenicity.
- (2) Physical studies, to obtain a correlation between physical characteristics and carcinogenicity as determined by animal studies.
- (3) Epidemiological studies of the incident of all types of cancer among employees and annuitants throughout the entire industry.

The first and possibly the most fundamental is the animal testing program. In this, selected refinery samples -- selection of which was discussed at this meeting last year -- are painted at regular intervals on the backs of mice. Following application of the various oils, depilation occurs early followed eventually, provided the sample is of sufficient potency, by the development of benign papillomas which ultimately degenerate into cancers.

The group at Cincinnati have gained sufficient experience to be able to tell

with reasonable accuracy when the transition from papilloma to malignancy has taken place, although this must be confirmed by pathologic examination of microscopic sections. Since each experiment involves painting of many animals, it is obvious that a great deal of cumbersome data is obtained. It is noted that some animals die before they have time to develop a tumor; others develop a papilloma, but die before this becomes cancerous; while others develop obvious cancers and either die or are sacrificed. In order to simplify the data, a mathematical figure can be calculated for each sample, which is spoken of as the Tumor Index or Cancer Index.

Once cancers begin to appear in a given group of animals, the cancer index rises rapidly with the passage of time. If the experiment is continued long enough, practically all animals will develop tumors. The cancer index for given groups of mice produce a family of curves. It can be noted that highly carcinogenic decanted oils from fluid catalytic cracking units have a rapidly rising cancer index after 15 weeks of painting; whereas, thermal tars do not begin to show tumor until 25 to 30 weeks of painting has been carried out. These figures achieve meaning when similar curves are obtained for control animals painted with varying strengths of methylcholanthrene in benzene.

It is evident that some standards are needed to express the relative carcinogenicity of various samples. So far, it has appeared desirable to express the carcinogenic potency of various petroleum samples in terms of the carcinogenic potency of various concentrations of methylcholanthrene dissolved in benzene.

Another aspect of the studies at Cincinnati has been the attempt to develop a means of physical testing which will enable one to predict the relative carcinogenicity of the various refinery samples on the basis of physical characteristics alone. So far, it appears that all samples distilling completely below 700° F. are devoid of risk. Fractionation and physical studies of ultraviolet absorption spectra appear to be of value in screening relatively potent from relatively harmless samples.

Certain practical studies have already produced results which are of use to the industry. It has been shown that dilution of highly carcinogenic samples with those of low potency effectively reduces the carcinogenicity of the mixture to low levels at least for mice. It has also been shown that prompt washing of the backs of the animals following application of the highly carcinogenic oil, materially reduces the rate of tumor development.

The Cincinnati studies suggest that washing is completely effective in preventing tumor development, but unfortunately studies at New York University are not in agreement. In their experiments, washing was only moderately effective in preventing tumor development. These variations are probably explainable by experimental differences and are under joint investigation by the two groups at the present time.

The final phase of the work at the Kettering Laboratory which is under way, is the organization and implementation of a detailed epidemiological study of all cancers occurring among employees or annuitants of the petroleum industry. Report forms for this study have been achieved, which are as simple as possible consistent with the degree of information which must be obtained. Further aspects of this program will be discussed by Dr. John J. Phair.

Problems of the Medical Department at Socony Paint Products Company
Dr. Guy R. Hopper, Plant Physician, Metuchen, New Jersey

The new Socony Paint Products Company Plant was opened in Metuchen, New Jersey in the spring of this year. The contrast between the old paint plant and the new was as night is to day. Due to the foresight and good planning of Dr. Hoag, we were fortunate in starting with a compact and well-equipped medical laboratory. As in many industries, our chief concern was with our own specific industrial hazard, as well as the routine employee examinations and preventive health aspects.

I should like to mention in this latter regard that we were, for a time, con-

fronted with an increased incidence of psychosomatic illnesses associated with the transfer of personnel. Many of our employees had lived all their lives in New York City and had been accustomed to a relatively narrow gregarious existence. Although Metuchen is only 30 miles away, some would feel completely "lost in the country", so to speak.

Coincident with this uprooting of homes, were those who for various reasons elected to stay in their environment, or had not yet located in the vicinity of the plant. This meant long commuting hours with consequent less time for recreation and sleep. It was usually the sleep that would suffer most. Secondly, anorexia, nervousness, loss of weight and lessened resistance to infection developed in a few individuals and could be directly attributable to the above situation.

Concerning our specific industrial hazard of lead intoxication, I should like to describe some fleeting impressions of my visit in the former paint mill at Long Island City. The building was a large, old red brick, dirty, dingy, poorly ventilated and light affair. The old open system of mixing paints in large iron pots were still in use. Control of fumes and dust was very difficult. Paint and lead containing pigments were in some places inches thick on the floor.

In contrast, our superbly engineered new plant offers modern, pleasing, well-ventilated, well-lighted buildings with a closed system of mixing the paint ingredients. It makes use of excellent hood and vacuum apparatus at all places where lead pigments may be dumped into the machines. In addition, we are equipped with dual locker rooms for all those who have any possible contact with lead. A clean room serves for street clothes, while a dirty locker room is strictly for working uniforms.

