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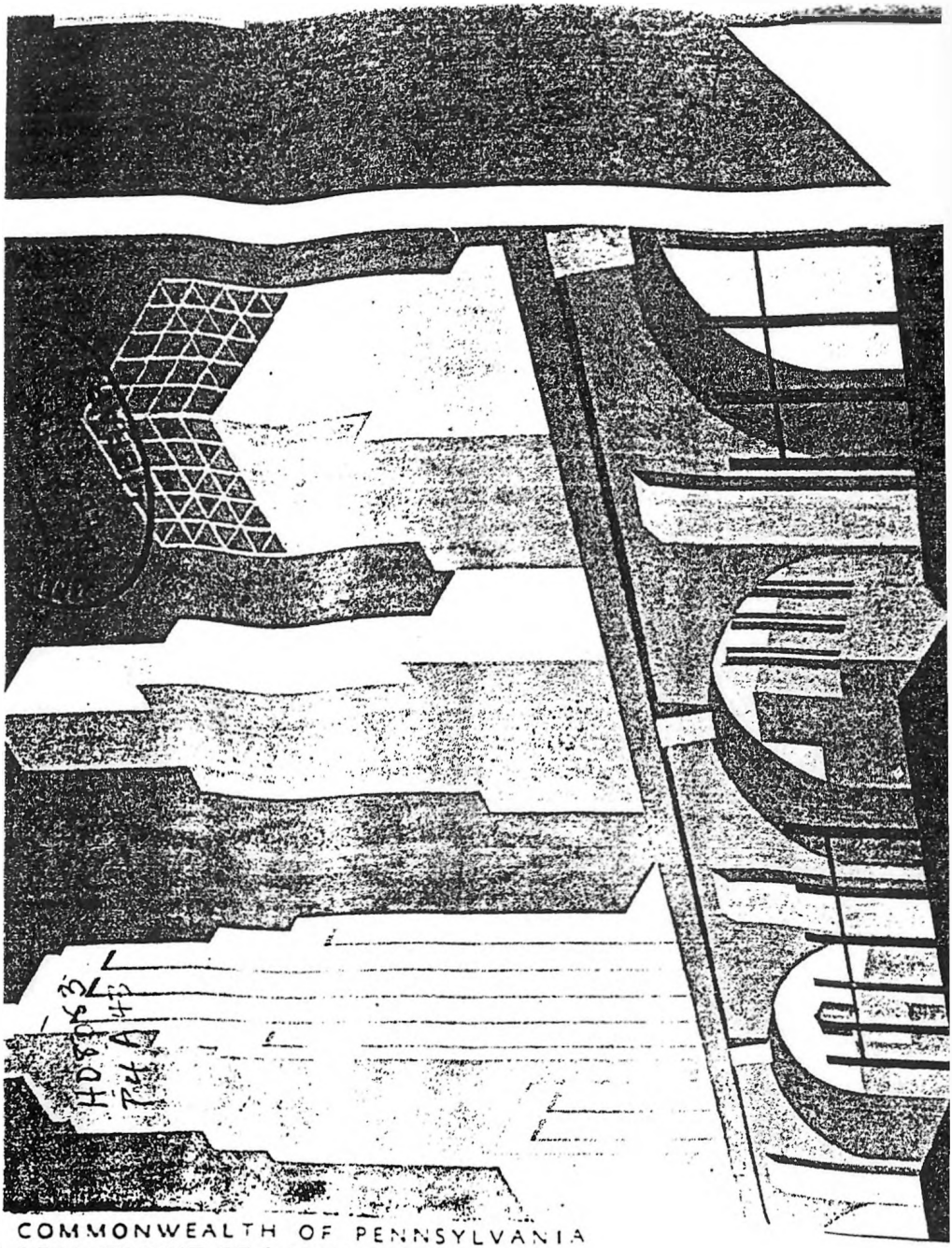

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DEPARTMENT OF LABOR AND INDUSTRY
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PENNSY LABOR & REVIEW ★

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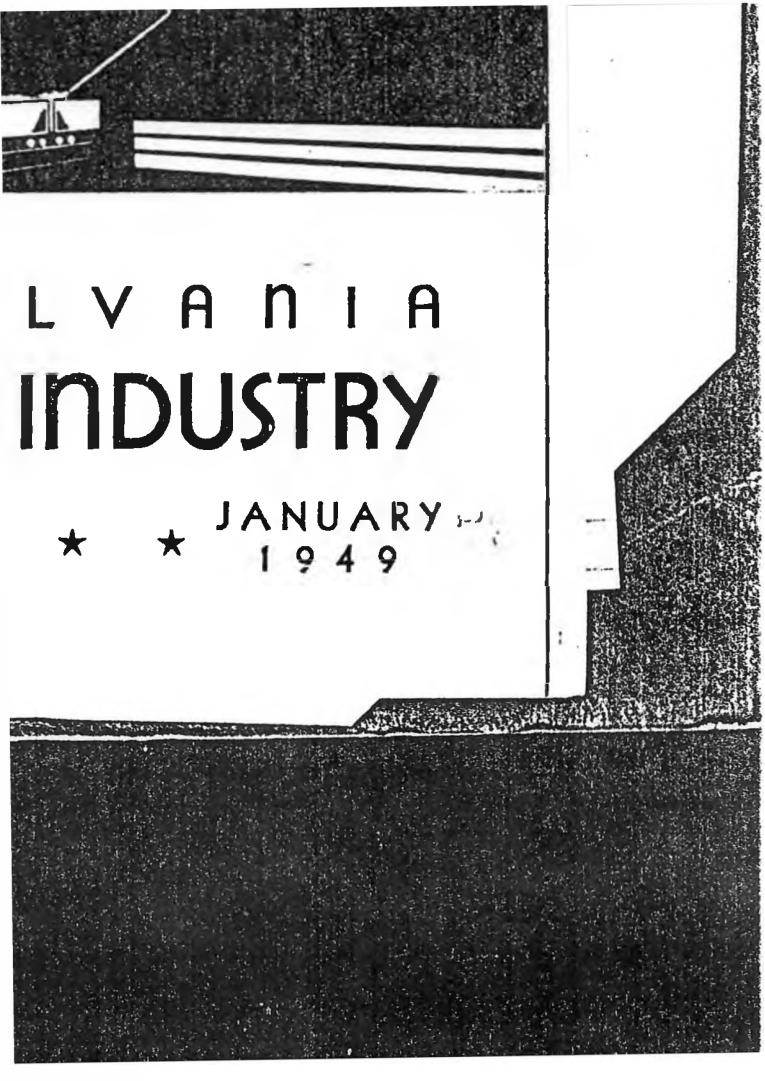

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INDUSTRY

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In This Issue . . .

NNSYLVANIA LABOR AND INDUSTRY REVIEW

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FOREWORD

ONE OF the principal means of advancement for industrial safety is the safety conference. At these meetings, experts in various fields of industry gather for interchange of new ideas and methods.

The cause of industrial safety, in Pennsylvania as well as throughout the Nation, is more important today than ever before, for two reasons.

First, these are times when the appalling waste of manpower and production caused by industrial accidents must be reduced to a very minimum, because a hungry world needs all America can produce to insure its continued physical existence, and to preserve the ideals of freedom everywhere.

Second, with more than 6 millions of workers employed in the United States to satisfy this unprecedented demand for goods and services, industrial accident hazards are at a new all time high. In the cause of humanity, it behooves us to bend every effort toward maximum preservation of life and limb.

Pennsylvania, being the Union's second industrial State, finds this problem especially acute.

During the annual Pennsylvania State-wide Accident Prevention Conference at Harrisburg recently, the foremost experts in the field of scientific safety gathered for a frontal attack upon their common foe. They represented such outstanding and civic-minded groups as the Philadelphia Safety Council, the Western Pennsylvania Safety Council, the Lehigh Valley Safety Council, the Erie Safety Council, and other groups.

Their meeting constituted a significant forward stride in industrial safety in Pennsylvania, and every delegate returned home richer in knowledge and firmer in determination to make Pennsylvania safe. It was an inspiring meeting of the foremost minds in the field of safety.

Therefore, by popular request, in the current issue of the *Labor and Industry Review* of the Department of Labor and Industry, the deliberations of the various experts constituting the panel are re-printed herewith in full. Together, they constitute a valuable handbook in safety, of interest to every employer and every worker in our Commonwealth.

Secretary of Labor and Industry

¶ A SAFETY COUNCIL C

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Mr. Brainerd Is District
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¶ A SAFETY COUNCIL OFFICIAL . . . . .

