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VOLUME 27 1953 TRANSACTIONS

Current Safety Topics in the

PULP AND PAPER INDUSTRY

*as presented in sessions of the Pulp and Paper Section
at the 41st National Safety Congress*

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New Approaches . . .

If safety is to keep pace with today's rapidly advancing technology, we must continually have "new approaches."

Each year, at the National Safety Congress, the ideas and experiences of many of the nation's top safety men are presented in the various sessions. Many of these ideas, devices and methods, first presented at a Congress session, later become generally accepted within their fields.

In order to present this information conveniently and at small cost, the Congress Transactions are published in volumes, one for each Section or Division, along with a General Sessions and Detailed Index to all volumes. The 35 volumes of the 1953 Congress Transactions are listed on the last page of this volume.

Safety directors everywhere have found the Congress Transactions a useful aid in their accident prevention programs. In industry, for example, their judicious distribution to key personnel in management and supervision has proved to be of invaluable service.

In preparing these Transactions, the proceedings of the Congress have been condensed and edited for reference purposes. Complete original manuscripts, with any charts or illustrations which were used, are available in National Safety Council files. Views expressed at the Congress or in this record are those of the Congress participants and are not necessarily those of the National Safety Council.

THE PULP AND PAPER SECTION

This volume is a record of the sessions held at the 1953 National Safety Congress by the Pulp and Paper Section. The conduct of these Congress sessions each year is only one of the many cooperative activities which the Pulp and Paper Section carries on in behalf of its members, and for the benefit of accident prevention work in the pulp and paper industry generally. The Section gives guidance in the preparation of a great variety of technical and educational material useful in the day-to-day safety programs of pulp and paper plants. The activities of the Section are under the direction of its Executive Committee, the members of which are listed at the close of this volume.

Forty Years Progress in Safety

By D. C. EVEREST

Chairman of the Board, Marathon Corp., Rothschild, Wis.

"Progress" is a word meaning different things to different people. It is an achievement that can be measured in various ways.

In many fields of endeavor, progress is measured more often than not by *increase*: increase in efficiency, increase in capacity, increase in production. But in a field such as safety, where the goal is *prevention*, progress is more accurately measured by *decrease*: decrease in waste, decrease in suffering and untimely death, decrease in hardship and heartbreak. Significantly, such decreases as these contribute tremendously to those increases which spell progress in other fields. Any seasoned industrialist who has a modest degree of foresightedness will declare, from his own experience, that an effective safety program helps to increase efficiency and production.

Last year, the National Safety Council estimated that organized accident prevention has been responsible for the saving of 500,000 lives since 1913, the year the Council was organized. Five-hundred-thousand accidental deaths prevented in forty years! This is the kind of *decrease* I'm talking about! Decrease that spells *progress*!

This is an accomplishment that ranks with the discovery of life-saving "wonder drugs" and surgical techniques. All of us are aware of medical science's contributions as well as spectacular progress in other fields; yet, how many of us are as fully aware, and appreciative, of the contributions made by the safety movement toward civilization's advance?

Organized accident prevention has been a mutual effort and it must *always* be a mutual effort. Every one of us has a big stake in safety for the mere reason that we are human beings; because—to use a line from a piece I shall later quote more extensively—"We are *involved* in mankind." Like religion and the other more important things of life, accident prevention must stop at no class lines, no industry lines, no boundary lines of any kind. We are all involved, we must all put our shoulders to the wheel.

The pulp and paper industry has always been one of the influential leaders in industrial accident prevention. Representatives of the industry served as founding fathers of the National Safety Council back in 1912.

I have re-read the speech I made at that time and except for changes in the figures relating to accident frequency, severity, benefits and other statistical information might well have used the same speech today. Basically, the need for work in safety is all that goes with it has not changed in 38 years since this section was formed.

Paper mills were also a prime mover in getting statewide safety organizations underway. For example, the first organized safety conference in the Wisconsin River Valley held at Wausau in 1927, listed a significant number of paper industry personnel on the program. And through the years, the paper industry has always been a mainspring of organized safety movements in many states. Comparing the attendance of that first meeting referred to with the attendance today is at least one way in which we might use a form of *increase* to measure safety progress!

The paper industry was one of the pioneers of safety engineering. Accident prevention was purely a spare-time proposition in the mills of earlier days, as it was in all industry. But it didn't take long for us to see that the job of preventing accidents was a full-time one, demanding special skill. Paper mills were among the first to realize that safety was a fundamental part of production, and that from the viewpoint of both humanitarianism and sound business, it was an activity demanding full-time attention.

The same applies to first aid and industrial nursing. Some of the earliest industrial nurses were those who went to work in paper industry, and the crude first-aid stations that they created were the forerunners of our modern industrial first-aid unit. (The job injuries and complaints are only a phase of today's industrial nursing function.)

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tions; their programs now spread their
beneficial influence far beyond the mill
gates, into workers' homes.

Paper mills were far different forty years
ago than they are today. And accident re-
cords were far different then, too! Machinery
was primitive and particularly vicious as
far as workers were concerned. Guarding
was at first unknown, and the earliest
guards were often nothing more than crude
rails; mere *reminders* of danger, rather than
barriers to fence off hazards. A far cry
from the carefully designed guards of
today!

Men often went barefooted in paper mills
and other industries. Housekeeping was gen-
erally very bad, if existing at all. Morale
was probably almost as bad, due to the
hazardous and unsanitary surroundings.
Needless to say, accidents were far more
common and severe in the old days. Com-
pare the paper industry's over-all accident
frequency rate of 43.50 in 1923 with that
of 10.06 in 1952.

Accident prevention is by no means a
simple task in our country. It never was
and it never will be. There are an unusually
large number and variety of hazards in-
volved in our various operations. It is no
easy task to control hazards in logging
operations or around machines that turn
out paper at speeds in excess of 1,000 feet
per minute! We must be tireless and we
must be constantly on our toes.

The most direct way to trace safety
progress, of course, is through the trend
shown by the accident statistics. There are
not many available records for the period
of 30 to 40 years ago in the paper industry
or in most industries. Safety was quite an
informal affair then; for the most part, the
records were carried around in the minds
of those who were directly concerned with
the treatment of injuries. Printed records
of safety efforts in the paper industry began
with the formation of the Pulp and Paper
Section in 1915.

By 1920, nineteen paper mills had taken
the National Safety Council's cue, deciding
that scientific methods, in safety as well as
in other fields, depend upon accurate sta-
tistics. They began an exchange of their
accident experience and, by 1924, sixty-two
mills were filing reports with the Council
statisticians.

We have succeeded in pulling down our
industrial accident frequency rate from
43.50 in 1923 to 10.06 in 1952. Our severity
rate parallels this trend, descending from
2.73 in 1923 to .98 in 1952. Here is one
very tangible evidence of progress . . . and
of long, hard, methodical work!

Keep in mind the fact that while this
steady safety progress has been made, the
industry has gone through tremendous
growing pains, increasing sharply its plants,
employees, capacity, speed of machinery,
output per worker, and number and variety
of hazards!

The trend in insurance rates is another
way in which we can glimpse progress.
Improvement in an industry's accident ex-
perience will eventually reveal itself in a
reduction of workmen's compensation in-
surance rates, as the rates are based upon
a specific industry's accident experience
within a given state. It was reported in a
recent issue of the National Safety Coun-
cil's Pulp and Paper Section newsletter that
the Quebec Pulp and Paper Association, in
the nineteen years since it organized a safety
program, has had its compensation rates
reduced by an average of \$4.79. The associ-
ation estimates that this is equivalent to a
saving of almost 54-million dollars in com-
pensation insurance alone, in spite of the
fact that individual allowances to employees
increased by 50 per cent because of more
generous compensation benefits in recent
years.

By showing you the trend in Wisconsin's
insurance rates, I will undoubtedly be show-
ing you, too, what has been happening in
just about every state where the pulp and
paper industry is prominent.

In the classification for paper manufac-
turing, the workmen's compensation rate in
Wisconsin was \$2.61 in 1934, and went still
higher to \$2.72 in 1935. From there the
trend has been downward and stands today
at \$1.34, a decrease of approximately 51
per cent.

In the classification for paper goods
manufacturing, the rate went from \$1.25 in
1934 to \$.72 in 1953, a decrease of nearly
43 per cent.

For pulp manufacturing by use of chemi-
cal processes, the rate declined from \$2.55
in 1934 to \$1.34 in 1953, approximately a
48 per cent reduction.

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For pulp manufacturing through the groundwood process, the rate went from \$4.13 in 1934 to \$1.34 in 1953, a decrease of about 68 per cent.

By taking these four basic classifications of the industry, we find that in the last nineteen years the decrease in insurance rates has amounted to an average of approximately 52 per cent. In other words, thanks largely to their patient and conscientious efforts to prevent accidents, Wisconsin's pulp and paper industry has done better than cut its workmen's compensation insurance rates in half. The story is no doubt as significant, or more so, in other paper industry states.

Of course it is true that wages and overall payrolls have increased substantially throughout the same period. At the same time, however, there has been a tremendous increase in workmen's compensation benefits in Wisconsin and other states, through the same period. In these same years covered by the rates I have just cited, benefits have been increased 45 per cent in our state. Since the workmen's compensation law was enacted in Wisconsin in 1911, benefits have been increased 171 per cent.

There clearly had to be tremendous improvement in accident prevention, within the pulp and paper industry, to bring about this steady decrease in insurance rates. Here again is very tangible evidence of safety progress!