Now, one might be impressed that with such facilities there should be little worry in regard to accumulative lead intoxication. But the prophylaxis of lead poisoning involves not only good equipment, good safety engineering, but good house-

keeping, eternal vigilance and the knowledge, instruction and willingness to properly use these facilities. It is obvious that a plant that has a good vacuum cleaning machine and a poor foreman will still use a broom. A worker will stick his head under the hood, hang his clean clothes in the dirty locker, refuse to take a shower at the end of the work day, or to wash his hands properly before eating. On many occasions you know that the best engineering will not permit you to sleep soundly if you do not follow through.

So, we found it necessary to give detailed lectures to groups of men as to the proper use of locker rooms. We took particular pains to explain to them the importance of washing before eating and smoking and of using the showers. On the subject of dry sweeping with a broom, I had to speak more than once. Such small, yet important, details were not too easily grasped by some men accustomed to the slished and poor hygienic physical facilities of the old paint mill. However, we are now making good progress in this educational program.

Due to excessive dust in some areas relatively remote from vacuum apparatus, it was found mandatory to order additional special equipment. Most important was a mobile, explosion-proof, industrial vacuum cleaner to be used principally in the raw products warehouse where considerable dust would be scattered by the handling of pigment bags. We also had to order a new type baling machine for empty bags. The old one when in operation would compete well with a fog generator.

For those employees who handle lead pigments, we have a lead screening program which entails quarterly physical examinations, blood and stipple counts, lead urine concentrations. Subjective symptoms of weakness, fatigue, insomnia, headache, vertigo, joint and muscle pains, muscle weakness, anorexia, metallic taste, nausea, vomiting, constipation, diarrhea, abdominal cramps, are looked for as well as any subjective findings such as weight loss, pallor, tremor, lead line, wrist drop and hand grip. We are confronted with the problem of interpreting these findings and evaluating the literature in this regard, since our actual experience with lead in-

toxication is so far nil.

It has been reported by some authorities that the correlation of lead in air, lead in urine and lead in blood stippling is not good. Especially is there considerable controversy over the significance of stippling. Most workers in this field agree, however, that stippling and polychromasia are the result of the reactions of reticular substance to stain and are indications of the activities of the bone marrow. Alteration of reticular substance, especially as caused by lead, will lead to increases in stippling. Stipple cells may be present in non-exposed normal persons at times in numbers up to 7,000 per million R.B.C.'s. Counts as high as 50,000 per million may occur in hepatic cirrhosis, pulmonary disease and blood dyscrasias without associated lead exposure. Hazardous lead absorption usually, but not always, causes elevation in stipple cell counts. Since stipple cells appear from many other sources, the appearance of stipple erythrocytes are not too reliable in single cases and should be viewed with caution in group studies. We have so far had very low stipple counts, our highest being in a worker who had no contact whatsoever with lead pigments. It is concluded that criteria for possible accumulative lead intoxication involves an evaluation of laboratory tests and physical findings in a cross-section of time so that significant changes of the above data may be compared and latent cases discovered.

One last problem not directly concerned with our industry is that related to civilian defense. The local township authorities have been offered the facilities of our Medical Department for any emergency situation involving possible atomic attack in this heavily industrialized area.

Health and Medical Problems of Socony-Vacuum Overseas Operations

Dr. George M. Saunders, Medical Advisor for Overseas Operations, 26 Broadway

In most operations in foreign fields, health problems are more extreme, acute

and more difficult of solution than problems in the domestic areas. In under-developed areas there is usually a high incidence of endemic diseases, facilities for medical care may be non-existent and trained professional personnel may be lacking. In many other areas there has been almost complete disruption of public health and medical care facilities because of wars and revolution. Frequently a working force has had to be recruited from poverty-stricken, diseased populations among whom malnutrition was a serious problem and infectious diseases including tuberculosis, the various gastro-intestinal and parasitic infections and serious eye conditions have been prevalent. In some places, remote from any urban centers, provision has had to be made for complete health protection and medical care, including environmental sanitation, adequate water supply, excreta and garbage disposal and clinics and hospitals. In some countries the laws require employers to provide medical care for their working force.

Socony-Vacuum has been aware of the importance of the health of its employees and of the perplexing problems which are posed by local conditions and an attempt is now being made to develop a basic medical policy for the foreign field in order to promote the general health of its employees.

It might be of interest to outline briefly the extent of Socony-Vacuum's foreign activities, including those of affiliated companies and to discuss some of the health problems in a few representative areas and the methods used or being developed to provide for health protection and medical care for the employees and at times, their dependents.

For a number of years Socony-Vacuum's interests were limited mainly to the distribution and sale of petroleum products. More recently, the Company has become involved in producing and manufacturing activities in many parts of the world, either through direct operations by wholly owned Socony-Vacuum companies or through partnership arrangements in affiliated companies.

VENEZUELA -- Our operations in Venezuela are almost entirely concerned with production of oil. There are approximately 2,000 persons employed by Socony-Vacuum, including 230 expatriates, most of whom are North Americans.

The medical problems faced by our Company in Venezuela include all the usual ones, some of which are more acute than in the United States. In addition, there are other health problems which we do not ordinarily consider in Industrial Medicine in this country. These include malaria in some areas, although as a result of recent public health activities the prevalence of the disease has been cut down. Gastro-intestinal infections include the dysenteries and hookworm and are prevalent in some parts of the country. Schistosomiasis and dermal leishmaniasis and onchocercosis are endemic in certain parts of the country.