HARRY H. BRAINERD

Mr. Brainerd Is District Manager of the Western Pennsylvania Safety Council

MANY plants, and we are happy to say most of them in Western Pennsylvania, have in very conspicuous places throughout their offices, plaques and certificates, signifying their great accomplishments in safety. It seems that hardly a week goes by that some company in this Commonwealth is not honored by some recognition for its safety record. This is an indication of the thinking of the President, the Chairman of the Board, the Foremen and all your management supervisors as to the importance they put upon accident prevention.

It is interesting to review what has happened over the past quarter of a century in industrial accident prevention.

All of you know better than I do how we started out with the idea that if we could guard machines, make mechanical changes, we'd cut our losses from accidents. After spending many millions of dollars, we soon found that after all we are dealing with people, and it is the errors that people make that are the basis for the unnecessary loss as a result of accident. When we step away from the plant, we have a parallel situation in the community. For, after all, the commuity is made up of people old and young. You can tell pretty nearly by riding through any given area what type of people are there, what is their earning power, do they have initiative, ambition, are they trying to better themselves. And if you find that, you'll find a community that has well paved streets, school buildings, new homes. And if you look further you will find they have a minimum of traffic and other hazards that would rob the lives and result in injuries to the citizens in their community.

To have a good safe community you have to have leadership. Someone has to spearhead the movement. Someone has to stimulate everyone and make them conscious that their individual actions, whether it be at home, walking on the street or highway, driving an automobile, riding a bicycle or roller skating as our youngsters do, that they have an individual responsibility to the safety and welfare of the community in which they live. And I think by and large, that is pretty much the aim of the National Safety Council, the Philadelphia Safety Council, and all the other local safety councils that are working day and night to try to bring about fewer accidents to the people in any community.

You have driven through communities where you find the streets badly in need of repair, houses unpainted, lawns unkept, and you wonder why. Then you look around to see what sort of a business center it has and you

usually find that there are one or two, maybe small, but nevertheless plants of some manufacturing nature that by themselves, just to look at them, indicate that they have not come up to the 1948 standard in thinking. By that I mean they probably pay very close attention to what people are doing when they are on the job, but they let the whistle blow and forget about those people when they go out into the community.

I will bet they have trouble within their plants—unrest and not a very harmonious feeling between their employees while they are on the job. Consequently, I think that industry's part in this community safety program is to provide the leadership in these communities to make them a better place in which to live. Over a period of years, industries have done that. Proof of it is written in the history of the National Safety Council. They financed it, they operated it, and so on through the years they have carried the major burden of accident prevention.

Unfortunately,—and this is entirely personal—because some of my directors may not agree: I hope they do—unfortunately, there has been a tendency in the minds of people that industry ought to pay the bill and consequently they have been called upon time and time again to dig down in their pockets and finance the community safety programs. I have never found a businessman, an industrialist, that isn't ready and willing to admit that they have a large part in the safety program of a community and that they have a specific responsibility and they admit that it costs money and more money than has ever been given to any agency for that work and as time goes on it seems as though it will need more and more. At the same time they do not believe they should carry the whole burden. And personally, I do not believe they should either.

The Community Safety problem is what? You can apply every principle that is found in an industrial program. It deals with children through the schools, playgrounds, etc. It deals with the home, which we all know is the most hazardous place on the face of the earth. It deals with traffic, fire prevention, etc., and you and I as individuals ought to carry the major portion of the community program. We should be able, as leaders, to impress our employees with their full sense of responsibility towards the community safety program. If you do that on your job—with your employees while they are on the job— you are going to find benefits directly accrued through the development of better safety consciousness on the part of every individual employee. That does not cost money. That is effort and that is what I mean by leadership.

Let's look at the other side. For sometime, my officers and directors in the Western Pennsylvania Safety Council believed that our greater task as an organization is to indoctrinate the members of the communities in which we operate with a fuller sense of their individual responsibility, and along with that, to bring about a responsibility of helping to pay for the program from which they will benefit. There are several approaches that can be taken. We decided that the old adage of trying to teach an old dog new tricks was in effect right, so we thought we'd start with the youngsters. If we can start with the youngsters when they become school age, even pre-school age and continuously impress them as they grow older that we will eventually have a more safe minded group of individuals in the community.

We started that out—some of you have probably heard of this Green Pennant Program which we operated last year in Allegheny County as a try-out. Some people termed it the Cradle to the Grave Program. It is no more than the adaption of an industrial program that proved to be an outstanding stimulus for the reduction of industrial accidents, particularly prevalent during the war when everyone was after "E" Awards. It is identically the same program made applicable to school children in a community. We were faced with the same problem as every other agency. It costs money. Where are we going to get the money. We refused to go back to industry and say "Give" because we believed that you can have an active program which will stimulate a desire to participate.

We went to work, started a program, awarded pennants. Instead of "E" Pennants, we called them Green Pennants. The young

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We went to work, started a program, awarded pennants. Instead of "E" Pennants, we called them Green Pennants. The youngsters had to have a thirty-day period free of traffic accidents and they won the pennant, and we continued with monthly awards to keep them stimulated. At the end of the year there was a permanent award. When we got through, we looked back to see what we had done. What was the result? How much did it cost? We knew the bills were paid and we thought we'd check up to see where the money came from. The leadership which industry gave to the start of that program did not cost them money. My Board of Directors underwrote and said, "make it self-supporting. It is a good program and if you do the job the people in the community will appreciate it and will help." That proved to be the case.

We asked the adults to join the children in the Green Pennant Program with a sticker for a dollar. We collected not quite enough to pay the whole bill. How could we keep from going back and asking some individual group, business or industry for a handout? We staged a benefit baseball game between the Philadelphia A's and the Pittsburgh Pirates. Why did they do it? Because they saw a program in operation benefitting the children and each of the ball clubs told us they want to be a part of the community. Their welfare and future depend upon a good community. They want to be a part of it. If they can do it by playing a game, they wanted to do it. Without a program they wouldn't have let us in the front door. I am convinced that in all areas of accident pre-

vention in your community particularly, a good active program will be self-supporting. So, consequently, I cannot agree with some people who have talked about industry's stake in the community as being, as one council manager said, Vitamin C—CASH. It isn't. It is leadership and it is active leadership. It isn't serving on a Board of Directors or being an officer. I think that industry should urge their men to participate in community affairs. I think if there is a chance for any representative to serve on a traffic committee in a community they should be given every opportunity to do it. If they can serve on the school board in any capacity let them do it. Urge them to do it. Somebody will say that costs money, they take the time away from the plant. That is true but as the individual in leadership finds, most of those things happen when they aren't on the job anyway. They can participate without too much loss of time. If we'll do that I don't think we will have to subscribe to the cash basis that everyone seems to think industry must provide for the safety movement. Sure, they have to help but I would like to re-emphasize that it is leadership, active participation in all of the various programs in the community that is the major part for the contribution of a better community.

If you will pardon a personal reference again, we just finished at a county fair what I think is one of the nicest exhibits we ever had. It is called Safety Town. We had streets marked off in a segregated area where we had police women. In the City of Pittsburgh, we have found police women serving as school guards at school crossings are doing 99-44/100% better job than the average police officer who is called away for other duties. The children like them. They look pretty snappy in their uniforms. Somebody must be picking them for their looks. But these women came out and directed traffic for these children. We gave them automobiles to create the traffic, and demonstrated what they should do at crossings.

Now, how did we put that exhibit on? It cost somewhere in the neighborhood of $3,000 for a five-day period. My council isn't any different from any other safety council. We didn't have $3,000, but we had industry willing to continue to provide the leadership. We had a program that was acceptable and everybody knew what it was. The American Cable and Wire, the Pittsburgh Plate Glass Company, paint, The County of Allegheny paved the place, the Fitch Conservatory the floral decorations, Gulf Oil, the gasoline stations, Pittsburgh Sun-Telegraph bought the automobiles. I went out and worked with the police women, the nicest part of it. It was in dollars and cents around $3,000. We did an actual prevention job in those five days.

¶ LABOR'S PART IN SAF

JAMES

Mr. McDevitt Is President

AS A SPOKESMAN for American Federation of La here in Pennsylvani thought I'd like to say a few wo to you with respect to our resp sibility in the labor-managem picture and the efforts over years to prevent accidents. I th most of you know the kind work done by the leadership our side of the fence in pron ing safety, and the conduct meetings with shop stewards, b ness agents and other official the labor movement on the ject of safety, so that they in could get to the benches directly to the workers, the la stories we had to deliver with spect to accident prevention

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¶ LABOR'S PART IN SAFETY . . . . .

