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Current Safety Topics in the

PULP AND PAPER INDUSTRY

as presented in sessions of the Pulp and Paper Section
at the 40th 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 34 volumes of the 1952 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 1952 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.

Management and Safety

By G. W. E. NICHOLSON

Vice Pres. in Charge of Manufacture, Union Bag and Paper Corp., New York City

The industrial accident situation daily presents a social as well as an economic problem of greatest importance. It has become a duty for everybody concerned to see that every industrial plant becomes a safer place to work in, in the same manner as time and effort are given to improvement of production and quality of the finished product. A good safety record is a goal that the management of every industrial organization must strive for. Such a record is an expression of competent and enlightened management of modern times.

The effort to bring this about is very closely interwoven with the various methods required to achieve a wholesome and sincere relationship between management and workers. On the basic principle of mutual confidence and respect, safety and safe working conditions become a cooperative endeavor by management and workers. Great progress has been made, particularly during the last few years, but we still have a long way to go. Safety education must be carried out continuously without any let-down. Most of us have experienced encouragement as well as great disappointment over the years. It is an uphill fight, at least until the level has been reached when everybody has acquired safe working habits.

Top management must actively participate in the formation of a safety program and it must give encouragement as well as active help in order to create enthusiasm, especially so when the going is at its worst.

A well organized safety department is today considered a necessity in every industrial plant of any size. The facilities have been greatly improved upon and the work carried on by such a staff is being continually extended into new territories. A great deal of know-how has been developed during recent years and made available through the National Safety Council, as well as by the various industrial safety organizations, which has been very helpful in building up the efficiency of the overall work carried out by the various safety staffs.

This applies particularly to organizational set-up and the tools used by such a depart-

ment in the form of records, statistics, analysis of cases, slogans, contests, posters, bulletin boards, displays, improvement of equipment, elimination of hazards, the availability of various protective material, such as safety shoes, safety goggles, eye-glasses, shields, etc.

There has been great progress made in the development and usage of films and visual material, helping the safety department to develop and illustrate knowledge of accidents as to how they happen, as well as the means of prevention.

Enough emphasis cannot be made in regard to the importance of a thorough investigation and analysis of all accidents in order to discover all the facts leading up to and causing the accidents. By intelligent analysis and careful searching, a competent and experienced safety director can, in most cases, discover some leads which can be helpful in avoiding repetition of any specific type of accident.

The re-enacting of accidents with the use of photography can be of very great help, particularly if such slides are used in the regular safety training program. Besides the regular laid down safety program in form of meetings and various discussions, special safety campaigns with unusual and special striking aspects should be put on from time to time and it should be made certain that backing and special attention is given by the whole plant personnel in order to focus special attention on safety.

Among the various monthly reports sent out by the safety director, it has been found to be very helpful to the safety program to send one report to every supervisor giving a brief description of every lost time case accident during the previous month, stating the name of the foreman of the departments involved.

The first aid hospitals have provided improved facilities, both in regard to equipment required as well as the medical know-how, and, in many instances, facilities have been made available in the form of giving preventive as well as corrective medical care with direct bearing upon greater safety. Un-

doubtedly, further improvements in the methods used by the average modern safety department will be developed in the years to come.

As a vast majority of industrial accidents, as shown by statistics, are caused by man-failure, it becomes evident that the problem of bringing about a good safety record depends mainly upon keen and alert leadership and supervision and this is where we recognize the great need of capable and competent foremen who will understand and realize the need of safe working habits. For that reason, I believe that we can accomplish the most by giving time, expense and ingenuity to a greater extent than we have done in the past to training of men.

There are two steps in training, one of the supervisors and the other of the workers. The supervisor safety-training is an important part of the overall foreman training which is so much needed today. A training program must be organized in such a manner that it maintains the supervisor's interest. He must become interested because he realizes that it will help him in his work and also better qualify him for promotion. A good foreman is always very close to the men working for him. He knows a great deal about the men's families and their problems. He gives encouragement to the individual worker and makes him feel that he can always come to him for advice.

He will give special attention to the new employee in pointing out the safe way of performing, and in keeping him under constant watch until he is positively assured that the new worker is performing his duties in an efficient and safe manner. It is only through close supervision and continuous carefulness by the employee that a "no accident" record can be obtained.

A competent foreman will secure cooperation of his men more quickly by giving each man a definite responsibility rather than by presenting the safety problem entirely in the form of instruction and orders. All employees should take an active part in accident prevention work and must feel that the success of the accident program depends upon their individual efforts. The foreman's sincerity in performing his part in the safety program will be reflected in the cooperation he receives from the workers.