There are numerous laws which have a direct bearing upon the medical problems of industry. In the first place, medical practice is restricted, for all practical purposes to Venezuelan citizens.

In addition, there are certain rather drastic legal requirements concerning provision of medical care to groups of employees. It is required that one physician be provided for approximately each 400 employees. One pharmacist must be provided if 300 or more people are employed and a hospital must be provided if there are 300 or more employees.

Another factor which is an important one is the high cost of medical care, particularly in the urban centers and especially if it is known that the patient is a North American and is employed by an oil company.

EGYPT -- Socony-Vacuum employees number about 2,400 people in Egypt, the majority of whom work in the Cairo area, either in the Central Office or in the Ghamara Works.

Health conditions in Egypt are among the worst in the world. Poverty, malnutrition and disease are prevalent everywhere. Gastro-intestinal diseases are ex-

tremely common. It has been estimated that 5% of the population are typhoid carriers. Malaria has been fairly well controlled, but it is still a threat in many parts of the country.

The medical care facilities of Egypt are grossly inadequate by our standards. There are some 4,300 registered physicians or a ratio of one to 4,400 people. There are a few good hospitals in the country.

In general, in the past, the provisions for preservation of health and medical care have been inadequate, but it is hoped that with the re-organization of medical activities these will be improved.

GREECE -- The population of Greece suffered from nearly ten years of war or internal chaos. General starvation resulted. Poverty, malnutrition and disease became widespread. Today, tuberculosis is widely prevalent and it is estimated that there are more than 100,000 open cases in a population of less than eight million. Gastro-intestinal infections, especially typhoid fever and brucellosis are common. Facilities for medical care were completely disrupted by the war, but there is a basic foundation of medical schools, hospitals and personnel, which if rehabilitated, should approach adequacy. With the help of ECA, United States Public Health Service and the World Health Organization, medical affairs are improving, but much remains to be done.

One factor which bears on the problem of medical care is the Social Insurance Fund (S.I.F.) which is really a State controlled insurance plan for medical care and pensions. S.I.F. is planned to cover industrial workers and their dependents in urban areas. Medical care is grossly inadequate and of very inferior quality. The medical personnel are third-rate, the clinics are jammed each day with thousands of sick and malingerers, the hospitals can cope with only a fraction of cases needing hospitalization and the central laboratory is badly equipped, badly staffed and the results are not to be trusted.

002554

There is a mess hall and kitchen which "feeds" some 150 - 300 men at noon each day. The kitchen is small, dingy and dirty, with many flies. The men bring most of their own lunch, but one subsidized dish is provided. The cost of this one portion is said to be about 3,000 drachma (about 20¢) of which the Company pays 2,000 drachma and the worker 1,000 drachma. In view of the fact that the average worker gets about \$1.50 per day and that fish costs about 50¢ a pound and meat 75¢ a pound or more, it is obvious that a worker with a family cannot purchase an adequate diet. Serious thought should be given to providing, free or at low cost, a noon meal which would bring the daily diet up to a desired minimum. It is felt that the cost would be more than repaid in increased efficiency, few accidents and less sickness to say nothing of improved morale.

In the last few decades, industry, including our own has seen the light concerning employee health. In the previous dark ages of Industrial Medicine, when it was felt that there was an inexhaustible reservoir of cheap "native" labor in foreign fields, little or no thought was given to health care of workers. This was regarded as unnecessary expense and not an important part of any productive effort. The fallacy of that policy has been recognized, nearly everywhere, and in most areas most industries, including Socony-Vacuum, are giving more thought to employee health and are realizing that this is not only humanitarian, but good business.

The Nurse's Part in a Safety Program

Mrs. Doris K. Krieger, R.N., Nursing Consultant, 26 Broadway, New York City

I do not believe that there is such a thing as a safety engineer who refuses to understand the value of the nurse to his work, but there are safety engineers who have not been taught by the nurse to understand how she can make their work easier. There is no such thing as an uncooperative safety engineer, but there are nurses who cannot get them to cooperate. It is much easier for us to find a good

reason rather than the real reason for the symptoms of non-acceptance. In business, if you really have something worth while to sell, all it takes is calling on customers over and over until they learn the virtue of your product,

When an applicant is being employed, the nurse takes the history for the pre-placement examination. At this time, the applicant should be asked if he has suffered any injuries or disabilities. If they have had and are employed without the Company having knowledge of it, it could prove costly. The periodic examination of employees contributes to the reduction of accidents by discovering the disabilities which have appeared since he has begun to work.

The nurse has an opportunity to repeatedly observe, understand and evaluate the emotional make-up of an individual worker. The safety engineer can use this information in modifying the man's work habits so as to minimize the possibility of an accident occurring.

If all cases reporting to the Medical Department are separated according to their occupational or non-occupational nature, which we do in our Medical Departments, it is an easy matter for us to supply the Safety Department with complete information concerning occupational cases; including questionable cases and those that may be listed as non-occupational or non-compensable, but which the employee alleges or strongly feels are a result of his work.