JAMES L. McDEVITT

Mr. McDevitt Is President of the Pennsylvania State Federation of Labor

AS A SPOKESMAN for the American Federation of Labor here in Pennsylvania, I thought I'd like to say a few words to you with respect to our responsibility in the labor-management picture and the efforts over the years to prevent accidents. I think most of you know the kind of work done by the leadership on our side of the fence in promoting safety, and the conduct of meetings with shop stewards, business agents and other officials of the labor movement on the subject of safety, so that they in turn could get to the benches and directly to the workers, the latest stories we had to deliver with respect to accident prevention.

I think we have had a great deal of success with the coopera tion of the Department of Labor and Industry in that direction, and as evidence of that I believe the report of the Department indicates quite clearly that we have had that kind of cooperation. But, there is a great deal needed yet and when it is all boiled down, there are only two factors involved.

One is that very important matter of equipment, and two, education. When the equipment is there, it is then alone the question of educating the worker, making him conscious of the dangers involved and the need for thinking. That is certainly a difficult task, but I believe great strides have been made in that direction. I don't think any plant in our state is not safety conscious. Maybe a few—but relatively so.

In looking over the records of the complaints we have had over our desks over the year, the greatest number have to do with dust hazards. We seem to be experiencing considerable difficulty on that score, and while I am mindful of the tremendous problem our leaders in industry face with respect to dust hazards, I am also mindful of the tremendous increase in the number of diseases from dust. As an example, we had one plant in the central part of our State just about two years ago that didn't have a blower—no one. Of course, when that was called to the State's attention, the matter was corrected and within a month or five weeks, the reports we now have covering that plant indicate that we haven't had one case develop in the last two years. What a saving that represents to that company.

But our big headache is with the dust problem. We are too mindful of the fact that there are some conditions that cannot be overcome. But I refer only to those that can be overcome and those, of course, that can be

eased to some extent. So we are calling on industry, particularly those of you who represent companies engaged in work and further study to that problem. That is the thing that worries us more than anything else. It is a thing on the constant increase and with the perfection of new materials, the hazards of course are increased. As for our part in the labor movement, I do want to assure you we are going to continue with all the resources at our command, to educate our people of the importance of stopping to think when their lives are in jeopardy.

I am going to conclude and once again assure all of you of our intense interest in the safety campaign and our desire to be of assistance to you at any time you feel we may be able to lend any effort in our capacity and to assure the Department of Labor and Industry of our continued cooperation.

♦ ♦ ♦

¶ SAFETY AND PRODUCTION . . . . .

WILLIAM C. LANDIS

Mr. Landis Is Vice-President of the Western Union Switch and Signal Company

I WOULD like to re-emphasize some of the things we all know or should know, and have known about the practical effects of safety on production. I am going to ignore the human side of safety. We are all conscious of it. We are all willing to do our parts to keep lives from being lost and fingers and eyes from being lost. But that's another phase of the question, the same as Harry Brainerd's angle having to do with community safety and the responsibility we have in that respect.

I am going to look at safety work from the dollars and cents aspect of the economics of operating an industrial establishment. I'd like to say first that I don't think safety is an end to be accomplished in an industrial plant. It is a means to an end. The reason we have a plant, or a company, or an enterprise or business of any sort is to produce something. We can't ever lose sight of the fact that production is the objective of our working every day life.

So safety in a plant is not a philantrophic venture, or something to do for charitable reasons. Safety in an industrial plant is a tool of production, and it is either a good or a bad tool, depending upon how it is set up and administered. The safest plant in the world wouldn't necessarily be a good place to work. It might be bankrupt, it might never get started. The thing that makes that plant and company continue is that continuing flow of business and an organization of good workmen and good supervisors and good technicians who keep that business coming in.

We are dealing with other men's money in an organization of that sort, and dealing with other men's money in a way which means we have to continually progress in order to keep that money at work and in order to continue to have an operating institution and continue to have jobs both for ourselves and for all of those who are associated with us.

Thus, a safety program in an industrial institution is one of the marginal factors that contribute to the production.

I say the objective of a manufacturing plant is to Produce. I like to put it that it means putting into a freight car and freight truck materials that customers will buy, of a quality that is satisfactory, at a cost that is reasonable. And to do all those things best, we must do them safely. I don't have to go into a lot of detail to remind you that everyone of those requirements of a plant's operation are affected by safety or lack of it. The cost most certainly is. Little things like compensation payments represent spending somebody's money.

The maintenance of the facilities, the safety equipment, the protective medical facilities and all of the people who have to do with it—those things represent money. The biggest loss though, I think, of money in safety work in a plant comes with the loss of time. Because, Time represents Money. Every minute of time in a plant is paid for and if that time is lost, it represents an economic

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The maintenance of the facilities, the safety equipment, the protective medical facilities and all of the people who have to do with it—those things represent money. The biggest loss though, I think, of money in safety work in a plant comes with the loss of time. Because, Time represents Money. Every minute of time in a plant is paid for and if that time is lost, it represents an economic waste and a loss of money that can't be replaced. It goes into the final cost of the product and it becomes a very important element in that cost.

The supervisor and the plant manager and the plant executive who is interested in costs can't ignore the safety factor. Quality, I think, is affected very materially by whether or not we have a safe place to work. If I'm standing alongside of a pouring track in a foundry, I always find myself wondering how soon some of that metal is going to splatter on to me. If I'm standing by a machine in a shop or walking down the aisle, I'm wondering always which one of those chips is going to land in my eye and I find myself doing that all the time and when I'm thinking about that, I'm not thinking about my job. That must be true of others—perhaps everyone. Because, in ignoring a part of the job that they are supposed to be doing at the time because they are worrying about personal safety, they can't be putting their best into the work, getting the utmost in quality. They must be wasting some time and, therefore, some money.

So that to the extent that we can make a plant safe, we make it more economically sound as an operating institution. We can never hope to make a plant entirely safe. We are dealing with people too, as I said before, and no one can predict what one person will do or another person will do, but we can do our best to make the plant as safe as we can. In order to do that, we must, of course, have a safety department,

an organization which keeps up to date on all of the latest devices, that is aggressive in promoting them and in encouraging their use, that has enough go-gettiveness to persuade the executive management of the plant to be interested, and to get the supervisors and the workmen and everyone else to work with them. We need that safety department as a spearhead. We must have it. It is a MUST.

But no safety department will make the plant safe. No plant and management can make a plant safe. The plane management must be sympathetic, must encourage safety, must put its weight behind it. But not alone. Everybody has got to be safety conscious—every supervisor, every workman. They have to think all the time about doing everything in the way that will be the least hazardous. One of the ways in which that can be done is by promoting good housekeeping, orderliness. Things that are stacked properly don't fall over. If there is no rubbish pile, you can't trip over it. Not only do housekeeping and orderliness promote good production and workmanship, but they promote safety.

So I would think that the very first move in trying to make a safe place to work would be to do a good job of housekeeping. Then from there on, keep everything in mind, that anything that can cause an accident is a potential hazard, not only to the physical well-being but to the economic investment with which we are surrounded. And if we could school ourselves to do that and school everybody in our organization to do that, we will probably come as close to the ultimate in having a safe place in which to work as anyone could come.

Safety programs are supposed to improve morale. I don't know what morale is. Some people think it is having music with your work, and others have different formulas. But to me morale is mostly made up of being satisfied with the place in which you work, having confidence and respect for the people you work with—your supervisor having respect for the workman, and workmen having respect for the supervisor. And all of us can have more respect for the other fellow in our organization. It is to feel that he has an interest in our welfare and our safety and that he is doing something all the time to try to make our work place a better place in which to work.

In talking with our foremen and superintendents, I always try to break down overhead and other abstract things around a manufacturing plant, into terms they can understand. I try to represent the lights that are burning, the machines we buy for them to use and it represents all the brass hats and its represents too many brooms when they don't use them in the right way. It represents little things and safety in the same way represents little things. It may mean that you take a side step sometime instead of stepping forward and you step into an unsafe position instead of a safe one.

It is something that just can' be talked about in big, broa figures or abstract terms. It i something that is dependent upo every move we make, every direc tion of our walking through plant. It may mean a questio as to whether we come to wo this morning or stay at hom Littte things—l i t t l e practic things—are the things that d termine whether or not we a working safely or not worki safely. And so, if we just try think about it that way, try make ourselves conscious of t importance of every last thi we do, of every move we make, every thought we have, and try make each moment as safe moment as we can, we are m likely to come out at the end the line with an aggregate safe practices rather than uns practices.

¶ SAFETY IN A DECENT

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Mr. Morse Is Director of Em Corporati

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To get back to the subject—What a Good Safety Program Can Do for Production—I'd put it this way: That a good safety program not only can do something for production, you've got to have one in order to have good production. It is a must; it is a production tool that can't be ignored. One of the more important things—we must have a management which is sympathetic and understanding in that direction, must be given supervisors and workmen who have been trained to be safety conscious and have the intelligence to proceed in that manner. Must have a safety department that is active and efficient and able to keep everybody else steamed up. Then you are bound to have a relatively safe plant, and if you do you will be making the most of your economic investment and will have shown yourselves to be good managers.