Individual safety records within the pulp and paper industry are growing more spectacular, as years go by. Not too many years ago, "the safest paper mill in the world" was one which employed 600 and ran 150 days without a disabling injury. Today, consider the no-injury record in our industry of the Dixie Cup Company, with 3,770,076 safe man-hours! Or consider the safest newsprint mill in North America, cited recently by the National Safety Council—the Wayagamack Division of the Consolidated Paper Corporation, Limited, which ran up 3,900,000 man-hours without a single disabling injury!

These are phenomenal records. They more accurately show what *can* be done, rather than what is *generally* being done. But these records are as inspiring as they are unique. What used to be impossible in the old days is being done today.

Forty years of steady progress in our industry is something to be proud of, but it guarantees nothing for *today*, if our efforts slacken. We must concentrate on *today*, and cautiously discount our forty progressive years of "yesterday." We must never lose sight of the fact that coasting on past performance is always a *downhill* coast.

Forty years of safety progress, in itself means nothing as far as today is concerned. It doesn't lessen the mangling power of misused tools, the bone-snapping jolt of a fall, the penetration of a machine's bite into flesh and bone!

No, we cannot forget that accident prevention is like breathing, itself. Just because we've been doing it all these years doesn't mean that we've earned ourselves the right to quit! Safety education and supervision are the necessary oxygen to our operation. Cut off these efforts, even momentarily, and our safety and production records would soon become choked with many kinds of disaster!

We are doing a pretty good job, but much remains to be done. The great majority of management in our industry has long been safety-wise, I believe; but there are still some who need to be enlightened. There are others who need to take more vigorous steps than they have taken thus far. Furthermore, although our pulp and paper section has shown encouraging growth, there are many more companies within our industry that *should* be affiliated with the National Safety Council.

It has been estimated that the production of the pulp and paper industry will increase between 50 and 60 per cent within the next decade, if we can judge by our past experience. This is both stimulating and a sobering prospect to contemplate. It is sobering in that many of the safety men in our industry are already overtaxed. Accident prevention is a full-time job, and too many are still trying to handle it on a part-time basis. We *must* see to it that our safety program expand simultaneously with our production facilities in the years ahead!

I would like to turn, in conclusion, to some words written by an Englishman over 300 years ago. While I have never seen these words in connection with the safety movement, it strikes me that there is a better creed, no better statement of principle and purpose, than these meaningful

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lines, written by the British poet and min-
ister, John Donne. The thought behind this
expression has haunted and inspired many
people down through the years, including
one of America's great writers, Ernest
Hemingway. Therefore, I hope that their
meaning will haunt you and that you will
forever apply these noble thoughts to the
tremendously important business of preserv-
ing human life and happiness and potenti-
ality.

Here, then, is what John Donne had to
say about the value of human personality.
in one of his poetic sermons . . .

"No man is an island, entire of itself;

Every man is a piece of the Continent;
a part of the main.

If a clod be washed away by the sea,
Europe is the less,

As well as if a promontory were,

As well if a manor of thy friend's, or of
thine own were.

Any man's death diminishes me, because
I am involved in Mankind.

And therefore, never send to know for
whom the bell tolls;

It tolls for thee . . ."

If you remember nothing else, please re-
member the meaning of these words. Please
remember when a logger, or a paper mill
worker, or any man, needlessly dies, be it
in Oregon, Maine, or anywhere on this
globe of ours, his death diminishes you and
me, because we are "involved in mankind."

And just as "No man is an island, entire
of itself," so no single industrial organiza-
tion is an isolated island of self-benefit.
Every paper mill, every factory, every in-
dividual enterprise is "a part of the main."
So whatever you are doing to prevent acci-
dents is benefiting, not just yourself, not
just your industry, not just your commu-
nity, it is benefiting *Mankind*.

The men who have devoted their lives to
accident prevention know full well "for
whom the bell tolls," and their great and
eternal objective is to silence its tragic
knell, by stamping out needless suffering,
and hardship, and death, in our society.

What an Hourly Worker Expects of a Safety Program

By ELMER COLLAR

Hourly Worker, Eng. Dept., Neenah Mill, Kimberly-Clark Corp., Neenah, Wis.

As an hourly paid worker, I think I can
give many good reasons and ideas on what
an hourly paid worker expects of a safety
program. I have worked for Kimberly-Clark
for better than twelve years and during that
time I have always taken a leading part in
safety promotion.

For the first seven years of employment
I worked in a finishing department, and was
safety chairman of the department. Later I
became safety chairman for the Badger
Globe division of Kimberly-Clark and was
chosen to represent the hourly worker at the
National Safety Congress that year. Upon
being transferred to the engineering depart-
ment at Lakeview mill, the employees again
elected me as the chairman. After taking a
leading part in safety for these many years,
I feel that I really can say what an hourly
paid worker expects of safety promotion and
safety ideas.

Let's start out first of all by saying we
have just hired a new man. We take this
man through the plant and show him the dif-
ferent operations and the way our older
employees work. The first impression should
be a good one, so let's make the safety im-
pression the best we possibly can.

After the employee works for awhile it is
time to talk over the safety program with
him, get his ideas and, if he is the kind that
has some good suggestions and ideas, give
the fellow a chance sometime to play a lead-
ing part. It's always good to let a working
man get up at a safety meeting and talk to
the group. I am sure that there are a num-
ber of fellows that will do this if they are
given the opportunity. For the hourly paid
worker to talk once in a while, gives his
fellow workers a better understanding that
safety promotion must come from the hourly
paid group more so than from supervision.

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The point to remember is not to let supervision do all the talking and promoting; work together as a unit and you will have a good sound safety program.

Safety equipment such as hard hats, goggles, safety shoes, shields, etc., must be worn when and where needed. I think that nearly every employee will realize that he must wear safety equipment when needed, but do not try to force it down his throat with a "must." Explaining why and when he needs to wear them and letting him have a say in the wearing of the equipment, always creates a better feeling. I know from past experience, that you are going to run into some fellow, once in awhile, who is the "balky" type. He won't wear this or that, because it bothers him, or, he might just be plain stubborn. Here again through a group that works together you will get him straightened out.

At the place where I work, we have up-to-date safety equipment and the fellows do a good job of wearing it at all times. We have a very nice first aid room and the workers expect good first aid and get it. Any sort of an injury is reported to the nurse and the fellows respond very well and we have very little trouble.

We have contests and encourage group meetings, but again I say don't over-do be-

cause a record played too often is bound to wear out and so it goes with safety. Get ideas from the group and make changes in the program or contests or whatever you may be doing. This will stir up more interest and enthusiasm and again your goal of working safe will be reached.

The worker expects supervision to be honest and sincere about safety. Too many times a lot of promises and false settlement lead to the downfall of a good safety program. The foreman and higher supervisor must be fair and I am sure that the worker will cooperate.

The question might arise as to what to do about a worker who doesn't obey the safety rules and will not do anything about it. The only thing to do in this case is to get rid of him, simply because he is a hazard to the group, and might also go so far as to ruin the aim of all the fellows he works with. This may be a case where management and hourly paid workers will have to sit down and confer to see what must be done.

We must work together on this very important subject of our life, safety. In order for us to have a good safe place to work we must all pitch in together and by so doing we will find that our work and all the things we do throughout the day will be a greater success.

What a Foreman Expects of a Safety Program

By EARL D. HARGIS

Pulp Mill Tour Foreman, International Paper Co., Bastrop, La.

I was a country boy who knew enough to stay out of reach of a mule's hind legs, but that pretty nearly was the extent of my safety consciousness in 1923 when I went to work in the pulp and paper industry with the Bastrop Pulp and Paper Company, one of the pioneer paper mills in the South and now acquired by the International Paper Company.

After a time, safety started to make its way. At first, it was slow and progress was made in faltering steps. Later, however, the safety program really began to gain momentum. A full time safety director was placed in charge of safety, and the safety program with which I am acquainted came

into existence. After a short period of aches and pains, it finally got rolling. For men and men alike became interested. They began to realize what safety really meant. Not only to the men individually, but to the group as a whole and to production. A better relationship and understanding between supervisors and men developed from safety talks about what could and should be done in the department, for the welfare and safety of the employees.

We also realized that top management was vitally interested in safety and commanded of the foremen not only production and quality, but production and quality with safety. The foreman now knows that

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is not only responsible for good production, but for a good safety record, good house-keeping, and all of the many different matters he must watch over to maintain a well run department. However, he expects, after being told that safety is equal to production and quality, to have the complete backing of top management in carrying out the safety program.

A foreman can not carry out a single-handed safety program. He can instill in his men the necessity of safe thinking, and train and teach them the methods of safe performance of their duties, but that is not all there is to a safety program. We believe that many people fail to realize what the word program really means. To many people, it only means, when used in safety work, a certain number of meetings, display of posters, stunts, and other activities to stimulate interest in safety; but it also means planning all work in the department with safety in mind.

Today, the foreman takes pride in his department and desires to continually improve its safety record. In carrying this out, he expects assistance and cooperation not only from the safety department but from other departments, supervision and top management, as well.

He knows that he is responsible for the production within his department, but if either the inlet or outlet or materials fails, his production stops. Thus, he must depend on other departments for assistance in maintaining full production within his own department. If the equipment breaks down, aid from other departments is also necessary. And so it is with safety. If outside assistance and cooperation is not given, the safety program collapses.