Since the injured employee first reports to the Medical Department, much of the information concerning such injuries received by the Safety Department comes from the Medical Department. It is of vital importance that they receive such information completely and promptly. Statements made at the time of the first treatment concerning the accident may be of utmost importance. The nurse is usually the first one who hears his story and the statements made to her are most apt to be spontaneous and uncolored. This may not be so even a few hours later. The first account may be quite valuable from a legal point of view in determining the true

cause of the accident. A large part of the responsibility of the nurse lies not only in the nursing management of the patient, but also in considering and understanding the legal and compensation problems involved.

In addition to situations which cause accidents, it has been recognized that there are people who repeatedly have accidents. It is certainly the responsibility of the Medical Department to locate such persons and to try to determine the reason so as to reduce their susceptibility to accidents.

On many occasions, workers being treated will give tips or hints of unsafe conditions or practices of other employees. The transferring of such information to the Safety Department may allow correction of the condition without causing the employee any embarrassment. The nurse may hear complaints about safety rules and procedures and this is an excellent opportunity for her to point out their value. The safety personnel may likewise hear complaints concerning the Medical Department's policies or procedures. Understanding and familiarity of the Safety Department with the program will allow further explanation in a fashion which the Medical Department may not have an opportunity to do. Safety and Medical Departments must realize that certain problems are joint problems and can be worked out satisfactorily through cooperation with each other.

It is up to the safety and medical personnel to make the proper approach to all employees and especially to supervisors, so that they will understand the importance of reporting minor injuries and feel a personal responsibility for doing so. It should be made clear that the Company insists on reporting every minor injury as a means of preventing grave accidents and that it is certainly no indication of silliness on the part of the employee. We can best accomplish this by our day-to-day contact with the slightly injured. The nurse in her treatments can convey the idea that it is a necessary and sensible transaction. We can assure the employee making a trip to the Medical Department for a small scratch that the procedure is required of him and for good reason. With data available from minor cases, severe

hazards may be discovered and eliminated. The Medical and Safety Departments can work together to secure better performance in accident reporting. In this way, the reported non-lost time injuries will grow and prevent a large number of dubious claims.

Nurses see every reported minor injury and in this way can give the safety engineer leads on the potentially serious accidents. The safety engineer sees only those called to his attention or which by their circumstances call themselves to his attention. The nurse should know the production processes within the plant and in this way be able to develop a knowledge of the types of hazards in which the safety man has special interest.

It might seem at first consideration that the nurse and the safety engineer work in different spheres and possibly with different motives. Actually, however, their ultimate goal is the same -- to improve the health, morale and efficiency of the plant personnel and to keep them physically fit and on the job full time.

An adequate medical service can have great effect upon reducing accidents and advancing safety education.

The Use of Antihistamines in the Treatment of Colds

Dr. Warren M. Lonergan, Physician, Lubrite Division, St. Louis, Missouri

During the course of a year, very few persons escape one or more attacks of the malady designated as the common cold. There is very little information concerning this condition on which all workers agree. A majority of these attacks occur during inclement weather and often appear in epidemic form during the fall months. The economic loss is great and the complications may be serious.

The common cold is an acute inflammation of the upper respiratory tract, chiefly of the nasal mucous membrane which manifests itself by local and by more or less disagreeable constitutional symptoms. Its etiology is as yet undetermined. Com-

plications such as sinusitis, pharyngitis, tracheitis, bronchitis and pneumonia usually prolong the course. An attack confers little or no immunity.

It is currently assumed by most workers that the etiological agent is a filterable virus or a family of similar viruses. In 1947 Topping and Atlas reported the successful inoculation of human volunteers with nasal washings from sufferers in the early stages of the common cold. The inoculations were made in sterile skimmed milk and the filtered washings were said to contain no dangerous bacterial pathogens. The infectiousness of the virus could be preserved in the frozen state at -50°C . Under the electron microscope particles in the infected material appeared to be of the same general size as the influenza virus. The etiological agent, if it is a virus with localization in the upper respiratory tract, behaves in a manner different from most other viruses. It is almost alone among the viruses in producing little or no immunity.

The prophylaxis and treatment of the common cold are presently in a state of confusion. The latest hope has been placed in the antihistaminic drugs. In 1947, Brewster reported the successful use of Benadryl and later other similar drugs in the treatment of the common cold. He assumed that the cold begins as an allergic reaction. These drugs, by interrupting the allergic reaction, are capable of aborting the common cold if treatment is begun in the initial phase. He felt that two or three 50 mg. doses at four-hour intervals, are adequate to effect an abortion of symptoms in 90% of cases when treatment was started within a few hours of onset. Failing this, he felt that they are useful palliatively by shortening the period of morbidity and eliminating complications. Brewster accepted the patient's diagnosis of a cold if the examining physician failed to find evidence to disprove it.

Arminio and Sweet conducted an experiment in the prophylaxis of the common cold using 300 persons. One hundred received 50 mg. of Neohetramine daily; 100 received 50 mg. twice a day; 100 persons took 50 mg. three times a day. Three

hundred other persons were given placebos on the same schedule. In the treated group, only 35 patients developed colds, while in the control group 241 developed colds. On the other hand, Allergists report that their patients who take antihistaminic drugs on similar schedules for weeks, develop colds with the same frequency and with the same duration as without the drugs.