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¶ SAFETY IN A DECENTRALIZED OPERATION . . . . .

G. E. MORSE

Mr. Morse Is Director of Employe Relations, Sylvania Electric Products Corporation, Emporium, Penna.

THE PRACTICE of decentralization of operations has given us at Sylvania a brand new point of view with regard to safety and accident prevention. By way of building the scene, a bit of history may be helpful. Prior to the War, we had two plants in Pennsylvania—one at St. Mary's and the other at Emporium. They were close enough to be operated as a single unit, as far as safety and accident prevention work is concerned. Over the period of years we had been in business, we developed a rather formal, carefully planned, well established, s m o o t h l y functioning safety program.

Looking back upon that period,

we can understand why that system worked so well. We had two major products—incandescent light bulbs and radio receiving tubes. The simplicity of the problem was not the reason our program went so smoothly. Behind it was the fact of an on-the-spot top management with an interest in safety work. In operating with a regard for the hazards to life and limb involved in industrial operations, not only were they on-the-spot, but they knew personally from experience, day to day, week to week, year to year the personnel, equipment, and process, so the program had a personality to it that stemmed from the very top reaches of the organization and helped to make it of importance equal with other aspects of the job. Then came the War with its terrific demand for expansion. In fact the War experience upset us completely—especially our safety and accident prevention work.

First, there was the tremendous influx of new employes. Not only the added ones to meet war-time orders, but the terrific turnover we experienced during that period. The draft and the spreading out of supervision contributed to the break up of our experience pattern. The threads of the past were gone. The personal know-how, the individual familiarity with operations, with possible sources of hazards and accidents were broken and, in many instances, lost. Top management went on the road or moved away to new locations or jobs. Overcrowded conditions increased the problems. New products moved in. We had a lack of help. We could not hire the people we wanted, even when we scraped the bottom of the barrel. The need for new materials—the need to be self-sufficient—the pressure to get out the war production—all affected the change.

It was out of an almost actual breakdown of our operating system that we developed a new point of view and a new plan—the plan to decentralize operations. That plan is of interest because, while Sylvania in toto is counted as a large company, the decentralization process broke us down to small operating units, many brand new, many well below 100 employes total, so our experience has meaning now for the small or average sized firm. It has meaning for the large firm which, like Sylvania, is decentralized with regard to its manufacturing facilities.

Decentralization of operations forces a centralization of administration and service functions. It forced us to centralize our safety and accident prevention work. We were fearful of the change initially because, added to all the burdens of these war-time changes, we were a little alarmed that we would be so far removed from any personal contact, with front line management out at the finger tips of the decentralized organization; that our program would be a paper program; that we would talk a good game of accident prevention, but really would fail to have a workable one.

We feared that the write-up, the chart, the forms, all the procedures would look good, but the accidents would crowd in on us—people would be hurt, injured, would have their health damaged, because no one was on the spot representing top authority to take a personal interest in this phase of the work—a phase all too easy to abandon in meeting of the need of a war-time schedule.

We made a radical change in the organization set-up of our safety program. Previously it had been part and parcel of manufacturer reporting to the top operating executive. With the decentralization of operations and with the emphasis on centralization of services—safety and accident prevention, industrial hygiene, employe health—were grouped together under the Personnel or Industrial Relations Department. How could we, in making such a move, still carry the prestige of top management blessing to our safety work? It was decided to give it a try by putting it in the top reaches of our Industrial Relations Department.

Unfortunately it fell to me to head the program. I say unfortunately because, in spite of the fact of my engineering background—and ten years actual experience at that time with the Company, I was not a safety man. I was not even a qualified inspector. There was only one way to bridge that gap. The safety program, while normally under the direction of the Industrial Relations Department, was given a direct channel to top management, to the President of the Corporation, so he saw a safety problem without delay. An in-

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Unfortunately it fell to me to head the program. I say unfortunately because, in spite of the fact of my engineering background—and ten years actual experience at that time with the Company, I was not a safety man. I was not even a qualified inspector. There was only one way to bridge that gap. The safety program, while normally under the direction of the Industrial Relations Department, was given a direct channel to top management, to the President of the Corporation, so he saw a safety problem without delay. An inspector's report or a recommendation from the State of Pennsylvania, or a suggestion by the insurance company would not be road-blocked, but could if necessary travel freely and effectively right to the top of our Company. On the other hand, by being tied in with the rest of our personnel program, we had an open door into every nook and cranny of the organization, in spite of war-time security limitations, in spite of accounting niceties which tend to put things in little pockets and not allow a free interchange of information between activities.

Under a Service Department, which affected everyone, through top management and every branch of the organization, and with the channel clear to the operating executive for the Company as a whole, we started out. That sounds fine. That's the paper program. But what happened is what counts. The credit for the success of that operation goes to the men in the field, particularly to Jim Lawler, our Area Safety Engineer in Pennsylvania. The success of our program stemmed, not from the top or the bottom, but from an intelligent, experienced, effective inspection, follow-up and guidance program, through the hands and mind of our Area Safety Engineer.

The problem we faced was a terrific one. We had new products; we began to make metal parts for ourselves; we started in the wire business because wire was a critical material and we could not buy it. We made complicated mechanical equipment,

manufactured gases, and transported them. Finally we got into a war-time program that almost swept us away—our part in the manufacture of that wonderful little fuse that was so effective in turning the tides of the War—the variable time fuse which helped win the Battle of the Bulge and proved to be our answer to the Kamikaze suicide raiders in the Pacific. Purchasing agents who ordered parts by the hundred were dizzy when orders came through by the millions. We had to hire someone—anyone from the community—for the job of handling dangerous materials that we knew little or nothing about. Employes operated machines who never had done that work before, and yet Jim and the safety men in the plants were able to lick those problems.

In attempting to analyze why it worked and to take out of that analysis some hint as to how governmental inspection services or individual industrial safety organizations can call upon those same sources for day to day effectuation of safety and accident programs in peace time is worth a moment's consideration.

First we leaned heavily on the State and Federal agencies at hand, particularly the State. We liked Pennsylvania. While it is true that half of our company had its beginnings here and some element of nostalgia entered into our selection of Pennsylvania for expansion, it was even more important that we had a good industrial experience here. We found state agencies that were understanding, helpful and cooperative—found industrial neighbors willing to share our problems and give freely of their experience to help us out. In a short period of time, we increased to eighteen plants in eleven cities and towns in this State, with a flock of subcontracting operations acting as feeders to our own operations. In almost every instance, we were employing people untrained, unfamiliar with industrial work—the ideal group to get into trouble. Just the group we and you would expect to have a poor accident record.

By leaning on the experience—by calling for the help of the State Inspector's Departments (men already overburdened by the war-time demands placed on them), we nevertheless were able to give those new organization personnel a quick support, a quick indoctrination, a very prompt and helpful sharing of many years of experience and specific know-how. We called heavily upon the services of our insurance company and there's a clue for many of us—we pay good money in premiums and count carefully our compensation costs, the results of our over-all program in loss, or accident prevention, but all too often we let lie dormant the tremendous resources of the insurance organizations which are more than willing to be of service if we will only help them to apply their abilities and their facilities to our specific problems—if we regard them as an aid, an ally—if we regard their facilities as tools of ours, rather than to treat them or regard them as outsiders—as a hindrance—as an annoying interference with our own program.

The next thing we did was call upon the State through its educational program. We just did not have the man-power or the skill to train first line supervision in the simple elements of safety work or accident prevention. And so we made out of the personnel and the training material of the State enough to get at least the beginnings of an understanding of what constitutes safe practice into the minds of our crop of new supervision.

Sounds fine, doesn't it? But looking back at it there is an element we must not forget. To describe a program like that almost makes the task look easy, and you and I who have been close to the problem of maintaining a safe and sane operation know that it just isn't easy. The hidden factors that helped to make this burden bearable; that helped to make this challenge meetable, were, first, the newness for many of the people involved.

Here the very thing we feared, we must recognize was helpful to us. The new employe operating a gigantic machine with open fires, handling glass which might cut him, handling wires that might puncture him, was genuinely scared, and his fright helped to make him more susceptible to routine safety instruction. The appeal to patriotic elements at that time was an effective one. A competitive spirit was developed.