There are plenty of good foremen in American industry and those are the men we must depend upon to train other men to observe safe working habits. It is only through intelligent and humane continuous supervision that we can accomplish and bring about a good safety record. Chance-taking, hazardous short cuts, unnecessary haste, and other unsafe practices are opening wedges for accidents that a competent and well-trained foreman can correct. Orderly working habits, good housekeeping, constant watchfulness for laxity, together with careful and thorough inspection by the foreman will bring out, in the early stages, the underlying causes leading to accidents.

The primary responsibility of safety must be assumed by the line organization, even in plants with a highly developed safety staff, as it is a function of the supervisor's responsibility in the same manner as they are responsible for quality and quantity of the finished output.

The success or failure of any safety program in any plant depends upon two key figures—the plant manager and the foreman. And their main incentive must stem from the human desire to reduce suffering and to help their fellow employees.

Award of Edward Benton Fritz Trophy

By A. SCOTT DOWD
Pres., Fritz Publications, Inc., Chicago

The first sectional contest of the Pulp & Paper Section of the National Safety Council was held in 1925, with an enrollment of 41 pulp and paper mill participants. Since then, the number of participants has increased steadily—with slight recessions in

1933 through 1935. In 1951 there were 424 contestants consisting of 274 pulp and paper mills and 150 converting plants, the latter including a number of roofing paper mills and insulating and building board mills. The total exposure reported for all contest-

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ants in 1951 was 475,736,000 manhours—an increase of six per cent over that of the previous year.

The overall cumulative frequency rate six years ago was 19.24. Last year, the rate was 9.83, or 17 per cent below the national average of 11.80 for all companies in the paper industry that reported their experience to the National Safety Council in 1950. Fifty-three per cent of the total enrollment in 1951 had frequency rates below 10. Thirty-two units, consisting of 12 mills and 20 converting plants completed the 1951 Contest with perfect scores.

There were 124 plants aside from group winners in the 1951 Contest, that had frequency scores below their group averages and also reductions by comparison with their rates in the previous year.

In the current 1952 Contest there are 458 contestants consisting of 289 pulp and paper mill units and 169 converting plants. In addition, there are 4 participants whose exposures are below the minimum requirement. The overall cumulative frequency rate as of August 31 was 9.34, a cumulative reduction of 5 per cent in the rates of identical contestants in the corresponding period of 1951. Identical paper and pulp mill reductions were 4 per cent with the highest reduction in mills employing between 250 and 500 people. Paper bag plants scored the highest reduction in the converting group.

The Grand Prize

Selecting a winner of the Grand Prize for the best safety achievement among the 274 paper and pulp mill contestants, 12 of which had perfect scores, was a big task for the five judges.

The winner of this Grand Prize in the 1951 Contest is the West Virginia Pulp and Paper Company, Williamsburg, Pennsylvania, a completely self-contained sulphate pulp and paper mill having a daily rated capacity of 75 tons of pulp and 80 tons of paper.

This mill won the same award for their accomplishment in 1950. It has the unique distinction of winning it for two successive years of outstanding achievement. Between January 1, 1951 and December 31, 1951 an average of 484 employees worked 994,163 manhours without a lost time accident, to complete the contest year with an accident frequency rate of zero. This gave the mill

a perfect record of more than three years. As of December 31, 1951 it had worked a total of 3,081,526 manhours since the last reportable injury on December 6, 1948.

For this achievement, the Williamsburg mill of West Virginia Pulp and Paper company was given the "Award of Honor" by the National Safety Council, in accordance with the plan officially adopted by the Industrial Conference through its statistics and contest committee, and approved by the Council's board of directors through its committee on contests and awards.

One encouraging and interesting aspect of the results at Williamsburg in 1951, was the steady rise of efficiency ratings in both the pulp and paper mills which accompanied the continuing success of the safety program. The efficiency rating of the pulp mill in 1951 was 92.83 per cent, compared to 89.93 per cent in 1950 and 78.2 per cent in 1949, while the efficiency rating of the paper mill rose three points in 1951 to 99.7 per cent, compared to 96.7 per cent in 1950 and 91.9 per cent in 1949.

Another perfect record augmented in 1951, was that of the United States Gypsum company plant at Oakmont, Pennsylvania. It has won Honorable Mention for two successive years. The mill manufactures kraft paper and converts it into multi-wall plaster and lime bags. Its operation employs 180 people of which 40 per cent are female. In the 38 months preceding the closing date of the 1951 Contest, U. S. Gypsum employees at Oakmont established a record of 1,121,351 manhours without a reportable injury. Safety is a law at Oakmont—just as it is in all other U. S. G. plants.