None of the above studies actually established the diagnosis of a common cold beyond reasonable doubt. Acceptance of the patient's diagnosis introduces many errors. He may be mistaken and the symptoms be those of allergy. Likewise, the cold may have been aborted without the aid of therapeutic agents.

Another type of study was carried out by Feller and co-workers on the effect of antihistaminic drugs on common colds developing as a result of inoculation of volunteers. The inoculum consisted of nasal washings from a single donor who had a typical severe common cold. The inoculum was shown to be infectious in unrelated volunteer experiments with 60% developing definite colds. Pyrrolazote, 50 mg. four times daily was employed in the first experiment. An inert placebo served as the control. Administration was started two hours before inoculation and continued five days. Neohetramine was used similarly. Volunteers in the first experiment were 12 medical students and six staff members. The 31 volunteers in the second experiment were medical students. The volunteers were given the inoculum by dropping 0.25 cc into each nostril. They pursued their usual activities and kept daily records of their symptoms. Each volunteer was examined daily for six days. Illnesses developing later than the sixth day were excluded.

The administration of antihistaminic drugs failed to prevent development of colds. In the first experiment, there were equal numbers of definite colds in the groups receiving the drug and placebos. In the second experiment, there were six definite colds in the treated group and three definite colds in the placebo group. These drugs also had no favorable effect on the severity of the illness, duration of symptoms or length of incubation period. The disadvantage of small numbers in

these volunteer experiments is compensated for by the fact that both gave the same results within reasonable limits of variation.

Results of the use of antihistaminic drugs in the various Medical Departments of Socony-Vacuum Oil Co. were made available by Dr. Hoag. There is some variance with the findings of Brewster, who stated that the drugs were most effective if given during the first six hours. While it is difficult to analyze the reports from all these sources, in general the same good results seem to be obtained regardless of time up to 24 hours. In some of the reports, colds were aborted or symptoms relieved even after more than 24 hours had elapsed. I shall not attempt to present these findings in detail, but in general the impression of the reporting physicians was favorable to the use of antihistaminic drugs.

In conclusion, one can only say that the question of the ability of the antihistaminic drugs to abort a cold has been seriously questioned. However, there is no doubt of their ability to produce considerable subjective relief by inhibition of nasal discharge. If caution is exercised in the administration of these drugs and the patient fully apprised of their side effects, they will prove of value in the medication of the common cold.

Rehabilitation of the Injured Socony-Vacuum Employee
Dr. Frederic O. Epp, Plant Physician, Augusta, Kansas

A survey of the task of bringing the injured employee back to gainful productivity reveals how much there is to do; how much there is to learn; and unfortunately, how much remains undone and unknown. Proper methods of rehabilitation can conserve and even improve man's ability to work and live, as well as a trained mechanic tunes up a sluggish motor. It may consist of one simple treatment at the first aid cabinet, or it may require the skill of a plastic surgeon, the psychiatrist, or the kind efforts of a competent nurse. In some instances, a long period of persistent effort and training may be required to progress from a state of disability

to one of ability.

The initial treatment of any major injury involves the medium of rest which is supplied by immobilization either with bandages or casts and if necessary, the sedative action of drugs. However, rehabilitation as it is considered here begins when the injured employee returns either from the operating room or just a short period of rest on an examining table. At this point, rest must be removed skillfully or it may be abused and induce prolonged or permanent physical disability, as well as psychosomatic disorders or even pathomimesis.

During World War II, military leaders learned that the soldier wounded or injured in combat would return to combat duty sooner if his treatment and rehabilitation took place near the front than if he were evacuated far to the rear. A similar conclusion was drawn from our experience at the White Eagle Division in Augusta. Two injured employees that lost time were treated in a hospital twenty miles from the plant. 789 injured employees that lost no time were treated at the Company Medical Department and by physicians near by. It might appear logical to assume that the two hospitalized cases were more severely injured, yet this is not entirely true, since one of these was a back injury and was removed to a hospital primarily for diagnostic purposes. Not only did they lose time, but also the length of time off duty became extensive. Both seemed to have suffered a loss of moral or wholesome spirit of an urge to change from a state of total disability and resume activity that appears particularly evident in individuals who remain on the job after injuries.

The cost of rehabilitation is not little. It is not merely an effervescent fizz about "How to get well in ten easy lessons." It requires time, not only the idle time of effortless rest; it requires hours of work, expensive equipment and space. In an economic sense, to be worth its efforts to the employer, the employee and the community, rehabilitation must bring the disabled man back to partial disability. The man with a broken foot suffers the loss of the skill of his hands only

when those hands are put to rest along with the foot. His full usefulness may be maintained throughout his period of partial disability.

Now, to consider the Socony-Vacuum injured employee. Let us assume the orthopedic surgeon has set the bone, the amputee comes back with a healed stump, the injured back returns on the crutch of compensation insurance. He is progressing from the bed to the job and our Medical Department, management, our foremen and fellow-employees are presented with the task of rehabilitation. We can manage the job with a combination of three methods. These are: (1) occupational therapy; (2) psychiatric therapy; (3) physical therapy.