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Jim and his crew, by so simple a device as a sheet of paper, showing reportable accidents, lost-time accidents, frequency, and severity figures, plant by plant, developed an interest in safety that almost approached the enthusiasm for a baseball series or a bowling series. Within the plant itself large accident boards were installed right on the work floor. We had the advantage in most places of having all our operations in a single room, or at least a great part of them, and the safety board was set apart deliberately. Other posters, notices, signs were taken down, so that the safety board would stand out, and on it was kept the score, department by department. That too helped to create and maintain a spirit of competition so that safety became a conscious part of the day to day operation of the individual employe, and not just a program that the inspector was held accountable for.

We found that the in-plant problem was not our only one. Just as we felt we were getting somewhere, we were deluged with a rush of outside accidents. Remember during the war period how difficult it was to get someone to repair the leak in the roof or mend that broken pipe in the cellar, and we found our employes, although adequately keyed up to an appreciation of safety on the job, were getting themselves hurt after working hours.

Under war-time working hours, employes played hard to offset their hours of working hard, and we suffered through everything from broken legs as a result of skiing in the winter to broken arms as a result of soft ball com-

petitions in the summer. And again, our accident man, Jim, and his crew came through. They tied in after-hours safety with the necessity of the employes being on the job. In their educational program they worked on the fact that the employe thinks first and foremost of job security. They showed that job security in terms of pay or seniority or work rules has little meaning if it is thrown out the window by a careless accident while at play. The plan worked. A remarkable record you will agree, but what does it mean now?

When the end of the war came, we in Sylvania breathed a sigh of relief. We felt we could uncross our fingers. We said, "Now we will go back to our former time-tested program. Now we will have experienced employes. Now we will have adequate depth of supervision—supervision by men who know the hazards involved, and who have had years of safety experience; they should be better than before the war because of their experience." That was a wrong guess. After V. J. Day, our experience got steadily worse. The pressure was gone. A man down-graded as a result of post-war contraction wasn't the safety conscious experienced supervisor of work that we expected. He was careless. Psychologically something like this was going on in his mind—"I have had ten times that many machines. I've supervised ten times that many people. I've handled much more serious problems than that. These problems are easy." The old bugaboo of familiarity breeding contempt made our accident experience steadily grow worse. We just could not carry on the old way. The old program did not work.

When we took a quick look at our status, we found we had not returned to two plants, St. Marys and Emporium—we were left with fourteen plants in nine different localities in Pennsylvania. We said, "It worked before. Let's go back to the old war-time razzle dazzle." But that failed, too. The money wasn't there for one thing. The patriotic elements were not there for a second. The need for a competitive point of view, rather than a throw-the-manpower-in-and-get-it-out-the-door point of view was another factor that had changed.

A quick review of the plan convinced us there was no easy solution and that there is no easy continuing solution to operating a safety program. That's true either in a single location or in multiple decentralized location such as we have. Nevertheless, we had to act fast. We were about to sink ourselves with accident losses in one plant. We were holding our breath for fear employes would refuse to come to work. We had a toxicity problem that could break at any time in that community and make people say they would give up their jobs at Sylvania; that they could readily get better jobs with less hazards elsewhere. We had another situation where although guards were available and we know the solution to the problem, people were having fingers chopped off because maintenance crews were too busy doing reconversion of machinery and making the changes required by peacetime orders, where instead of Uncle Sam's millions, one customer wanted a hundred, another wanted a dozen, another six.

We decided we had only one course of action—that was to pick the best we had learned from the two prior experiences—our pre-war experience and our actual war-time experience.

First we decided that safety and accident prevention work and health work needed to be centralized. We recognized that we gained an advantage by having for that program a free channel to the top of the organization. So today our Central Medical and Safety Department, although it still appears on the organization chart in industrial relations or personnel (so that the door is open to all locations and activities), has a supplemental line direct to the president of the corporation.

Second, we reasoned that the use of outside help would be the only answer, that it would be possible for us to still meet budget limitations and pressure of competition on our cost and our overhead expense. Therefore, we have attempted and we hope we have succeeded in gaining the very real help the State has to offer. At least that's the direction Sylvania wants to go in—the direction of closer, effective cooperation with State agents. We regard a State inspector as an ally, an assistant, a man we cannot afford for ourselves.

Similarly, we have continued to call upon the resources of our insurance carrier. This is just a little secret between you and me.

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Similarly, we have continued to call upon the resources of our insurance carrier. This is just a little secret between you and me. We almost lost our insurance carrier, not because we weren't using his services, but because we were having such a poor experience. We are convinced now that the two tie together. A good experience cannot be obtained by the trick of trying to lift yourself by your boot straps. Two heads are still better than one, and a good experience comes, I'm sure, in an operation like our own, in calling upon and making use of the facilities and abilities of our insurance company.

Third, and most important of all, is the appeal to the individual. We just find it impossible to go back to the pre-war circumstances where we had a personal relationship all up and down the line. On the other hand, we have lost the extras, the excitement of the war-time fury, but we recognize that we need a personal interest on the part of every employe if there is to be an effective accident prevention program.

To gain that, we have selected in every plant a safety man. We can't afford a full-time man, especially in those units with less than 100 employes total. But whatever other job a safety man has, first and foremost the amount of time allotted to him for his safety work is absolutely inviolate. If it is only ten per cent of his time, that ten per cent for the accident prevention program must and does come first. Every employe in that plant counts the safety man as his friend; also as his team mate in building a completely whole job security. Second, we have tried to tie in our accident and safety work with our

health program. I don't know why it is, but it's a strange quirk of human nature that you and I are much more concerned about the intangible than about the thing we can see.

Expressed very crudely, if I were on a trip through the jungles of Africa, I would much rather be attacked by a man-eating tiger and killed in his jaws than to be stung by a tiny little fly and die of sleeping sickness. Why? I don't know. You and I think there's some justice when we fall off a ladder and break an arm. We understand that. If an infection sets in, we don't even know how we got the scratch, and yet we lose a finger or an arm. We don't understand or accept that. Of great importance in getting personal interest in the program is the psychology that surrounds the typical American's interest in his health.

We have attempted to tie our safety and accident prevention work in with the work of our trained nurses in the plant's first-aid room and to tie it in with the work of our part-time consulting doctors in the towns in which we operate, so that the concern for the intangibles of good health is used to create and maintain individual interest in our safety program.

We don't pretend to have a perfect record. The remarkable results we have shown go to the men on the firing line—Jim Lawler, our Area Safety Engineer, and the men in our plants throughout the State. We are glad to share our experiences, both good and bad, with you. If you want to write or visit Jim in Emporium, the name is J. J. Lawler, Sylvania Electric Products, Emporium, Pennsylvania, and that's not a free gift. There's a catch to it. If you talk to Jim, he will get as much from you as you do from our experience.

¶ DUST CONTROL IN ASBESTOS INDUSTRY . . . . .

B. W. LUTTENBERGER

Mr. Luttenberger Is Plant Manager, U. S. Asbestos Division, Raybestos-Manhattan, Inc., Manheim, Penna.

WE HAD a job to do in the asbestos industry and we've done a fairly good job, but we are still at it and have been at it for thirty years.

Mr. McDevitt has mentioned dust being one of the main complaints of his organization. It's the biggest hazard we have in our plant, or in any asbestos plant.

Asbestos is the only known mineral fiber. Chemically it is silicate of magnesium. Physically it is fibrous, soft and silky, yet is in rock form. The history of its use goes back to Biblical time, in fact it is claimed that the wicks of the lamps of Vestal Virgins were made of asbestos. So also is it claimed that the cloth which Charlemagne threw in the fla to cleanse was made of asbes

Commercially asbestos has b in use less than one hunc years. It is found in every St in the Union, but the only sou used commercially in the Un States are found in Arizona Vermont. The main sources supply are from the Province Quebec, Canada, and in Sc Africa.

Asbestos fibers are receive bags, partially fiberized. processes employed to con these fibers into finished clo tapes, yarns, etc., are substanti the same as used in the woo textile industry. The fibers opened, fluffed, cleaned, car spun, plied and woven into te products. Asbestos fibers short to spin are used in var building materials—shingles, ing, mill board, insulation, Short fibers are also used molded products in the electri automotive and other fields.

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Commercially asbestos has been in use less than one hundred years. It is found in every State in the Union, but the only sources used commercially in the United States are found in Arizona and Vermont. The main sources of supply are from the Province of Quebec, Canada, and in South Africa.