A safety program is not departmental, but plant-wide. What a foreman expects of the safety program can follow the same lines as followed in production. If in any part of his department, an unsafe condition exists which he himself can not correct, he will report it to the proper departments and will expect the same service that he would receive if the problem were directly connected with production.

But there have been times when foremen have reported an unsafe condition and requested that it be corrected, but have waited and waited before the situation was cor-

rected. When this happens, the safety program receives a very bad set-back.

Safety men can realize what position a foreman finds himself in, if he has talked and talked safety to his men and then when an unsafe condition has been reported to him, nothing is done to correct it. Sooner or later, all safety talks fall on deaf ears. All posters, safety articles in plant papers, safety meetings and other stunts connected with safety become mere empty gestures.

I know of a case where a step on a stairway had been broken and was a very dangerous hazard for a long time. It had been reported time and time again. One day a very good operator took a fall on this broken step. He suffered a fractured hip and it was months before he was able to return to work, and he was never the same again. Some said he should have looked where he stepped. They were wrong. They merely alibied for their failure to do the repair work when requested. Yes, the steps were fixed—after the fall. Is this the kind of cooperation a foreman should expect from a plant safety program?

Not only when it comes to repairs do we expect cooperation and assistance. The same holds true when changes in equipment and machinery are made in our departments. Sometimes we know about the changes being made, but when the safety factor is involved, most of us are never consulted. I have known of installations being made, which undoubtedly looked fine on the drawing board, but when installed they were found in an inaccessible location, creating a hazard for the operator, or they had been made in poorly lighted places. These things always handicap a safety program. A foreman expects from the engineering department the same service that he expects from other departments when it comes to safety.

I have talked a great deal about the cooperation a foreman expects from others in the plant-wide safety program. I have not mentioned the safety director. Of him we expect everything we expect of everyone else, and then some. I have heard the statement that the foreman is the key man in a safety program. This may be so, but who is the key? I would say the safety director, engineer, or supervisor—whatever his title may be.

A foreman does not expect the safety director to run the safety end in his depart-

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ment, but he does expect from him all the advice, information, facts and figures pertaining to safety.

He expects from the safety director information regarding all new developments in safety protective devices and how to eliminate unsafe practices.

He expects, on many occasions, for the safety director to act as a liaison man between him and other departments and sometimes to top management.

He wants him to hold informal meetings with him and his men to stimulate interest in safety.

He also depends on the safety department for help in providing the necessary push to put over new ideas.

The foreman wants to be sure that the safety department advises him of all unsafe practices and conditions in his department which might arise from the installation of new equipment or changes in working conditions, or any other unsafe conditions which he might have overlooked.

When a safety inspection or a personal injury investigation is made in his department, he wants to be a part of it and to be advised what recommendations have been made.

The foreman does not expect the safety director to fight his battles for him, but he does expect his help and support. He expects from him the same cooperation he

expects from a technician or engineer, a problem in safety confronts him which is beyond his knowledge or experience.

He wants to know what other departments in the mill are doing in safety, what departments like his in other mills are doing. In short, he wants to be well informed.

The foreman wants to know, when an employee comes to his department, if the employee is physically fit to do the work to which he will be assigned; that he has thoroughly and effectively instructed his employees in safety, first aid treatments and hazards on the job.

A foreman can expect many things from a safety program, but in this, as in other things, he can not expect any more out of the safety program than what he puts into it.

I can assure you that if every foreman can get what he expects out of a safety program or safety procedure, which requires the same cooperation, assistance and help as he receives in connection with production quality, then he will gladly do his part in order to see a happy, cooperative, efficient, and accident free department, not just his own, but all through the plant.

If this can be achieved, the foreman can have a shop or plant to which he can point with pride and say, "My plant has an outstanding record in safety."

What a Superintendent Expects of a Safety Program

By DONALD O. COLLINS

Asst. Supt., No. 1 Paper Mill, The Mead Corp., Chillicothe, Ohio

The superintendent, along with other members of the management team, has a definite moral responsibility for the safety of the men working under his supervision. His is the responsibility of reducing to a minimum, if not entirely, the mill accidents which are the cause of so much human suffering, to more people than just the injured person.

In addition to the responsibility for employee safety, the superintendent is also charged with getting out maximum produc-

tion of high quality products at a minimum cost, utilizing both manpower and machinery to the best advantage. The loss of man hours through accidents increases operating costs. Then, too, as a result of accidents, there are the losses due to decrease in production, the cost of substitutes, and other factors which add to overall production costs.

Any program or plan which will reduce costs and encourage better and more efficient production is certainly one which

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be welcomed and adopted by the superin-
tendent. He expects the safety program to
accomplish this. When I say safety pro-
gram, I don't mean the safety department,
or the safety director or safety supervisor.
I mean the whole, overall safety program.

From the foregoing remarks you might
be led to assume that the superintendent
expects a great deal from the safety pro-
gram and he does.

First of all, we should consider the im-
portance of having a well rounded and sound
safety program, instituted, supported, and
sustained by top management. This should
be a program of well defined purpose, with
sufficient responsibility and authority dele-
gated to the safety director for the purpose
of seeing that its objectives are furthered
to the fullest possible extent. It should be
a program that approaches each problem
in a positive way.

Having attained this type of overall pro-
gram, it is reasonable to assume that it will
be possible to get the cooperation of all
members of the organization for carrying
out successfully the program's objectives.

The superintendent expects quite a lot of
help from various people and departments.
He needs this help if he is to do the kind
of job he wants to do, and is expected to do.

Some of the many ways in which the
program can help him do a better job, not
from just the safety standpoint alone, but
from a production standpoint as well, are

1. Encourage use of better placement pro-
cedures.
2. Help to develop better methods for train-
ing employees.
3. Provide proper supervisory training to
enable them to do a better and more
thorough job of training employees.
4. Encourage the use of job analysis or job
breakdown.
5. Establish and maintain a program of
good mill housekeeping.
6. Encourage employee suggestions.
7. Publicize good safety records of indi-
viduals and departments at least as much
as lost time accidents.
8. Maintain, analyze, and make recommen-
dations concerning major and minor in-
jury reports to prevent recurrence of
injuries.

First is encouraging the use of better
placement procedures to insure getting as
nearly as possible the right person on the
job for which he is best fitted. This re-
quires a great amount of skill and knowl-
edge on the part of the employment manager
or the interviewer. He must determine the
basic abilities and aptitudes of the potential
employee, as well as his personality traits
and attitudes before trying to make a de-
cision as to where the person may be used
to the best advantage. It is important that
a proper decision be made at this point.
The new employee starting on his first job
with the organization is anxious to make
good. Sometimes the new man, in a desire
to prove that he can do the job satisfac-
torily, tries to do more than he is capable
of doing which frequently results in an
injury or illness.

The safety program could help to develop
better methods for training employees. The
new employee coming on the job and the
older employees advancing to unfamiliar
jobs require sufficient training to acquaint
them with good safety methods as well as
efficient production methods. Good safety
methods and good production methods go
hand in hand.

The job of training or teaching should
naturally be the responsibility of the de-
partmental foreman. To him goes the op-
portunity of leading his crews to production
and safety records. However, he would ap-
preciate any additional help which might be
available through the safety program in aid-
ing him to set up better training methods.

The safety program could help to pro-
vide proper supervisory training to enable
him to do a better and more thorough job
of training employees. A great deal has al-
ready been done in this field, but there is
still much to be done in developing a com-
prehensive and acceptable training program
which can be incorporated into the daily
production schedule of the line foreman. A
program of this type is needed in all in-
dustries where expansion in the last few
years has been very rapid with the conse-
quent influx of many new employees and
the advancement of older employees to
higher skilled jobs.

The safety program could encourage the
plant-wide use of job analysis or job break-
down. By properly breaking the job down
to its basic and essential steps, then listing

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the steps in proper sequence, both the employee and the supervisor have a clear understanding as to what is to be done and how it is to be done. When the job is clearly understood by both the foreman and the worker, they are then able to go ahead, each with the assurance gained by a mutual understanding as to what is required to get the job done safely and efficiently.

The need for the understanding gained by job breakdown or analysis generally shows up in the accident investigation. From two injuries which occurred in our machine room the past year, you may draw your own conclusions.

A third hand on a paper machine which we will call *machine A* had been an employee for seven years, five months, and on his regular third-hand job for two and a half years. Due to the illness of a machine tender on *machine B*, the backtender was moved up to machine tender and the third hand on *machine A* was transferred to backtender on *machine B*. The backtending job was not new to him since he had previous experience on his regular machine which is right hand operation. However, *machine B* to which he was transferred is left hand operation. According to the accident report, the employee was washing the felt on the first press. When pulling the felt back out after having roped it up, his left arm was pulled between the felt and the felt roll. Results—injured arm and shoulder—has lost several months work and is still losing time.

Another employee at the time of his injury had been with the company six years, ten months, and on his regular third-hand job for one year and ten months. Due to the vacation schedule he was moved up to backtender. The accident happened as follows: The front (or north) reel had been filled and the backtender had just turned the paper over on the new (south) reel. (This changing up of reels is done with an air hose.) He still had the air hose in his right hand and when he turned from south to north, the tip of the air hose was caught between the full reel and the reel drum. (The full reel had been raised just enough to take the weight off the drum.) The injured man's hand was pulled in between the reel and the drum. Result—severe injuries to right hand and forearm.