Unless the injured man is totally disabled, it is my opinion that he should be given the opportunity to return to work with his fellow-employees. This requires the cooperation and ingenuity of management as well as the various foremen. He should be given work of a type and light enough not to interfere with the healing process, allowing for necessary periods of rest. We have found that a man with a fracture of a metatarsal, if equipped with an orthopedic shoe, can be gainfully employed without producing undue discomfort or interfere with the healing process. We have had men with a diagnosis of severe lumbo-sacral strain come back to us from the orthopedic surgeon with the advice to place them on "light work" for periods of six to ten weeks. At times it becomes difficult to find suitable light work at which a man may work while he heals. I believe it is a necessary phase of rehabilitation to provide "light work" even to the point of creating a job. If the man is told that he cannot be used with this partial disability and told to go home, the time on his hands may become hours of boredom. On the other hand, he may come to enjoy his forced leisure and dream of compensation insurance.

Thus far I have referred to the term "light work" in a general way. What do we mean by "light work"? Running errands would be light work for a young man with a sprained wrist, but not for the man with a broken toe. "Light work" must be de-

1

defined specifically for each individual, depending on his particular skill, his emotional framework and age.

It is not uncommon for the physically handicapped individual to become a neuro-psychiatric casualty. Severe cases may require a specialist's care to re-establish socially acceptable attitudes, values, concepts and habits. We, in Augusta, have not had occasion to refer physically injured employees to a psychiatrist. For this I give credit to the intelligent management displayed by the plant director, industrial relations personnel, the Company nurse and the Safety Department. With a consistent attitude of active friendliness, firmness and unsolicited affection, emotional illnesses have been avoided. With a denial of negative sympathy, the injured can be taught that he has a lot more ability than he has disability.

Physical therapy embraces a host of methods of treatment other than drugs and surgery. The most commonly used are massage, the application of heat and cold, light and water. Corrective and therapeutic exercises are equally important. World War II with its large number of battle casualties and comparatively low fatality rate has been followed with extensive application of physical therapy. Results of military and Veterans Administration rehabilitation are encouraging. The traditional basket weaver and shoe string peddler that resulted even in the most hopeful cases some years ago has now been replaced by the amputee that runs his own business and drives an automobile.

One of the outstanding features of the nature of physical therapy is the time and patience required to produce maximum benefits. While the surgeon removes an appendix in fifteen minutes, it may take weeks, months and even years to restore a satisfactory degree of function. The amount of equipment and space required to carry out a complete program of physical therapy likewise appears to be more expensive than any other specialty.

The Periodic Check-up Examination

Dr. Carl H. Schulte, Physician, White Star Division, Detroit, Michigan

The experience we have had in Detroit embraces the policy of one of the oldest medical services in Industry. It was established over 50 years ago and it began in the same manner as the medical services of Socony-Vacuum are beginning now.

I am referring to the medical service of the Detroit Fire Department. I was brought up to observe this service almost since its inception and I have personally and continuously been a part of it since 1921, first as medical examiner and then as Chief Medical Officer. I have thus personally watched the "evolution" of this service through the various eras of Detroit's hectic industrial growth; through the lush years between the two wars; through the trials of World War I through the turmoils in industry when Unionism was established and now for the past eleven years through an era that we will call the "leveling off" period.

The periodic check-up examination as conducted by the Fire Department is done entirely on a compulsory basis, not on a voluntary basis. Our "compulsory" policy means that we begin our examinations with the top officers and go right down the line to the youngest recruit. All such examinations are scheduled in advance according to the seniority list. This schedule takes us three years to complete and when it is completed, we start all over again. In the past eleven years, we have made three separate surveys, two thousand men examined, charted and classified three separate times.

The technique or method of examining is as follows: One doctor is assigned to do nothing else all morning long but make these examinations. He makes three per morning and it takes him all of the morning to complete those three. This may sound like a slow process, but I assure you that it is done in this slow motion so that the examiner can be unhurried, uninterrupted and spend all of the time necessary to adequately appraise the patient's true physical condition.

The examination itself is divided into four parts. (1) There is the prelimi-

nary interview of the patient. This consists of sitting in the office with the patient alone, reviewing his past medical record. This preliminary interview is made with the assurance to the patient that whatever is discussed will be kept confidential. (2) There is the clinical examination itself which is nothing more or less than the usual type of complete clinical appraisal of a patient in the usual way. (3) The laboratory examination which consists of a blood sample, a chemical and microscopic urinalysis and a chest X-ray. In addition, we do whatever other laboratory is indicated by any abnormal signs or findings. (4) We then proceed with the most important feature of the whole program, the post-examination interview.

After we examine the patient and after all of his findings are in, we sit down with him at the desk for a full discussion of everything that we have found. This is again done with no one else present and all of this discussion is again confidential. If we have found nothing wrong, we tell him so, with the remark that we hope he will remain in his present good health. Men found with no physical defects are then classified as "standard" risks and nothing more is done with them until their next examination three years hence. If we have found something wrong, we discuss what we have found and we tell him everything that we have found. But, we try to explain things to him in terms that will not cause him to worry. This is done to prevent the certain types of phobias. We probably minimize rather than overestimate defects at first. Yet, we do report everything to him, no matter how grave and we arrange with him to have his defects corrected at once. This is usually done by arranging another clinical check-up examination within the week, to see if the defects persist or show up again. If so, we proceed as the circumstances indicate, usually by referring him to his private physician, or if he has none, to arrange to get one for him. This is an important feature and works out to the greater satisfaction of the patient. At the same time we make arrangements of our own to follow him up ourselves.