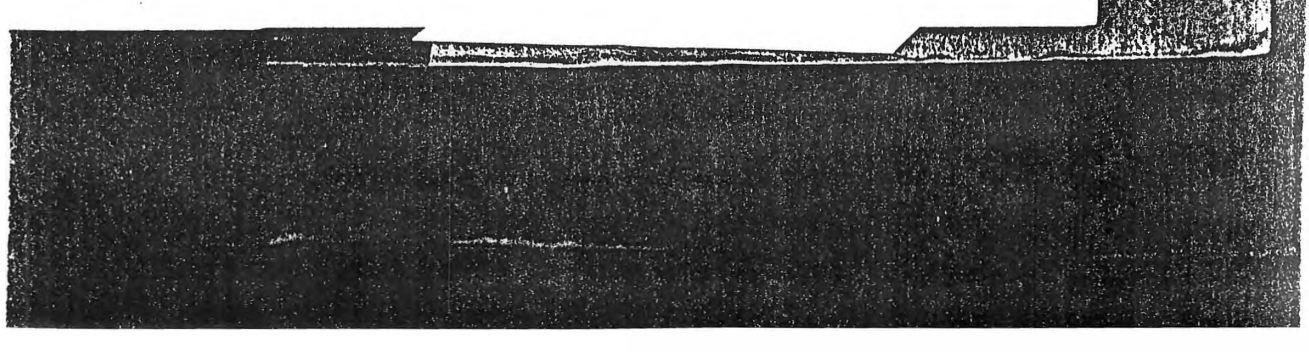
Asbestos fibers are received in bags, partially fiberized. The processes employed to convert these fibers into finished cloths, tapes, yarns, etc., are substantially the same as used in the woolen textile industry. The fibers are opened, fluffed, cleaned, carded, spun, plied and woven into textile products. Asbestos fibers too short to spin are used in various building materials—shingles, siding, mill board, insulation, etc. Short fibers are also used for molded products in the electrical, automotive and other fields.

Whenever and wherever asbestos is processed it creates dust, unless it is thoroughly wetted. Asbestos dust when breathed into the lungs is hazardous to the lung tissues of employes. This hazard has been recognized for many years by the manufacturer and the medical profession. Long before asbestosis was declared an occupational disease and made compensable by law January 1, 1938, in Pennsylvania, the industry kept pace with the engineering progress in the control of the dust.

The first attempt at control at that time seemed quite adequate and modern but looking back thirty years, such systems of control appear just as they were, crude and inadequate. I can tell you, twenty-five years ago, standing in any asbestos plant, twenty-five feet away you wouldn't recognize an employe due to the concentration of the dust.

These first installations amounted to little more than a crude means of ventilation. The air was changed and the dust particles reduced, but the dust was allowed to escape into the room and usually the travel of air was directly past the breathing zone of the operator. Crude, uncomfortable and ineffective dust masks were supplied but it was almost impossible to get the employes to use them. I might say the facilities made available now are very much improved, but we are still up against the problem of nature, of how to fasten these dust masks onto a person's face. Nature put the ears there, or where would you put your glasses? But that is not true of a dust mask. They preferred a piece of gauze or muslin tied over the nose, which medical men declared entirely ineffective. In succession came the open hoods, then enclosed burlap houses — each change tending toward trapping the dust and collecting it at its source before it ever got into the room or the breathing zone of the operator.

I have hurriedly skipped over a good many years of headaches, heartaches, trial and error methods which cost many thousands of dollars, yet most of the members of the industry were willing to do this to control the dust and reduce the hazard.



Today we are proud of the progress made—I speak mostly for our own two plants—the United States Asbestos Division at Manheim with 1,300 employes and the General Asbestos Division at Charleston, South Carolina, with 1,000 employes. I speak also of Johns Manville, Keasby and Mattison, Union Asbestos and Rubber Company, General Electric and many others who have spent much time and expense to control a bad hazard.

In every process that can be controlled, something has been done about it. The first approach is to collect the dust at its source—take it out of the machine and building, filter it or wet it down—and our policy is not to return the filtered air to the department. In fact, we are now exhausting from our plant at Manheim about 300,000 cubic feet of air per minute and not one cubic foot is being returned. We agree with our Department of Labor and Industry that this filtered air is not sufficiently free of dust particles.

Another problem is after we get it out of the department—years ago cyclones were the accepted units for disposal and separation of the dust from the air—dust laden air was discharged into the atmosphere. Today we use either burlap filters for the textile dusts and wet collectors for the grinding dust. In certain processes in the manufacture of asbestos, it is almost impossible to collect the dust at its source. I refer to weaving, spinning, twisting and braiding. Our solution to weaving and braiding is water sprays to dampen the yarns sufficiently to allay the dust—eight to ten per cent will do the trick. For years damp weaving was frowned upon by chemists and some customers because it was more difficult to impregnate these damp woven products. Most of these difficulties have been overcome by new methods of impregnation.

Spinning and twisting of asbestos yarns is today our worst problem to control. We are now working with the engineers of the Morraine Company, a division of General Motors. We hope this will be our answer.

We believe that the designers and builders have a responsibility in the construction of their machines so that exhaust equipment is part of that unit. This is just as important as safety guards for moving parts. Over a period of twenty-five years, we have so controlled the dust that the concentration of dust has been reduced from a range of 10, 15, 25, 40 up to 75 and more million particles per cubic foot. Today the average is well under five million, which is considered a safe concentration. We are not satisfied that five million is safe, therefore we continue to reduce the count to an absolute minimum. Our efforts have shown results, not only in the cost of the compensation cases, but as a humanitarian reason. We have had no cases of asbestosis develop in any employe who was hired in the last twelve years.

We have our own Medical and First Aid Department. All employes are required to take a preemployment medical exxamination, including a chest X-ray. Periodically chest X-rays are taken of the employes and reac by Dr. R. D. Swab, the diagnoses of which are available to the employes' family physician.

Many of our problems woulc not today be solved were it no for the help and cooperation o various organizations. Let m give credit and thanks to the fol lowing:

Dr. A. J. Lanza, Dr. W. J. Mc Connell and Mr. J. W. Fehnel Industrial Health Service of th Metropolitan Life Insurance Com pany, and Dr. L. W. Gardner, o Saranac Laboratory, who hav worked with us since 1929;

Dr. Walmer and Mr. Hemeon of the Industrial Hygiene Founda tion of the Mellon Institute;

United States Federal Depart ment of Health;

¶ ACCIDENT PREVENTION

WILLIAM

Mr. Kearns Is Service Superi & Compa

THE subject of Accident Preven tion Training, as discussed here will be in two parts. The firs is a definite packaged trainin program by that name and th second phase is a recently in novated "safety clinic," which i for supervision.

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United States Federal Department of Health;

Members of the Asbestos Textile Institute;

Turner-Newall of Rochdale, England;

British Belting and Asbestos Company;

and last but not least the cooperation of the Health Hygiene Bureau of the Pennsylvania Department of Labor and Industry. I refer particularly to Dr. Shilen, Messrs. Dooley, Koppenhaver, Cole and Draude—all of these men have been of inestimable value in our efforts to control a serious hazard. And to our own Managers and Board of Directors, many thanks, for they have certainly been enthusiastic.

Dust can be controlled. It is a continuing job day after day, month after month and year after year.

¶ ACCIDENT PREVENTION TRAINING . . . . .

WILLIAM W. KEARNS

Mr. Kearns Is Service Superintendent, E. I. duPont de Nemours & Company, Philadelphia

THE subject of Accident Prevention Training, as discussed here, will be in two parts. The first is a definite packaged training program by that name and the second phase is a recently innovated "safety clinic," which is for supervision.

Accident prevention training has always been a very important part of all duPont training since one of the first company powder plant explosions in 1818. The company was willing to assume the responsibility for safeguarding employes from occupational hazards. Likewise, they assumed the responsibility for occupational injuries. As a result of this explosion in 1818, the families of the victims were subsidized with payments from the company. Now this was practically one hundred years before a majority of the States had any Workmen's Compensation Act, but you can realize that with two different explosions —two officers of the company

killed—it was a very important problem.

Therefore, you can see that for a very long period of time we have had what we thought was well-developed safety thinking. Safety was considered as the first and most important responsibility of all supervision. Therefore, active inspectional and directional safety and fire protection committees were operating in all our locations. This system seemed to be working very well. Our severity rates and our frequency rates were something to be proud of. In safety competition we had succeeded in getting more than our share of the trophies.

So, up to the time of the preparedness program for World War II, our program had been very satisfactory. When the United States became interested in assisting the invaded countries, our company was asked to furnish military goods. Like most companies, this meant a very hurried engineering and construction program. I can say "hurried" because I was in one of the Manhattan deals the company was involved in and we had a construction camp of 70,000 people. The products which we were to make —and for the present we are confining ourselves to explosive products—were familiar to us, but we did not have a very large percentage of employes to pass on their knowledge or experience to others.

Due to the fact that TNT, RDX and other items such as smokeless powder are very unstable, it was necessary that our safety training be of the highest caliber. The government acquired the plant sites; the plants were built; top skeleton and training supervisory forces were recruited from our own commercial operations; and local personnel were hired for lower supervisory and operator jobs. We will discuss here one such plant which was in the southwestern United States.