You will notice in each of these cases that the injured men had one thing in common. Each at the time of his accident was working on a job other than his regular job. We might upon closer investigation discover that they had other things in common, such as: both men had some previous experience on the higher skilled job; were considered safe workers at all times and handled their jobs capably and efficiently. They were the kind of men necessary to make up a good machine crew.

However, these are just two of several similar accidents experienced in our mill in the last year, most of them involving people who were transferred or promoted to higher skilled jobs. Where are we going these people? How can we help them and ourselves? Possibly through the use of job analysis or job breakdown.

The safety program could help to establish and maintain a program of good housekeeping. This can provide many benefits both to management and employee. A plant or department that is clean and organized tends to make the employee proud of his work place and his department. With just a little encouragement, he will try to keep it in first-class condition. As everyone knows, a clean department is nearly always a safe department due to the fact that it is free from the dirt, grime, unused equipment, and accumulated trash which are common accident hazards.

A good program of cleaning up and organizing is a tremendous morale booster for the employee because he feels that management is interested in his welfare.

In our mill we have a complete inspection once each week. The inspection committee is composed of mill manager, safety superintendent, and two operations supervisors. Two new operations supervisors are put on the committee each week, replacing the ones who served the previous week, so that eventually every supervisor in the mill will have had a chance to tour the whole plant.

The purpose of this committee is to set out and report back to each department head all of the safety hazards and housekeeping practices observed during inspection. It's really surprising what one outside of your own department can find wrong with your department. Especially, conditions that you should have

each of these two men had one thing in common: the cause of his accident was different from his regular work. A closer investigation of other things in common had some previous experience with the same or skilled job; they were workers at all times; they were capable and efficient; they were the kind of men needed in a machine crew.

Just two of several experienced in our plant, one of them involving a transfer or promotion. Where are we failing? Can we help them through the use of a breakdown.

could help to establish a program of good mill work, provide many benefits to the employee and the company. At it is clean and well-maintained; the employee proud of his department. With incentive, he will try to do it. In addition, As everyone knows, it is nearly always the fact that it is the grime, unused equipment which make

leaning up and paintwork morale booster for the men, the fact that management care.

ve a complete mill check. The inspection of mill manager, and two operating operations supervisor, committee each week. served the precedent, usually every supervisor had a chance to

committee is to search to each department for hazards and poor work observed during the inspection, what some department can do. Espe-ou should have been

aware of long before the committee arrived. However, it is a wonderful program and has been particularly successful in our mill due to the keen interest and helpfulness of our mill manager.

Since this program has been in effect in our mill, our foreman and employees have taken a much greater interest in good house-keeping practices than ever before, and the results are extremely gratifying. It shows that the man on the job can and will take an interest, if the boss is interested. In connection with this weekly mill inspection, our departmental supervisors are having an opportunity to see the whole mill and are gaining an appreciation of some of the problems existing in departments other than their own.

A safety program could encourage employee suggestions. One good source of obtaining safety suggestions as well as suggestions for more efficient production methods, is from the workman himself. He is the man who, if properly encouraged, can be of the most help in pointing the way to easier methods, more profitable methods, and safer methods. His suggestion occasionally may need some study and additional dressing up to make it workable. That, however, is a challenge to supervision. It is also a responsibility of supervision.

Too often the employees' suggestions are bottled up, forgotten, or ignored, or, worse still, appropriated by someone else; sometimes, by the very one to whom the suggestions are made.

This is one of the greatest detriments to a good safety program because it discourages good suggestions and has a tendency to make the man on the job indifferent and sometimes antagonistic toward the whole safety program.

To encourage employees to turn in suggestions, it would seem advisable to set up some system whereby their suggestions could be recognized. This could be done by publicly acknowledging all good suggestions. In addition to this, a letter of commendation could be sent to the employee's home.

In cases where a suggestion was not considered to be of sufficient merit to be accepted, the employee should be contacted personally by the safety supervisor and it could be tactfully explained why his suggestion could not be used.

Whenever a man makes a suggestion, he considers it to be good regardless of whether it is or not. If the person who receives the suggestion thinks it is no good, or doesn't take the time to evaluate it, and allows the suggestion to die on the vine, we not only lose the suggestion but we lose, possibly forever, any interest that could be had from the employee, if only his suggestion had been acknowledged.

On the other hand it is really surprising how many good suggestions will be turned in when the fact becomes known that something is going to be done about them.

A safety program could publicize good safety records of individuals and departments at least as much as the lost-time accidents and poor department records.

All of us here realize that nobody likes to be on a losing team. More and better use of the positive approach to accident prevention should result in improved employee morale and create a greater desire on the part of the employee for some of the so-called "hazardous" jobs.

Proper publicity through plant magazines and local newspapers, as well as departmental bulletin boards, could do much to offset the bad publicity caused by lost-time accidents.

When I was young, I thought that one of the worst possible places in which a fellow could work would be in a paper mill. Why? Because the only news items concerning our local mills were always something like these: "Local mill employee suffers loss of right eye"; "Paper mill worker loses right arm in accident on winder"; "Cutter operator loses hand"; "Machine room employee killed."

A little good publicity concerning safe practices and good safety records would have given me a little better opinion of work in a paper mill.

A safety program could maintain, analyze, and make recommendations concerning major and minor injury reports to prevent recurrence of injuries.

Here is a fertile field in which we can all work. It is very often possible, through the proper interpretation of injury patterns, to determine if an unsafe condition exists on a specific job. This study may also indicate that unsafe practices are being engaged in.

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Situations can only be analyzed properly if accurate and up-to-date records are maintained. It is in this field that the safety supervisor, the plant physician and nurse and the personnel department can be of great help. The accurate and prompt relaying of information of this type will go a long way in helping supervision in the operating departments to set up a good accident prevention program for each department.

We could go on listing the people upon whom we depend in helping to make a

good safety program; and the kind superintendent expects and needs to him do his job properly.

The eight points we have considered just a few of the things which a superintendent expects of a safety program. Safety and production go hand in hand, and the thing which improves safety is bound to be reflected in lower production costs.

Practically all of the points covered with some form of instruction or education. What better method of accident prevention can there be, than education?

Sulphate Pulp Manufacturing

(A Round Table Discussion)

Presiding: F. O. SOUGHTON, Services and Safety Supvr., Longlac Pulp and Paper Co., Terrace Bay, Ont., Canada

Conference Recorder: MARION L. HODGES, Safety Dir., West Virginia Pulp and Paper Co., North Charleston, S. C.

C. C. McPike, St. Regis Paper Company, raised the problem of eye injuries in lime kiln areas. He asked if the problem was due to faulty installation, pointing out that their installation had no walled areas. Thus, breezes stirred up lime dust.

Otto Wager, Champion Paper Company, stated that his company unloaded lime products with air conveyors eliminating hand handling.

Carl Bellamy, Champion Paper Company, said that they had had the same eye problem but had alleviated it by installing eye wash fountains and kits for washing out eyes.

Harold Anderson, St. Regis Paper Company, pointed out that his plant used eye wash fountains.

Mr. McPike asked if others had enclosed conveyors at the discharge end of the kiln. Also, if the operators objected to enclosed conveyors.

Mr. Bellamy answered that his plant did not have totally enclosed conveyors.

Hugh Summer, West Virginia Pulp and Paper Company, asked if any safety precautions had been compiled for chlorine dioxide installations. None present had such an installation.

Fred Soughton, Chairman, suggested that

a committee of the National Safety Council could undertake the study of such an installation as a project.

It was suggested that Regal Carolina Corporation at Canton, North Carolina, is such a set up.

Mr. Bellamy asked if any of the represented were burning sulfur.

Ross Welch asked if anyone is using benzene peroxide. He stated that a job the chemical had exploded in one of an employee's hands.

John Lang, West Virginia Pulp and Paper Company, told that the National Safety Council chemical division had undertaken a study of this.

Mr. Bellamy alluded to steam blow on pulper and screw conveyors in the chemical process. He said that he had a guillotine valve to prevent these backs. He requested information on type of valve.

Mr. Summer explained that problem had been eliminated at his mill by a three valve controlled by the operator.

Al Sunberg, Canada Paper Company, stated that his mill had had a safety problem from wood hooks used in their yard. A new blunt end wood hook greatly eliminated the problem. He

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used in their wood-
end wood hook has
problem. He offered

to get information on the hook should any-
one call on him for it.

H. Anderson, St. Regis Paper Company,
said that they had had the same problem and
had changed from the sharp point.

Mr. Wager asked what could be done
about back injuries in the paper industry.

Pete Grogan, Kimberly Clark Company,
agreed that something had to be done. He
said that the industry should not be penalized
for back injuries not connected with an
actual accident.

Orbbie Weber, St. Regis Paper Company,
reviewed a back injury case at his plant in
which the employee's back was weak from
natural causes and continuous work had
resulted in straining the back muscles.

Mr. Grogan stated that a similar case had
occurred at his plant.

Mr. Bellamy suggested that in pre-em-
ployment physicals you cannot see these
congenital conditions. His idea was to set
up new standards on this type of injury.

Mr. Soughton pointed out that the net
result would be the same whether this type
of injury was reported or not.

Mr. Wager stated that the trouble was
that companies were not consistent in count-
ing them.

Mr. Welch said that it was a moral obli-
gation to report accidents correctly.

Mr. Grogan observed that quite often the
original back injury occurred off the job.

Mr. Weber asked how many bag manu-
facturers were represented in the group.
Five representatives held up their hands. He
asked if the bag manufacturers could set up
their own session next year.