Another long no-accident record during 1951 was made by the Kimberly, Wisconsin mill of Kimberly-Clark Corporation. This mill operated 330 consecutive calendar days, from January 29 to December 26, for a total of 2,964,923 manhours without a lost time accident. It established a new Kimberly-Clark record which was formerly held by the Niagara, Wisconsin mill at 1,864,027 manhours. The latter mill won The Paper Industry Major Award for its perfect score in the 1929 paper industry annual safety contest.

A significant factor in Kimberly's accident prevention program, which also embraces the off-duty program, is the decrease in the number of off-duty lost time accidents. In 1949, there were 143 cases involving 1,371

days lost time. In 1951, there were but 75 cases involving 957 days lost time.

The Kimberly mill, with a recent average of approximately 1,500 employees, manufactures pulp and book papers and paper specialties in a complete operation from logs to finished product. The pulp mill (112 employees) which includes an acid plant, wet machine room, digester room with chip bins, groundwood and bleachery, on April 19, 1952, reached a total of 2,000 days or 1,500,000 manhours of operation without a lost time accident.

Safety operation came into being as a part of mill operation with the enactment of the Wisconsin Workman's Compensation Act in 1911.

Although it was not until 1940 that a full time safety man was placed on the mill

payroll, some fine accomplishments had been made as early as July, 1923, when the mill operated 110 consecutive days without a lost time accident, and it was at that time the Kimberly mill was declared the "World's Safest Paper Mill."

There are many other plants in this safety contest that made notable achievements. They have reduced frequency rates by large percentages with consequent corresponding reductions in the cost of accidents and gaining higher production efficiencies. A good example of such will be described in the November issue of *The Paper Industry*.

The West Virginia Pulp and Paper Company, Williamsburg, Pennsylvania, accepted the Major Safety Award for the best achievement among 274 pulp and paper mills entered in the 1951 Contest.

Rehabilitation by Workmen's Compensation

By D. D. McRAE

Asst. Sec'y.-Treas., The Ontario-Minnesota Pulp and Paper Co., Ltd.,
Fort Frances, Ont., Canada

Without Workmen's Compensation, there probably would be a greater loss from industrial accidents than there is with it. Under the Ontario act, the employers are organized for accident prevention, and if these organizations function officially—and they undoubtedly do—there must be a reduction in accidents. Again, with the best medical and surgical attention being given to those injured, the disabilities must be reduced, below what they would be, if such attention were not given. Under a system whereby the injured workman had to select and pay for his own treatment, it does not seem unreasonable to conclude, that the disabilities must have been greater.

The workmen's compensation act for the province of Ontario became effective on January the first, 1915. In the first year of its operations, a little less than one million dollars was awarded for approximately seventeen thousand accidents. For the calendar year 1951, the awards totalled a little less than twenty-five million dollars in compensation and medical aid for two hundred and two thousand, six hundred and forty-five accidents that were reported.

The employers in Ontario are compelled to contribute to this exclusive, collective, liability fund. There are, however, a few exceptions, for example, federal and provincial governments, municipalities and railroads. Otherwise, each class of industry maintains its own separate fund from which compensation and medical aid as well as administration costs are paid. The combined funds of all the classes go to make up the general fund over which the workmen's compensation board has complete control.

Employers in Ontario are classified and assessed according to the risk involved in their respective industries. There are twenty five classes in all.

At the present time there are about forty eight thousand employers registered with the board. Generally speaking, an employer carrying on an industry under the provisions of the act is required to file a payroll statement with the board as soon as one workman is employed, whether temporarily or permanently. It is important that the payroll should be filed before the start of operations, for until such time as the payroll is filed, the employer is subject to the total

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cost of the claim arising out of and during the course of employment of his workmen. Once the employer is registered with the board, and as long as he continues to employ workmen, it is necessary to file an annual payroll statement showing the actual amount of wages paid out in the previous year and an estimate of the probable payroll for the current year.

The annual assessment for each employer is figured from his estimated payroll and from the estimated rate for that year which is set by the board and based on the previous accident experience of the industry. This assessment is payable in two equal instalments, the first due one month from the issue of the assessment and the second within two to six months from the day of issue.

The prime purpose of the act is to protect injured workmen, but the employer may also take advantage of coverage if he so desires. When the yearly payroll return is filed with the board, it is necessary for him to state definitely that he wishes to be covered at a stated salary, which must not be less than twelve hundred dollars nor more than four thousand dollars per year. He thereby puts himself in the same position as a workman in respect to receiving compensation for accidents. The employer may obtain the coverage for a part of the year rather than for the full calendar year. As an example, a logging contractor may wish to be covered for only three to six months during the period of his contract. The assessment, of course, is charged only for the period covered.

Every employer within the province whose industry is under the act is required to keep a careful and correct record of all expenditures for wages, showing the names of his workmen, their earnings and the date from which they were employed by him. These records are subject at any time to audit and investigation by the board and its officers.