The safety record during the construction and production start-up phases had been very good, despite the fact that the type of personnel available had not been subject to personal restrictions, regulations, etc.—only 35 per cent of them were literate, and the majority were American Indians.

Our crew, then, was not naturally familiar with strict operating procedures or used to living a well-regulated life. Over half of the employes lived on an Indian reservation and represented six different Indian nations. Certainly we would not say that life in a tepee or wigwam qualifies one as an operator on a TNT line.

Production was started and made very satisfactory progress. A very intensive program of J. I. T. instruction and training, plus a very close supervisory follow-up had paid off by our making our production schedules. The largest amount of credit for these attainments was given to the thorough training of our supervision. They had also operated at a good safety level. The personnel had learned to highly respect the manufacturing processes. They could understand the dangers involved in fires and explosions.

However, many of the ordinary mine-run, nonoperating duties were beginning to be done in a slip-shod, careless manner. Supervision became aware of the problem, but despite good precautions, we started having a series of lost-time injuries. Some of these injuries were most extraordinary, and I beg your indulgence in allowing me to cite one case.

On a reservation of several thousand acres, with many separated and isolated operating buildings, sanitary facilities are sometimes centralized. The Indian people, who were used to the freedom of the prairie, could not see the sense of the white man's custom. This careless abandon resulted in severe burns to an Indian Princess, who unfortunately came too close to a steam outlet in a French drain. In following through on the investigation of this injury, the decision was that supervision had failed to properly impress on the employes our company's sanitary problems and the necessary rules. As a result of similar injuries, we decided that something must be done to impress our people with the necessity of following the established safety procedures.

The J. I. T. system had been so successful production-wise that it was decided that all operations should adopt this method to sell safety procedures. It would be the responsibility of each foreman to make a hazard breakdown analysis, step to step, of each operation on each job. This whole

mine-run, nonoperating duties were beginning to be done in a slip-shod, careless manner. Supervision became aware of the problem, but despite good precautions, we started having a series of lost-time injuries. Some of these injuries were most extraordinary, and I beg your indulgence in allowing me to cite one case.

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The J. I. T. system had been so successful production-wise that it was decided that all operations should adopt this method to sell safety procedures. It would be the responsibility of each foreman to make a hazard breakdown analysis, step to step, of each operation on each job. This whole procedure soon became known as our Accident Prevention Training or A. P. T. program.

After every job was analyzed, each operator was briefed on the safety aspects. It was the operator's responsibility to see that each helper was briefed on his responsibilities, and it was the duty of the foreman to see that the safety aspects of each job were periodically reviewed and that the safety job standards were kept up to date. These write-ups and check lists were in considerable detail as our injuries had been caused by situations which we had not given sufficient emphasis in the face of the most serious hazardous operations, such as TNT lines.

With each operator and operation being reviewed and studied every six months, our safety record immediately improved from a lost-time injury every two hundred thousand exposure hours in 1944 to one every five and a half million exposure hours in 1945. When the borrowed supervisory help came back home to the commercial plants after the war, this A. P. T. procedure, as we call it, was made a part of our commercial operations. Anyone who had worked with it was thoroughly sold on it because of the impression it made both on the supervisory and the operating forces.

Our present plan at the Philadelphia plant—we have 1,300 employes there—is to have each foreman cover the safety aspects of

each job with each man under his supervision every six months, twice a year. The procedure is covered by a write-up on a standard check list form which is filed as a follow-up for the next safety interview. Each foreman must review and study each job before he discusses it with the operator. Therefore, the job is investigated by the foreman, the operator is interviewed and makes his suggestions, and the foreman follows through on any necessary changes which are agreed upon.

We realize that this is a complicated, yet a complete procedure. We have found that it works. If you have poor safety morale, and an unsatisfactory injury experience, we recommend it heartily.

The second phase of our Accident Prevention Training program is what we call our "Safety Clinic." It follows the line of an ordinary medical clinic. We have found that even supervision can be in error. Sometimes someone may seem a little arbitrary on safety procedures, and the foreman, those overworked, downtrodden and forgotten persons, really appreciate an opportunity to blow off their safety tops.

Realizing this, our safety supervisor devised the novel procedure of having a clinic to diagnose our current mental safety ills. Advertised as a means to diagnose safety problems, this conference type meeting was put on for all foremen. The result was an indictment of everyone who had been or now was a bottleneck. If top supervision had not supported the foremen, or safety maintenance orders did not get proper preference, or not enough safety shoes had been kept in stock, or there was a shortage of proper goggles, all these situations ended up on the conference leader's chart. As a result, we wound up with many safety problems coming to the fore, not only in the form of gripes, but also in the form of confessions. Top supervision was presented with the results in our monthly Major Safety Committee meeting and in jocular parlance "the foremen had given them something to remember them by."

This procedure was done in good humor and good faith. It brought a lot of situations out into the open. But most of all the foremen were so impressed with the success of these clinics in their own foreman groups, that they have asked for help in conducting such clinical meetings with their workmen. Our foremen have asked for assistance in their own safety program. Our answer is that shortly the experts will start conducting a course for them on Conference Leadership Training.

We do not contend that these procedures are a cure-all for all situations. They did fill a need in our own program. We recommend them for your consideration.

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THE value of the work of engineers is not measur the saving of man-power, and materials alone. It is ured primarily in the red and elimination of human and suffering. To place th phasis on the dollar and cent is not to minimize or igno human side, but rather there disagreement about the nec to view any safety program terms of human happiness.

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A successful safety progr

B. M. WALTER

Mr. Walter Is Director of Industrial Relations, ACF Brill Motors Company, Philadelphia

THE value of the work of safety engineers is not measured in the saving of man-power, time and materials alone. It is measured primarily in the reduction and elimination of human pain and suffering. To place the emphasis on the dollar and cents side is not to minimize or ignore the human side, but rather there is no disagreement about the necessity to view any safety program in the terms of human happiness.

Accidents result in loss of time and money. They are an expensive waste of production. It is this waste which any sound safety program must strive to eliminate.

Safety is everybody's business. It affects everyone in a plant, whether the individual worker is aware of this fact or not. It is not enough for the worker to worry about his welfare, or for the foreman to be concerned about his workers, or for the company to plan for the physical well-being of its employes. Safety is a combination of all these. Safety is the concern of everyone.

What should be the aim of an accident prevention program? What objectives should it seek to attain? How can these objectives be achieved? Let me tell you briefly about a safety program which we have found works successfully.

A successful safety program we feel must stem from management. The safety policies must be established at the top in the same way as other company policies pertaining to sales, engineering, manufacturing and the administration of the company.

One person must be charged with the over-all responsibility of the program, and with the coordination of the efforts of everyone concerned. We have found that the committee system works well, because together with the safety engineer as the key man in the program, the committee system brings all persons concerned into an unbroken line of communication from top to bottom.

With the committee system, the function of the accident prevention program is coordinated by three committees. The Executive Committee which establishes the policies, the Foreman's Committee which enforces the policies, and the Worker's Committee which distributes the safety information to the workers throughout the plant.

It is the function of the Executive Safety Committee, with the safety engineer as its secretary and the vice-president in charge of manufacturing as its chairman, to formulate the safety policies for the company. Circumstances will alter the arrangement—for example, the chief inspector, fac-

tory manager, or even the president of the company might serve as chairman of the Executive Safety Committee, which establishes the rules, determines the penalties for infractions and sets the guide posts in place.

When the program has been established, the results are passed on to the Foreman's Safety Committee or Supervisory Safety Council. Again the safety engineer serves as secretary with plant foremen or superintendents as rotating chairmen. The Foreman's Safety Committee is charged with the responsibility of enforcing the safety policies throughout the departments of the plant. Subcommittees, composed of supervisors, investigate all accidents and all unsafe practices, conduct the good housekeeping plan, and correct any unsafe conditions.

The enforcement of safety rules and regulations is specifically the direct responsibility of the employe's immediate supervisor. No program should place this responsibility for enforcement anywhere except with the foremen. To administer the policies and establish sound safety practices based on these policies throughout the shops must be the heart of any sound safety program. One or two safety engineers in a plant cannot successfully operate the safety program, even though it be the finest program in the world. But several hundred supervisors in all departments believing alike in the value and need for safety can make the program a success.

We have found worker's committees effective for the dissemination of safety information. We advocate periodic showing during working hours of films released by the National Safety Council, and such films as "The Eyes Have It," "Grime Does Not Pay" and others on accident prevention which will serve to bring before the worker his part in the program. We believe that Workmen's Safety Committees cannot be placed in the dual responsibility of prosecutor and defendant. At no time should the Worker's Safety Committee be required or expected to enforce safety policies. To fortify a worker with a safety committee badge is not enough. He is not paid to enforce company policy. It is not his job to do so. He should not be required to do so regardless of the situation.