Mr. McPike pointed out that a correcting
section was already in existence. This sec-
tion had been started by bag manufacturers.

Mr. Anderson suggested that some system
be adopted whereby information on new
ideas be distributed among members of the
Pulp and Paper Section.

Dallas Henry said that last year while he
was editor of the Pulp and Paper News
Letter, he had not received one bit of news
on a new idea.

Mr. Bellamy asked, if line drawings can be
reproduced in the Letter, with the present
method of printing.

Mr. Henry said that most types of sketches
or drawings could be reproduced in it.

Glen Waters, St. Regis Paper Company,
asked if other companies allow an injured
employee to return to a job other than on
one on which he was injured.

The answer is to be found in the American
Standards Association and the National
Safety Council standards. An injured em-
ployee can return to any established job.

Mr. Waters did not agree with the ruling.
He said that it looked as if the companies
were "kidding" themselves by using this
ruling.

Mr. McPike stated that he was in sym-
pathy with Mr. Waters but their company
had its own policy relevant to this ruling
and that the personnel of his company had
to work out a policy or change of policy
among themselves.

Otto Sherman, Gaylord Container Corpo-
ration, requested information on safety meth-
ods of handling chlorine.

The suggestion was made that the West
Virginia Pulp and Paper Company, Tyrone,
Pennsylvania, be contacted, as the safety
department there had made a thorough study
of the problem.

Mr. Welch said that at his plant the
inside chlorine pipe lines were replaced every
year.

Mr. Bellamy said the Mine Safety Appli-
ance Company publishes a safety procedure
for chlorine handling.

James Griffin, Regal Paper Company,
asked how many companies represented had
repair kits for the dome of tank cars. Three
representatives held up their hands.

Mr. Waters said that he would like to
make a survey of those present to find out
how they reported accidents.

Mr. Bellamy said that St. Regis evidently
had a company problem in accident reporting,
thus they should solve it among themselves.

The Chairman polled the group to see if
any had a problem in reporting accidents.
When none answered, the discussion was
tabled.

Mr. Grogan brought up the problem of
unloading sulfur from box cars.

Mr. Wager said that in damp climate
there is no problem.

Ralph Meyers, Mead Corporation, asked
what is done about injuries when disability
develops several months later. Some com-

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panies count the accident on the day it happened and some counted it on the day the disability began. It was suggested that disability be evaluated completely on medical opinion.

Mr. Baker, Western Electric Company, asked how lap pulp was handled.

Mr. Bellamy said that his company handled

it with pallets by lift truck. About 2800 pounds to the pallet.

Mr. Sunberg asked how weights of lap were determined.

Mr. Welch, Gladfeller Company, said that his company had an automatic system of determining the thickness of the lap which was from 20 to 80 pounds each.

Pulpwood Logging

Protective Equipment for the Woods Worker

(Panel Discussion)

Presiding: H. H. JEFFERSON, Safety and Training Officer, American Pulpwood Assn., New York City

Conference Recorder: R. C. HAMMOND, Safety Eng., Employers Mutual Insurance Co., Ironwood, Mich.

Participants:

T. S. JONES, Mgr., Thunder Bay Timber Operators Assn., Port Arthur, Ontario, Canada.

DAVID W. SOWERS, JR., Research Forester, Wood Dept., West Virginia Pulp and Paper Co., Hancock, Md.

THOMAS THOMPSON, Logging Foreman, Tomahawk Timber Co., Ely, Minn.

BYRON M. OYSTER, Safety Eng., Weyerhaeuser Timber Co., Tacoma, Wash.

What we are about to discuss is protective equipment for the woods worker. There is a line of resistance which must be overcome by supervisors in the field. Many times the top management, company forester or woods supervisor fail to use the equipment provided. That is where the use of this equipment must start. If these men do not use the equipment, then certainly they are to blame for poor acceptance by the employee. I would like to toss out this question first, as an aid in getting the discussion started.

Question—What are the problems associated with the use of protective equipment and its acceptance by the industry? For example, hard hats.

FRED MORRISH—Lack of knowledge by the manufacturer is partly to blame. They don't know exactly what we want.

C. B. CHANT—Our approach should be different. We should make up our own minds what we wish to do; then contact the manufacturers. We are working on a nylon boot (it is now being tested) similar to the bullet proof vest being used by the army in Korea. On the subject of hard hats, there are winter liners which can be worn without discomfort. In Quebec, many of our men wear the woolen toque and just put the hard hat over the top. We should probably, though, contact the manufacturers and tell them exactly what we want.

JOHN SCHUELER—All lumberjacks are mimics. If you can get the "big push" wear a hard hat, the men will follow the example. The color of the hat, I believe, is important in observing or locating an operator.

Question—TOM THOMPSON—Have any accidents been caused because chin straps or ribbons were left untied?

H. H. JEFFERSON—Not to my knowledge. Usually they are cut off anyway.

BYRON OYSTER—Much depends on the type of hard hat. The west coast has varying degrees of weather. Some employees cut out the crown of an old felt hat. Probably 99 per cent of the men are wearing a McDonald hat. They don't worry too much about looks. You may have to change the liner, though, to suit the weather.

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FRED MORRISH—In my area we have a large percentage of employees of Finnish extraction. Many of them have their wives make a knitted band that fits around the forehead.

H. H. JEFFERSON—We have tried toques. I predict, though, that when hard hats are fully adopted and used, a suitable liner will be available. The men will adapt their own, if necessary. It may be the top off of a sock.

Question—BYRON OYSTER—Has anything been said or done about the size of crews?

DAVE SAUERS—I have heard that some operators won't allow their men to work alone. Some crews are two to five in number.

BYRON OYSTER—I think this is a problem which will come up. Many contractors will, in the future, be working alone. Should we take steps to prohibit a man working by himself in the woods?

DAVE SAUER—I don't think we could in any way prohibit it. We may be able to encourage a contractor to use at least two men. I know a few operators who have stipulated this. It should be encouraged.

H. H. JEFFERSON—This is definitely a problem and has existed for a long time. We know there is a difference in earning power when we add more men to a crew. There is a serious problem though now, with power saws. Many will try to hang on to and protect their saw. We should give some thought to this problem.

Question—VALLEY LOCKHART—What has been the cause of most power saw injuries?

H. H. JEFFERSON—They are varied. There are no good statistics. Insecure footing causes some. I have watched many power saw operators holding the saw across the thigh to start it. It is a violation of good safety procedure, but done all over the country. I would like to emphasize that the saw should be set down, held securely and then pull the starter rope. I have also asked the help of power saw companies in this respect, asking them to instruct their demonstrators to always follow this safe procedure. Some other power saw injuries have been just plain carelessness; for example, bucking more than one log at a time; failure to get feet from under the log.

VALLEY LOCKHART—Most of the accidents in our company have been due to power saw noise.

H. H. JEFFERSON—Let me say again that safety is the sum of job planning and job layout. Calling timber is very important. Would it be possible to let the men know before hand that someone was coming out and would be in the felling area? A peanut whistle worn around the neck has proven helpful.

BYRON OYSTER—We require men to give a warning before they start felling. In large trees, they shut off the saw and then give a warning call.

H. H. JEFFERSON—Why shut off the saw?

BYRON OYSTER—We shut off the saw to listen for a reply, if there is a man in the danger zone.

H. H. JEFFERSON—That is the point I wanted to bring out.

TOM THOMPSON—I would like to say a word about power saw accidents. I have an eye injury due to power saws at our operation. One man was sawing logs at the landing; another was skidding logs to the landing with a horse. The log being skidded caught the end of the log being cut and pinched the saw, throwing the operator over the top where he injured his eye. On the subject of size of crews, we have some operators working alone. We keep them close enough together to shout from one to the other. I have found, though, that five days is about as long as two men can work together without some friction.

DAVE SAUER—We rotate our crews quite often. We have many French, Swedish, and Finnish employees and feel that they enjoy a change of partner periodically. We also keep the men close enough together to know what they are doing.

T. S. JONES—I would like to emphasize the training portion of safety. We are getting only the American picture here. One of the things we have done is to take colored sound motion pictures. Each cost us about \$800. We also sold 26 prints of one film. Doug Chant is doing the same thing along general safety lines. He is the chairman of a visual aids committee for our organization. What I would like to bring out is that we are producing both moving pictures in our own back yard and doing it cheaply.

H. H. JEFFERSON—The American Pulpwood Association will be making a movie on chain saws and will have facilities for sound tracking. On the problem of woods

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safety in general, what we need first is training; whether it be training someone else or ourselves to do the job. Attitude is our biggest problem in getting the acceptance of hard hats and safety shoes. I would like to emphasize that attitude gets its roots from top management. If top management is complacent about safety, it carries right on down the line to the employees.

VALLEY LOCKHART—Is there anything wrong with pulp jacks working alone? We have some jacks who work alone, and it would be a problem to change over and get them to work in a group. Quebec has been strong for job training. Couldn't we attack this problem through job training?

DAVE SAUER—Yes, job training is part of the answer. Earlier this afternoon, I mentioned that men should be well trained for woods work. I would say, too, that more and better supervision and training is needed.

H. H. JEFFERSON—Something must be done to insure a greater degree of safety in woods operations. Training is part of the answer. We also need to think of ways and means to get men together for safety training.

TOM THOMPSON—Could we get the brokers to help?

DAVE SAUER—I doubt if this could be done since most of them want to insure with independent contractor relationship.