Men found with significant defects are then classified as "sub-standard" risks. They then report to us at specific intervals for approximately six months, after which time they are given another complete clinical check-up examination the same as the first. The process is repeated until the defects are all corrected or improved as much as possible.

Thus, the first sequel to the original schedule of "three men per day and each man once every three years" screens out the sub-standard risks and creates two types of employees, the "standard" and the "sub-standard". As we mentioned before, the standard risks remain on the original three-year schedule. The sub-standard risks are now submitted to a new schedule of their own, that of being individually examined every six months instead of every three years.

This slows up our program, to be sure. But, the whole purpose of the program is to pick these sub-standard risks out of the crowd and give them the benefit and the opportunity of getting back into the standard class again. It is almost a matter of personal pride with them and they become all the more cooperative as a result.

Discussion of Nurses' Problems

Opened by Mrs. Doris K. Krieger, R.N., Nursing Consultant, 26 Broadway, N.Y.C.

This year, the nurses had a two-hour session of their own. Its purpose was to have the nurses present any problems they might have and to discuss the work and progress of each Medical Department so that all the nurses become familiar with the activities of each one.

It was disclosed that now all the physical examinations of the employees are removed from the personnel files and are kept in the employees' medical file in the Medical Department.

The question arose whether or not the nurse should visit the employees in

their homes when they are off sick. It was decided that discretion should be used in this matter as we would be defeating the purpose of the Medical Department to give the employee the impression we were acting as truant officers.

Many of the nurses felt that it would be helpful if a policy could be set up when it was necessary, in terms of the days absent, for an employee to report to the Medical Department on the day he returns to work and when it was necessary to have a doctor's certification. It was the general opinion that every employee should report to the Medical Department even for a one day absence and that the length of absence requiring a doctor's certificate should be decided upon by the plant physician and management of each unit.

The problem of secretarial help was discussed. A few of the nurses felt that in their departments it was very inadequate and it was impossible for them to take care of keeping the records and reports up to date themselves.

The importance of reporting even very minor injuries was stressed. It was disclosed that in some of the departments this was not being done.

The nurses felt that the general discussion of their problems was of value to them and the time was well spent.

Epidemiological Studies of Cancer in the Petroleum Industry

Dr. John J. Phair, Professor of Preventive Medicine, University of Cincinnati,
Cincinnati, Ohio

It is really very difficult to obtain actual figures on the epidemiological studies. The answer as to whether or not there is a hazard in the oil industry must come from human cases. The work of the Subcommittee on Carcinogenicity of the A.P.I. Medical Advisory Committee is divided into clinical work and epidemiological studies. I was asked to investigate the studies and we have tried to crystallize just what an epidemiological study is. I spent most of the spring and early summer doing this.

At the Subcommittee meeting held March 25, 1950, the following objectives were

presented: (I) The determination of incidence and prevalence rates of regrograde, hypertrophic or neoplastic reactions in employees of the petroleum industry. (II) The comparison of these rates with those of the general population and other industries. (III) The evaluation of control procedures that have been accepted, employed or recommended. (IV) The recommendation, if the studies justify the action, of standardized safety and control measures.

The possible approaches to these objectives are: (1) A Retrospective or Historical Study of all available records of such cases among the employees of the petroleum industry. (2) A Current Registry receiving reports of such cases as they are discovered by and/or reported to the various Medical Departments. (3) A study of the Employee Health Benefit Plan records with the hope that like data can be secured from other industries. (4) Field surveys of retrograde or hyperkeratotic lesions on exposed skin surfaces. (5) A repetition of the studies which have pointed out an unusual hazard in the Slack Wax Process. (6) The establishment of a Consultation Service to assist in the planning of comparable company studies. This last approach was not discussed at the Cincinnati meeting.

The Medical Advisory Committee felt that by having the records in a central location (Kettering Laboratory) that it would focus the interest of the cancer studies in the country. Doctors and management would then think of the Kettering Laboratory and cancer together and they would tend to accept other programs because this one was already in operation.

We want an over-all picture to see if there is a definite pattern that is followed. We do have fairly good figures available now as to what type of tumors we will find throughout the United States. The Medical Advisory Committee thought it would be well to report all types of tumors, no matter what the site.

Taking the industry as a whole, we would probably get one or two cases per 1,000 employees. The average company will have 25 to 50 cases per year to report.

We are not placing an unusual burden on the various Medical Departments, therefore, have tried to standardize the method of reporting. The use of a standardized record might stimulate interest. Originally, we started out with three records. The present form is a compromise of what was first used. The record is divided into a clinical and an occupational record. We have asked that even though the histories are old and not entirely complete, that they should be recorded and sent to the Registry.

The important information to obtain is the exposure to irritants. The occupational history is not too easy to obtain. The average oil company now keeps good personnel records, which are very helpful. However, the Medical Director is the one who should make the decision as to what information should be set forth on the forms.