It is the coordinated effort of all in harmonious teamwork which will tend to reduce the potential unsafe practices to a minimum and result in a reduction of both minor injuries and lost-time accidents. Safety is achieved through teamwork.

The bulk of industry today recognizes the National Safety Council Standards of Accident Frequency and Severity and most plants measure their safety in these terms of lost-time injuries. Frankly, I believe that we are kidding ourselves by measuring our accident prevention, our safety records and accident cost computation on the basis of lost-time injuries alone. Recently, we reviewed our first aid cases and we found that we have approximately two hundred and ninety nonlost-time injuries for every lost-time accident.

No doubt your operations are similar to ours. We require that a worker report to the dispensary regardless of how slight his injury may be. We encourage repeat visits and insist that any serious case must be discharged by the nurse or doctor on duty. But as every safety engineer knows, every scratch or cut or bruise is a potential lost-time injury. Careful attention to the causes of the two hundred and ninety nonlost-time injuries will aid the safety engineer in correcting unsafe or hazardous conditions.

Always astounding is a comparison between the national accident ratio and the war casualty totals. All accidents, both industrial and nonindustrial, in the United States during the single year 1947 reached the staggering total of 49,000 deaths and 2,650,000 injuries.

But these totals become even more unbelievable when compared with the total killed and wounded in the American armed forces, including the Army, Navy, Marines and Coast Guard, during the entire period of World War II from Pearl Harbor to VJ Day, a period of nearly four years. Remembering that these figures are for one year—the national accident ratio—while the war totals are for almost four years, you will note the comparison of per-

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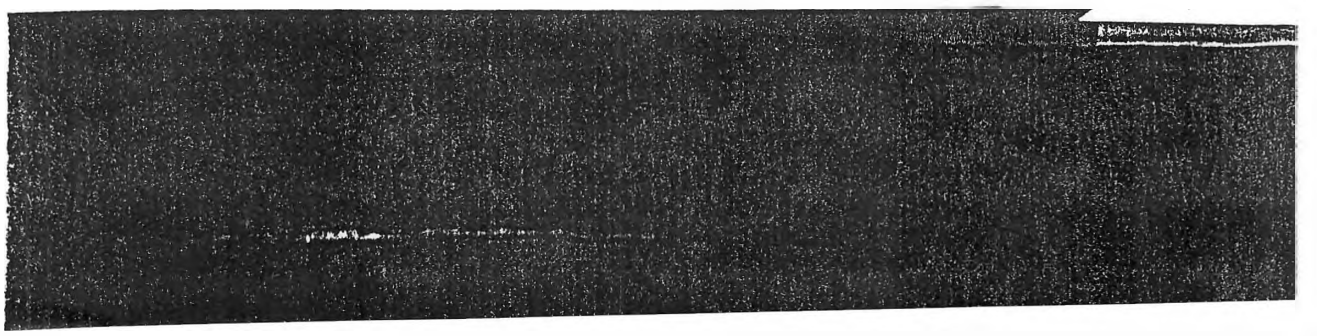

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I realize there is a considerable difference of opinion on how safety campaigns should be inaugurated and conducted. In one type the approach is sympathetic and appealing—an educational campaign to persuade the worker rather than to tell him. This might be considered the indirect method.

The second is a mandatory safety program in which rules and regulations are established and rigidly enforced with severe penalties invoked for violations. This we might term the direct method.

Companies must be hardboiled in safety matters for the workers' own protection. There can be no compromise with safety. Either a plant has a safety program or it does not have one. Either rules are enforced or they are not enforced, in which case you might as well not have any. The positive approach to accident prevention is by far the better.

All the safety rules and regulations in the book, all the safeguards and mechanical devices ever invented will be of no avail if employes are permitted to disregard the rules.

Accident prevention really pays.

In the September 1948 issue of "Labor and Industry Review" on page 33, an editorial from the "Sunbury Daily News" was quoted as follows: "That is purely a fraud upon the conscientious worker whose regular contribution in the form of payroll deductions make possible the Unemployment Compensation Fund." Workers do not contribute toward the Unemployment Compensation Fund and this statement therefore was in error.

Departmental Publications Available

BUREAU OF RESEARCH AND INFORMATION

PERIODIC PUBLICATIONS

Changes in Cost of Living in Pennsylvania (quarterly)
Employment Conditions in Pennsylvania Industries (monthly)
Industrial Injuries in Pennsylvania (monthly)
Industrial Injuries in Pennsylvania (annually)
Building Operations in Pennsylvania Municipalities (monthly)

MISCELLANEOUS PUBLICATIONS

Employment Conditions in Pennsylvania Industries:

Part I. Estimates of Total Employment, Payrolls and Man-Hours for Sixty-five Industry Groups, for Each Month From January 1935 to December 1944, inc.

Part II. Summary of Index Numbers (Base 1935-1939 = 100) for Sixty-five Industries, by Month, From January 1935 to December 1944, inc.

Part III. Average Weekly Earnings, Average Hourly Earnings, and Average Hours Worked per Employe for the Six Year Period, 1935 to 1944, inc.

A Minimum Wage Budget for Employed Women in Pennsylvania—1939.
Organization and Functions of the Department of Labor and Industry.

SAFETY REGULATIONS

Abrasive and Polishing Wheels	1944	
Affecting Employment of Minors	1946	
Affecting Employment of Women	1946	
Bedding and Upholstery	1947	
Brewing and Bottling	1943	
Canneries	1937	
Cereal Mills, Malt Houses and Grain Elevators	1937	
Compressed Air Apparatus	1944	
Construction and Repairs	1944	
Cranes and Hoists	1945	
Dry Color Industry	1944	
Elevators, Escalators, Dumbwaiters and Hoists	1943	$.10
Electric Safety	1947	.70
Explosives, Storage, Handling, and Use of	1945	
Foundries	1937	
Head and Eye Protection	1945	
Hours Provisions of Woman's Law	1946	
Industrial Home Work	1945	
Industrial Lighting	1945	
Industrial Sanitation	1946*	
Labor Camps	1945	
Ladders	1944	
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Lead Corroding and Lead Oxidizing	1937	
Logging, Sawmill, Woodworking, Veneer and Cooperage Operations	1947	
Machine Tools		
Manufacture of Nitro and Amido Compounds	1938	
Manufacture, Storage and Transportation of Fireworks	1938	.10
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Miscellaneous Hazards and Conditions		
Paint Grinding		
Pits and Quarries		
Plants Manufacturing or Using Explos		
Plant Railways		
Power, Foot and Hand Cold Metal Pre		
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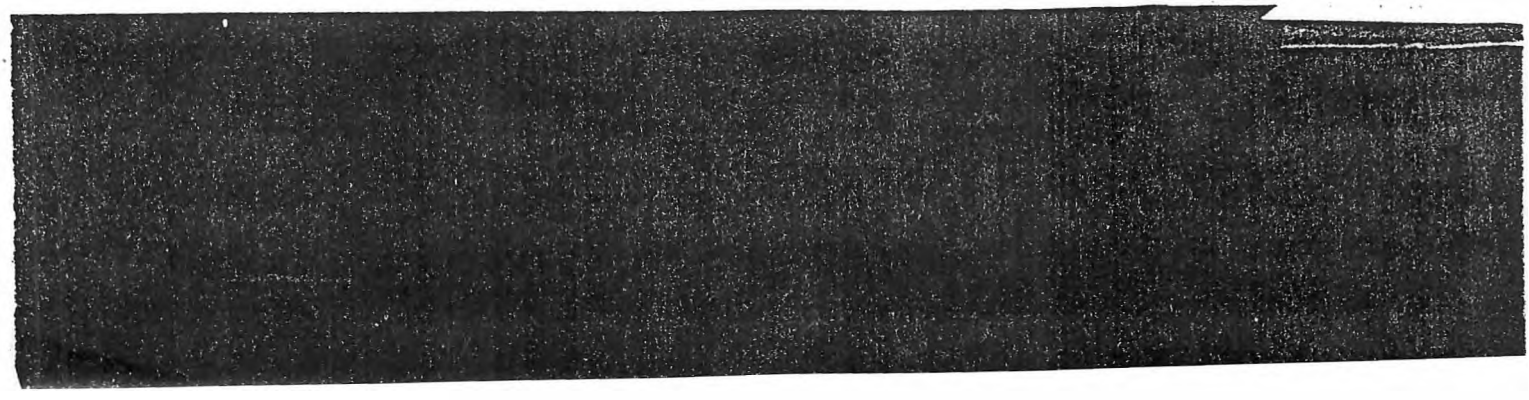

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