T. S. JONES—On safety training matters, we are in a better position since we have camps; thus, having some control over our men.

H. H. JEFFERSON—I believe that 85 to 90 per cent of our pulp wood is cut by individuals. That is why we have such a problem. There is no control exercised over their operations.

DAVE SAUER—I think liberal showing of safety movies would do a lot of good.

Panel Members' Remarks

Mr. Jones: I am not a safety expert but am manager of a trade association in the Northwestern Section of Ontario where approximately 2,000,000 cords of pulpwood along with saw logs, ties and other forest products are produced annually.

As one of management, I believe that safety is an integral part of operations . . . or as Mr. Everest expressed it "A fundamental part of management."

I also heartily endorse another of Mr. Everest's pointed remarks, "Coasting on past performance is always downhill progress."

I have heard many of our executives say that by increasing safe practices in the mills they can save cents. But if they can increase safe practices in the woods, they can save dollars. This, I believe, is true and makes our goal that much more worthwhile.

I think that it is because our association doesn't believe in coasting and helps the two safety associations in Ontario in every way, that Fred Morrish, Ab Minor and John Schuler asked me to be a member of this panel.

Before getting into this panel, the chairman has given me permission to stray a bit and I want to tell you about one or two items of interest from our Ontario experience. For instance, the compensation rate in Ontario for pulpwood logging is \$3.00 this year as compared to \$2.50 in 1952. Heavy logging is \$5.00 as compared to \$3.75 in 1952 and operating sawmill is \$4.00 as compared to \$3.75 in 1952.

Power saws have only come into their own in the last three or four years and it is only in the last two years that there have been any concentrations of power saws in any particular areas. I am not aware of any great safety lessons that have come out of the use of power saws but it is true in the overall picture, with more power saws being used all the time, the accident rate is decreasing. Likewise, in the case of forest fires, we have had no forest fires set in our part of the country by the use of power saws. But I am sure that safe practices to prevent accidents and fires must be followed diligently.

Another item of general interest that I would like to tell you about is our Safety Sign Boards in Northwestern Ontario. Most of our camps are from 50-100 and some up to 200 men camps. Up until two years ago, safety posters were used fairly extensively as a means of keeping safety before the men. In touring paper mills and manufacturing plants, the first notice that "hits you in the eye" on entering a plant is the *Safety Sign Board*. If a constant daily reminder is good for factory workers, it must be good for woods workers and in Northwestern Ontario we adopted a *Bulls-Eye Safety Sign Board*.

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and the majority of companies now have these in use. It is the duty of the clerk to change the days worked without a lost time accident space daily and one camp that I know of has now worked 318 working days without a lost time accident. This may not seem a long time when compared to mill safety records but this system has only been in effect about two years and our safety committees feel that this constant daily reminder is helping.

Logging in Canada is generally territorially divided into two parts, "British Columbia and East of the Rockies." As the Canadian member of this panel, I thought I should briefly say a word about the B. C. section of Canada before I deal specifically with the area I work in.

In British Columbia, a great deal of the safety work is carried out by the Accident Protection Division of the British Columbia Loggers' Association of Vancouver. Out there the terrain is rugged and timber is large and the Workmen's Compensation Board regulations are specific in relation to some clothing.

Regulation 93: Caulked soled shoes shall be worn by workmen whose duties require them to walk on logs. Caulks and shoes shall be maintained in good condition by workmen.

Regulation 100: Safety hats shall be worn by workmen in all occupations in which there is a recognized hazard from falling objects.

As a result of these regulations, most companies make it a condition of employment that workmen be suitably clothed: hard hats, staged pants (short, no cuffs), good boots with sharp caulks, gloves, warm woolen underwear and socks. For wet weather, rain-proof short coats made of heavy canvas. Most employers refuse to let a man proceed into the woods unless he is properly dressed.

It is only in the last year or two that operators in Canada east of the Rockies have given much attention to safe clothing. We appear to be on the threshold of considerable expansion in the next few seasons to judge by the degree of interest among our operators generally. As in other developments in this ancient logging industry, there is resistance to new ideas and methods and as yet safety apparel is not generally accepted by the men, but is by management. The immediate job ahead of us is to overcome any resistance to wearing items that we know

will save lives. Remember, we are dealing with large tracts of pulpwood size timber and insofar as hard hats particularly are concerned, men are reluctant to use these. I have no doubt that this resistance was met in other parts of the United States and Canada and I hope that other members of the panel will give ideas, as to how they overcome employee resistance. We want to work towards the day when wearing safety apparel will be a condition of employment but I would prefer to do this by education rather than legislation and any tips in this matter will be welcome.

To be specific, in Northwestern Ontario, the following safety clothing is in use: I do want to stress that when I say in use, I mean is being used by certain companies in certain of our camps. This is not an across-the-board use as yet, but it is what we are working towards.

Hard Hats. Being sold by some companies. Some companies to introduce these are selling at cost. One company is selling hats less the value of the inside liner on a returnable basis.

Rubber Gloves. Being used especially during wet weather.

Protective Aprons—Rubber, plastic or reinforced treated canvas which offer considerable protection against puncture wounds and scratches from sharp knots and have water repellant qualities and are replacing the oat-sack aprons.

Knee Pads. Are being tried out, but are meeting with considerable resistance.

Back Belts for Tractor Drivers. Tractor drivers are being urged to use kidney pads similar to those used by dispatch riders in the armed forces.

Buoyant Life Jackets. Some companies issue river drivers, boatmen, pointer crews and canoe men with self-inflating rubber belts. These will be replaced with buoyant life jackets. These jackets, recently introduced, will need some changing in design and when in general use will result in a sharp and welcome drop in drowning.

Safety Boots and Rubbers. I have purposely left this item to the last. Safety-toed footwear has been used to a greater extent in the woods in the last two or three seasons than ever before. Our Safety Associations have keenly followed the development of these safety boots and rubbers and a year

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and a half ago we were not satisfied with the article produced. We knew that approximately 25 per cent of all injuries are axe injuries and 52 per cent of all foot injuries are axe cuts. We felt that the safety toed boots and rubbers being sold should do more than just protect the toe. Accordingly, the Ontario Pulp and Paper Makers' Safety Association in cooperation with the Lumbermen's Safety Association undertook a foot accident survey. The results of this survey have just been published and are available to anyone interested. You may secure a copy from either D. B. Chant, Secretary-Engineer, The Ontario Pulp & Paper Makers' Safety Association, or myself.

The survey covered the right foot and left foot and out of 622 cases investigated, 305 were axe wounds, 43 were strains and sprains and 274 were other foot injuries.

There were about the same number of injuries to both the right and left foot reported and the inner side had 111 injuries; the outer side had 53 injuries and the top of the foot had 140 injuries. From this you can see that 86 per cent of the injuries occurred to the top and inside of the foot.

The results of this survey have been turned over to the manufacturers and I believe that they have now produced a rubber that promises to be far superior to the foot-wear presently in use. These rubbers are lined with a nylon fabric—the same material that is used in bullet-proof vests used in Korea. This fabric will stop a 38 calibre bullet at 12 feet and has been demonstrated to some of our Canadian representatives present.

Fifty pairs of these are now on field trials in Ontario and Quebec and everyone concerned is confident that we at last have a real safety rubber for use in the woods.

In 1951, the year of our largest production and a year of what appeared to be a year of shortages, many of our operators purchased large stocks of van goods including rubbers and some are still on hand. Every effort is being made to dispose of these. As soon as this is done the majority of logging operations in Northwestern Ontario will stock only safety boots and rubbers for sale.

I have listed the items in use in our area at the present time. Representatives of logging companies from our area are here.

I am proud to say that there are eight firms in Ontario. We will be pleased to answer questions.

Mr. Sowers: This will be largely confined to a discussion of safe operation of chain saws in the production of pulpwood east of the Mississippi River. I would like to scribe in general the pulpwood operation in this large area.

Pulpwood is produced in New England and New York state, for the most part, cutters living in camps in or near the timber they are working. These camps may have only two, or a few, men working by themselves or hired by others; but often there may be fifty or more cutters hired by lumber dealers or paper companies. In any case, these men are usually experienced cutters and woodsmen who spend the majority of their time producing pulpwood. The same sort of organization is used to some extent in the Lakes States.

The balance of the eastern part of the country, the Middle Atlantic States, Appalachian mountain area and the South Atlantic States, on the other hand, have, if any, camps for pulpwood cutters. Men, and often women too, who produce the greatest amount of the tremendous cords of pulpwood are farmers and other independent workers who live at home and work in the woods only part-time. Much of the wood is produced by people who cut more than 50 cords per person per year. This same system is becoming more widespread even in the northeast and Lake States since many paper companies use a wide variety of species including those minor hardwoods which are found on farms and small woodland ownerships.

While the hazards and problems of chain saw operations are usually the same in all of these types of operations, the methods of training the operators and of getting a safety program across is and must be different. It is very difficult to determine the frequency, number and classification of accidents when the jobs are small, constantly moving; and the workers are in and out of production, living all over the place and seldom, if ever, have occasion to get together where they can be trained.

The jobs, averaging 10 to 100 cords, rarely have a supervisor or foreman. Most of the cutters in this part of the country work for themselves or in partnership.

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therefore the company buying their wood has little or no control over them, so they (the workers) are under no compulsion to observe safety regulations. It is a 100 per cent salesmanship job, and takes a 100 per cent salesman to put it across.