Medical Aspects of Nuclear Energy

Dr. Allan McLellan, Plant Physician, Casper, Wyoming

(
Thank you for the privilege of addressing the Medical Personnel and Guests at this Fifth Annual Medical Meeting on the Medical Aspects of Nuclear Energy. My interest in this field had been stimulated by a recent short course at the Army Medical Department Research and Graduate School, Army Medical Center, Washington, D.C. This was most ably presented by members of that faculty, various medical officers and Physicists of the Atomic Energy Commission, Air Force, Navy, Public Health Service personnel and many interested civilian workers of note.

It is utterly impossible to go into any of the details of this gigantic problem which has been of such world-wide interest, but grossly misunderstood, minimized and magnified by writers. But as doctors and allied medical workers, familiar with effects of thermal trauma, the problem of basic interest (and it is ours to solve) is how are we to so improve our knowledge and treatment of burns of the human being if we should be called to treat astronomical members, with varying degrees, all

occurring within 30 seconds of a blast which exposed them to 4,000°C.

Statistics have been shown and when we, as individuals, treat burns of varying magnitude in our individual practice, we must stop to consider the amount of plasma, whole blood, antibiotics, dressings, etc., plus the man-hours work expended on each single case, we must come forth with simplification of present-day therapy in order to justify the faith placed in us.

No mention of the post-radiation hazards is made, since in my humble opinion, the aforementioned problem must be solved first. We have and can solve many aspects of this post-radiation syndrome by following the Dictum we have advocated by stressing to the workmen the necessity of cleanliness and avoidance of contamination by simple hygienic measures. The magnitude of our task is beyond comprehension, but coordination of all efforts, at various levels of Government, while seemingly in a state of confusion, show signs of improvement. The care of the sick and injured is still the problem of American Medicine.

Phillips Petroleum Company's Mobile Unit

Dr. Kieffer Davis, Medical Director, Phillips Petroleum Company,
Bartlesville, Oklahoma

It costs us approximately between \$46,000 and \$47,000 to operate our mobile unit, and averages about \$4.75 per person. We have a full-time doctor and a full-time medical technician employed. We have an X-ray unit for the chest plates which uses a small 7 mm. film, the same as the ones used in the Tuberculosis Surveys. We give a general physical examination, which includes also a urinalysis and a complete blood count. We have been doing blood typing on everyone, which will be very useful in cases which might be effected by an atomic bomb disaster. We have examined several thousand people and have picked up only a few cases of cancer.

Follow-up examinations are made by us and the patient is sent to Company-selected physicians in his area. Follow-ups are paid for by the Company. If a man

requests a follow-up himself, just for his own benefit, then he pays for it himself.

The blood and X-ray films are sent to the main office for examination at the home laboratory. The report is sent from the central office. The films are reviewed by a roentgenologist. All of the electrocardiograms are taken on the key men and are read in the central office.

Safety and Medical Departments in Refineries

Dr. Arthur E. Hoag, Medical Director, 26 Broadway, New York

Very few, if any, petroleum refineries are without a Medical Department in this day and age of a rapidly expanding program of preventive medicine. Industrial medicine, as such, has been practiced for over a century and a half. At the beginning, its scope was very restricted and only a few physicians and surgeons had any working knowledge of industrial medicine. Even today, there are no such courses given during the four-year college training. However, at the present time many medical colleges are setting up excellent post-graduate courses in this very important phase of medicine. In the beginning, the work of the industrial physician was to treat occupational injuries. Very little was thought of occupational diseases and nothing was thought of preventive medicine.

A great impetus was given the safety department and the safety engineer following the initiation of the Workmen's Compensation Law. Before the enactment of this law, it was generally felt that the employee was responsible for his own health, even though he was injured during the course of his employment.

After these compensation laws become effective, it was to the interest of the employee, as well as management, that a safety program be inaugurated to prevent accidents. Then the responsibility of all accidents was placed with the safety department. They instituted rules, discipline, educational programs and were re-

sponsible for the guarding of all machinery. They were even responsible for the first aid room. Taking everything into consideration, they did a mighty fine job. It was soon found that just having a safety department was not the answer.

When it became apparent that the goal of the safety engineer and the industrial physician were similar, it was very apparent that a close cooperation between the two departments should be established. Today, the medical and safety departments team up together for a better and a more comprehensive program.

It was found that the medical department's pre-placement examinations played an important role. It was discovered that every job had its own requirements. For example, it was important not to place a man with poor eyesight on a job where excellent vision was required; or an employee with a chest condition should not be placed on a job where there was a dust hazard. Safety soon found that this type of examination paid off.

It is apparent that one department should not transgress on the other's responsibility, therefore, there should be some form of breakdown as to the functions of each. (1) Equipment. (2) Health of the employee (such as environment, industrial hygiene, sanitation and food). If this is done, there should be complete harmony between the two departments.

Since there is to be close teamwork between the two departments, there should be frequent consultations. The safety department should receive from medical, a daily report of all occupational injuries and diseases which occur. If the accident is severe, immediate notification should be submitted so that the accident can be investigated as soon afterward as possible.

When the employee applies for his first treatment, a very complete and accurate history must be taken by the medical department. This history should include the date, time visited the medical department, patient's name in full, occupational (type of work), department and the supervisor's name. The information