Knowing that a chainsaw, like any other piece of mechanical equipment, is a safety hazard, if used improperly, or by untrained operators, the chainsaw manufacturers, paper companies, American Pulpwood Association and other groups are constantly striving to reach this heterogeneous multitude of pulpwood cutters and chainsaw operators through leaflets, personal contacts, group talks, movies, and so forth, to instruct them in safe operation of chainsaws.

I will attempt to list the factors which we consider in safe chainsaw operation. They are not in any order of importance or occurrence, as this would be impossible in dealing with such a large territory and so many types of operations and operators. All these factors must be considered and controlled, if an operator is to obtain economical production of pulpwood safely with a chainsaw.

1. Transportation of men and saw—If the operator walks to the woods, he should carry the saw in his hand in such a way that he can readily release it in case he stumbles or falls. The practice of carrying it over the shoulder can result in a serious cut of the shoulder, neck or head. If the saw is carried on a truck, it should be securely fastened down to prevent its bouncing around, with consequent bending and breaking of vital parts. An exposed saw, not fastened down, or kept in a rack or box on the truck, can get in the way of the riders who may fall over it.

2. Daily inspection of the saw—Every saw should be completely checked before operation each day to make sure all nuts, bolts and screws are tight; chain should be at proper tension; guide bar free of dirt, twigs and other obstructions; fuel and ignition system in proper adjustment; and the proper grade of oil and gasoline thoroughly mixed.

3. Is the operator trained?—Too often a chainsaw dealer will tell a prospective buyer, "There's nothing to it—just pull the starter cord and go to cutting." Or a cutter will see another using a chainsaw and making good production with no apparent work or worry, so he will buy one and start cutting without so much as looking at the pictures

in the operator's manual which comes with the saw. No person should attempt to use a chainsaw until he has read, or been told, everything in the manufacturer's manual of operation. And unless he has had experience or is being trained in the felling, limbing or bucking of trees, he has no place behind a chainsaw.

4. Preventive or protective maintenance—This demands a knowledge of what makes the saw work, what parts need frequent checking, and how to keep all parts of the saw in working condition; and then taking the time to regularly do it. I have heard some operators say it is not necessary to sharpen the chain because the motor turns the chain so fast the teeth will wear their way through the log. These men are apparently unaware of the fact that a dull chain puts undue strain on the motor, may cause it to shake some parts loose; and if the chain is not regularly sharpened and inspected, loose rivets or cracked teeth may result in a broken chain or teeth flying in the face of the operator.

5. Operator's clothing—A shirt or shirts tucked beneath the belt and no necktie, with sleeves fitting tightly or rolled up, and a good grade heavy leather shoe with safety toes are the type clothing to wear in chainsaw operation. Loosely fitting clothes, open shirts or coats, and rubber or moccasin-type boots with soft toes are definitely a hazard.

Most companies who hire woodsmen now require them to wear hard hats. Independent cutters should be constantly urged to adopt this type headgear, and the best way to sell the idea is for all supervisory personnel or foresters and wood buyers to wear such a hat in the woods. Many a serious and fatal head injury in the woods was caused by a dead or broken limb falling on the sawyer's head or neck.

6. First Aid—It is no longer safe, if indeed it ever was, to go to the woods with no other first aid equipment than a pint of kerosene, which served the dual purpose of lubricating a sticky sawblade and as an antiseptic to be poured on a saw or axe cut. Crews or individuals operating a chainsaw should by all means be equipped with a standard first aid kit which is kept full, and either a small fire extinguisher or fire pump. Along with this, the operator should carry his gasoline supply in a closed container equipped with a spout or flexible hose for

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pouring it into the saw tank. This filling of the tank should not be done until the ground has been cleared to mineral soil, and dirt kicked over any ground on which gasoline has been spilled. Spilling gasoline on clothing, especially of an operator who smokes, is a hazard to be avoided.

7. When chainsaws are being used on an organized operation where several workers are present, a car or truck should be in readiness to take injured operators or other workers to the doctor or hospital. It is advisable to do the same on small independent operations wherever possible. With the advent of the cheap, light one-man chainsaw, the practice of one man going to the woods to cut pulpwood or other products alone has increased greatly. This practice should be discouraged whenever possible, and where practiced, proper use and care of the chainsaw plus a goodly dose of safety precaution should be uppermost in the mind of the operator at all times.

8. Today many men are starting work in the woods for the first time, and using chainsaws right from the beginning. The person who sells or furnishes the chainsaw to such a person should teach, or, see that the novice is taught, the rudiments of cutting timber. First, he should learn to look over the area surrounding the tree to be cut, decide which way he wants the tree to fall and locate or make an escape path so he can get out of the way once the tree starts down. He should then clear around the tree so that the chain won't catch in twigs or vines and pull the saw out of control.

After deciding where to fell the tree, which means judging the effect of large side branches, of an unevenly balanced top, or of a lean or crook in the trunk, the operator should saw out a generous undercut. Then before making the back cut, a check should be made to see that no dead or hollow places occur in the trunk, and take them into account, if there are any. If a large hollow or rotten stump is encountered—and sometimes they don't show up until the undercut is made—the tree might better be left standing. There is no way to tell how a rotten or hollow tree will fall.

Even expert woodsmen will occasionally hang a tree in one or more adjacent trees. The safest way to handle this situation is to pull the cut tree down by a long chain or cable attached to a tractor, truck or horse.

If these are not available, the trunk of a felled tree should be undercut and the top thus dropped out of the ones on which it is leaning. The frequent practice of cutting down the tree or trees in which the cut is hung is always an unsafe practice. Often the operator cannot get out of the way before one or more trees fall on him.

Of course, every operator, whether working alone or with others, should give a warning call, *T-i-m-b-e-r-r*, before his tree starts to fall. Persons working with him should judge the height of the trees and stay a safe distance from the tree to be felled.

When bucking trees into logs or when the operator should make sure the trees have been limbed. Swinging the saw in and out of branches with the motor running has caused accidents by the chain engaging limbs and bouncing out of control, or pulling the operator off balance, and into the bucking chain.

The heel of the guide bar should be kept firmly against the tree before starting a cut. Some operators hold the outer end or middle of the chain against the tree or log, and sometimes get jerked off their feet when the chain pulls the saw motor up to the heel.

Most pulp and paper companies have men in their wood procurement organizations. These men are always urged, often required, to watch chainsaw operations on the jobs they visit, and to give all demonstration and advice they can to the operator a safe worker. The safety training program of the American Pulp Association is carried into the woods on company operations and to group independent producers. They stock training program heavily with actual demonstrations of saw maintenance and use and always insist that those men they are training repeat the work which they have demonstrated.

A surprisingly large proportion of wood workers cannot read, so that printed instructions and regulations for these workers are often a waste of money. Field demonstrations and instructions issued in the form of comic books, as well as talking movies and posters showing right and wrong ways to operate chainsaws, will do far more to improve the practice of safety in chainsaw operation than all the letters and printed regulations ever posted.

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Mr. Thompson: I want to point out what protective equipment we have used; what luck we have had with it; and what difficulties we have encountered.

First of all, I wish to comment on safety hats. In May of this year we purchased 100 hard hats which we issued as equipment to cutters. Our first mistake was splitting the hats between two camps—neither camp getting enough for the entire crew. As a result some men were lackadaisical about wearing them.

On an equipment check-out basis, enough hats should be provided to take care of all cutters and the wearing of them should be mandatory.

Within two months of the date of issue of hats, two of our workers suffered accidents which would have been very serious but for their safety hats. Both qualified for the "Turtle Club," in which there are now 200 members. There is no need to sell these two men on safety hats.

We find that there is no suitable winter lining for hard hats available for a Lumber Jack. A group of us spent a considerable portion of one morning going "round and round" with various hat manufacturers and we are in hopes of getting a better winter liner.

Safety Shoes

We have been selling safety shoes in our stores for the past six months (ever since "Pac" season) and a good share of the men are wearing them.

We secured brochures and price lists from various companies and the men picked out the boot they thought was the most suitable for their use.

As it happened, the shoe they picked was built for inside wear and was not rugged enough for logging. Our store clerks were besieged by a long line of irate customers holding out shoes that had come apart at the soles. We immediately switched to a more rugged boot and have had much better luck.

We are now faced with the problem of changing over to winter footwear.

Our men generally wear leather top, rubber bottomed "swampers" or "pacs" with "Fian socks." We have been unable to find a suitable "swamper" with safety toe features. We would appreciate it if any of you could steer us to some.

Wearing Apparel

As to wearing apparel, we stress the dangers of loose clothing. A good share of our men wear breeches in the winter time and staged off denims in summer. Rolled up pant legs are taboo.

The cutters wear gloves at all times, the most popular being the "monkey face," a yellow, soft finish glove from which they burn the fuzz to make them less slippery. Leather choppers are a rarity on our operations.

Tractor Safety Canopies

We have used safety canopies on our tractors (D-6 and D-8) for a number of years but have not tried them on smaller (D-4 and D-2) types largely because we haven't as yet been able to develop one that was suitable. We do not do any bulldozing with the smaller tractors and have depended on hard hats for protection thus far.

During the winter months our tractors are equipped with canvas skirts to deflect heat from the engine to the operator. They have been a boon to production and operator welfare.

Train Hooks

On our operation we use a tool which I feel should be considered protective equipment. It is generally used for piling up pulpwood where two men are working together.

It is a three-pronged hook that is used to grasp the ends of the stick of pulp. The danger of getting the fingers between the sticks is largely eliminated. A well-made hook can be used to roll a pulp stick (like a cant hook) as well. It is a very handy tool.

I don't know whether there is a patent out on them or not. They've been around a long time—20 years or so—I believe our blacksmith shop has supplied a good share of Northern Minnesota and Wisconsin with them. Any good blacksmith can make them. I can make a drawing of one and send it in to the Council for distribution.

Fire Protection

For fire protection around a working area we have tried back-pack pumps and found them expensive to buy and to maintain.

Where we skid trees in full lengths we find that there usually develops a damp spot or so along the skidding trails. During times

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of high fire hazard we ask the cutter to keep an old oat sack, well soaked up—either in one of these wet spots or in a bucket of water. A "gunny" sack can put out a lot of fire if available for immediate use.

Warning

Mr. Jefferson remarked about the absence of the warning shout of "Timber" in the logging operations today.

We operate in relatively small timber where the undercut is often made with a power saw immediately preceding the felling cut, and have been instructing the cutters to shout "Timber" before they start the saw. From there on we feel that some of the responsibility has shifted to the man approaching the area. The noise of the saw is a warning in itself.

I wish to cite one case that we had the yell of "Timber" would have had effect.

A man was cutting down a tree, with intention of dropping it across the road between his horse and the barns. He felt that his horse had wandering ways and had been repeatedly asked to tie the beast in danger when he was not using him. (A particular instance the horse decided to go to the barns just as the tree was felled. The faller did not hear the horse, the noise of the power saw. The tree fell directly across the horse's back and him.

There was only one thing I felt justified in saying to the man:

"Goodby, good luck, turn in your hat."

Paper Converting Division

(Round Table Discussion)

Presiding: VINCENT P. COULON, Safety Dir., The Sealright Co., Inc., Fulton, N. Y.

Recorder: HUGH M. JACKSON, Mgr., Industrial Health Program, The Johns-Manville New York City

In spite of the large attendance (which made difficult the obtaining of names and companies), participation in discussing the problems raised from the floor was excellent. The following summary briefs the many comments made.

1. Does your Safety Department operate on a budget?

Surprisingly, 25 said no and only eight said yes. While the question was posed in relation to a headquarters Safety Department of a multiplant operation, the factors discussed apply to any Safety Department. Those opposed to a budget stated that needs could not be anticipated a year ahead, that activities had to be designed to meet an immediate problem, and that management should "go along" with the Safety Department's recommendations of what was required. Those endorsing the budget method asserted that, in general, needs *could* be anticipated; that having a definite amount to work with permitted placing emphasis on the most effective phases of accident prevention; that an approved budget assured a definite

program while without it each activity was subject to the whim of the "boss" moment; that planning ahead is good management practice in any business re-
bility.

2. What is your safety shoe program?

A number of companies reported sums ranging from one dollar to 50 per cent of the shoe price. Payroll deduction was common practice while sales were handled by plant stores, visiting shoe trades or shoe stores. In general, wearing of shoes was not compulsory, though in sales effort several plants reported that 10 per cent or more regularly wore them on the job. One plant reported that shoes were furnished when their use was mandatory. Question was raised as to whether state regulations would not force the employer to furnish safety shoes if the employer indicated such "should" be worn.

3. Any new gimmicks or campaigns?

A number of contests and award ceremonies were described. It was the consensus, however, that every gimmick, contest

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should aim at building safety into production. Safety is not a thing in itself, but is an integral part of the production supervisor's responsibility. To emphasize this fact, data can be obtained from the insurance carrier to relate accident costs directly to the plant having the unfavorable experience.

4. Are job hazard breakdowns being used?

Several plants reported using job safety analysis or hazard breakdowns for training new employees and transferees. With a few variations, job breakdowns were made through collaboration of employees, foremen, safety engineer, training instructor, and industrial engineer. Maintenance of analyses was accomplished by periodic review, audit by observation, and check of non-disabling and disabling accident causes against analyses hazard identification. All plants using this technique reported favorable results.

5. Do plant inspections discover unsafe work habits?

In general, it was agreed that work habits were not noted particularly in the typical plant inspection. Two companies, however, reported considerable success in obtaining union committee collaboration in this regard. At one, the committee volunteered to observe and report unsafe practices to foremen (first verbally then in writing). The other reported that the union has publicly taken the position "don't bring a grievance if you don't follow the safety rules." It was the consensus of opinion that much greater emphasis should be made in noting and correcting unsafe work methods and practices.

6. How can loaded box shop trucks be handled safely?

The problem involved frequent heel injury while pulling 47 inch by 84 inch four wheel trucks loaded with carton flats. Pushing is

not satisfactory because vision over and around is blocked. Suggestions given included detachable handles, power puller-hand operated, lower load level, eliminate poor floor conditions.

7. How are lift truck operators trained?

A number of companies reported licensing programs. These ranged from a mere handing out of licenses, to a complete training program, including medical examination, conference training and testing, and driving training and testing. Truck "derbies" were effective. One plant reported successful application of aptitude testing, not only for truck driving but all jobs, on a program developed by Science Research Associates.

8. Should discipline be given safety rule violators?

It was the consensus of opinion that safety rule violations should be handled in the same manner as any other production practice violation. Required practice must be clearly indicated and discipline consistent. Several companies reported the use of warning or violation slips, with stated penalties of layoff and discharge on the second and third violations.

9. How can use of machine guards be controlled?

Several suggestions related to guard design were offered: tie in machine switch to the guard; provide gravity drop so guard would rest in closed position, hinge guard to prohibit removal, paint guard with safety code color to identify guard not in position. It was agreed that training for supervisor and employee was essential. Investigation should be made into the "why" of guard removal to determine whether process, method, or design changes are indicated.

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Insulation Products

(A Round Table Discussion)

Presiding: AMOS S. KEEN, Safety Dir., Armstrong Cork Co., Lancaster, Pa.

Conference Recorder: ALBERT W. SMITH, Personnel Services Mgr., Bird and Son East Walpole, Mass.

The chairman asked if all members of the Insulation Section were receiving the copies of the Disabling Accident Reports. Three mailings had been sent out from his office. Mr. Lee of Wood Conversion Company said he had not received any. This oversight will be looked into and corrected. The delegates agreed that the write-ups were of great value and hoped Mr. Keen would continue to send them out.

Mr. Keen reported that a list of suitable questions had been prepared by Mr. Russell Blum from questions submitted by the members in reply to a questionnaire sent to them.

Question: What, if anything, has been found to be a suitable substitute for carbon tetrachloride?

Several delegates expressed their opinions that even though several cleaning fluids were on the market, nothing quite took the place of carbon tetrachloride. Some clean as well but leave an oily residue.

Question: What is the best method of following up and correcting hazardous conditions found to exist that have or might cause accidents?

One delegate said his company used a maintenance work order card of a different color than the standard card, thereby flagging the job as important safety-wise.

Another delegate said such work was taken up at the monthly safety committee meetings. If the job has not been completed, a suitable answer must be given.

Question: What has been found to be the safest method of breaking up a log jam on the conveyor?

The opinion was that a good signalling system was essential. One method offered was to have a control switch operated by one man only.

Question: Anyone familiar with Defibrator safety valves?

No one responded to this question with anything of a concrete nature.

Question: What is done to correct and control wet floor hazards?

Some delegates found the sloping of the best. Others used a good drainin term. A covering known as "Min Walk" had been found satisfactory. A said his company was in the process of ing a non-slipping compound and it good so far.

Question: How can we get the acc prone employee to mend his ways w discouraging him from going to the c sary?

Some delegates use the personal-c method. The approach depends on th ployee's personality.

Another delegate said that any em having more than two injuries in the year was called before the safety com and the accidents discussed in detail him. Proved helpful.

Others mentioned were: Do not medical attention to workers but or supervisors. Investigate the man's o activities. Does he respond to instru from foreman? Wear proper safety ment? Supervisor can help by givin employee extra attention such as re instructions. Supervisors need to be tr too.

Question: Should accident-prone emp be discharged?

General opinion was that this wa last thing to do. Try to find him a ; another department on different ty work. Might be due to poor health leave of absence for medical treatment help.

Question: What methods are used to mote good housekeeping?

Opinions: Hold departmental forems sponsible. Keep department clean fro to day. Many times plant is cleaned up when the president, directors or othe management men are going to visit. method is most costly. Supervisor sho strict at all times. Have safety enginee members of safety committee make re inspections. Issue cards listing the disor

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1. White card means the condition should be corrected soon.

2. Blue card shows the recommended cleanup was not attended to.

3. Pink card warns the foreman that he will be called into the superintendent's office to discuss the matter.

Plant manager or superintendent should go through the departments on inspection tours. One manager has been known to cause machinery to be shut down until the department was cleaned up.

Housekeeping standards are set by management. Should not be left to a hit-or-miss method.

Question: What has been found to be the best type of report to submit to management

in order to give a clear idea of safety engineer's job and what is happening?

One delegate said he found that to request a few minutes of the manager's time, to sit down and discuss just what is on your mind, brings quick results.

Another delegate thought the safety engineer should be called in to review the plans of new machines while they are still on the drawing board.

Question: What compulsory program is followed regarding safety shoes and goggles?

Delegate: Safety prescription glasses for men in machine shop are furnished on a 60-40 payment basis.

If employees are compelled to wear safety shoes, then management should be expected to pay in full.

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