Convalescent Centre

In the year 1947, the board established its convalescent centre at Malton about 14 miles from Toronto. By so doing the board has shown that it is anxious to provide the industrial worker injured in the province with the very best in medical and rehabilitation service. The board acquired 14 buildings

that had formerly been used as a Royal Canadian air force training centre. Converted by the department of veterans' affairs for hospital use, the building provided an ideal opportunity to expand the services formerly given at the board's clinic in downtown Toronto.

By opening a convalescent wing, the serious shortage of beds in the active treatment hospitals has been considerably relieved. The plan by which treatment and vocational rehabilitation are properly co-ordinated, benefits the patients greatly and also assists the doctors of the province in their endeavor to give their patients the best in treatment.

When a patient arrives at the convalescent centre he is met by a rehabilitation officer and is given a cheerful welcome. He is told of the board's interest in his welfare and that it is hoped that through properly directed treatment and activities his progress towards maximum recovery will be hastened so that he may return to work.

Those who still require nursing care are admitted to the convalescent wing. There, under medical supervision, they are exercised regularly and given heat treatment and massage so that joints will not stiffen.

Rehabilitation officers direct their thoughts towards eventual return to work and assist in solving any personal problems that may delay recovery. The board knows from years of experience that the majority will return to useful employment and once again will live full and satisfactory lives in spite of disability. Properly placed, the handicapped prove to be efficient, loyal and safe workers.

Time must not hang heavy on the hands of the injured man. The patients are encouraged to take up crafts of various kinds. In the library, billiard and game rooms, or in the theatre where three shows are presented weekly, leisure time can be passed pleasantly and profitably. When the patient has recovered sufficiently to take care of himself, he is transferred to the physical medicine wing.

In the physiotherapy division, by the use of massage, electrotherapy and hydrotherapy, pain is relieved, circulation is stimulated and the injured limb is conditioned for active exercise.

In the occupational therapy division the numerous types of apparatus are designed to strengthen weak muscles and increase

movement. You may see one man who is turning weights on a machine to strengthen injured wrist muscles; another may be stretched on his back while pedaling a bicycle machine to strengthen weakened muscles in his legs; another may be using apparatus that is designed to make him raise his arms and to reach as high as possible to strengthen muscles.

They improvise by designing equipment to suit a particular case, as required.

In the carpentry shop or weaving room, the worker soon gains confidence in his own ability. Hobbies and crafts are encouraged. The carpentry shop is a popular place. The material is furnished to each patient and he may keep whatever articles he produces. Here you may see men who may have limbs or a hand in a cast, but he is still able to follow his hobby or craft.

In the weaving room, you usually see a worker who has his hands in a cast, but with his thumb and/or fingers free. The operation of weaving gives his fingers exercise and movement that he would not otherwise obtain. The material is supplied to him and he may retain any articles produced.

The skilled worker can go through similar motions to those required at his regular job and can satisfy himself that he is making progress and will eventually return to work. You may see workers laying railway ties and railway track; they have logs where an axe may be used, also the sawing operation carried on; another may be laying bricks; another may be shoveling sand over a height of approximately one foot with the arrangement whereby the height may be increased as the workman's condition improves.

They have one room that is used by patients to become accustomed to the use of artificial limbs. The patients have privacy and although there may be more than one

patient in the room at one time, there is no one else but the instructor. A patient with an artificial hand is taught to perform the ordinary movements of daily living, for example, turning a water tap, turning a door knob, how to handle silverware while eating, how to tie his neck tie. They are also taught how to dress themselves and, which is very important, they are taught how to write.

If the patient remained at home and received the artificial limb that is provided by the workmen's compensation board, he would probably try it on once or twice, and after some embarrassment, might be inclined to discard the artificial limb.

The care and treatment and interest shown in their recovery maintains a very high morale.

Plans for the taking up of employment can be started and when necessary, training provided at the regular trade schools, technical schools or business colleges. In most cases, however, the man is able to return to his former work.

Sometimes it is necessary to change his duties somewhat and here again the rehabilitation officer can give the employer valuable advice as to the type of work the man can do.

Much is accomplished by this cooperative effort, and doctor, nurse, therapist and rehabilitation officer must all pull together for the good of the patient.

It is the degree of cooperation given by the 450 patients that determines the success of the operation. The man who realizes that what is being done for him speeds his return to work and reduces his disability will take a keen interest in the program arranged for him.

The board is anxious to have as many visitors as possible at the convalescent centre and a visit is well worth while when in Toronto.

Sulphite Pulp Manufacturing

(Round Table Discussion)

Conference Leader: ORA HAZEN, Safety Supervisor, Minnesota and Ontario Paper Co., International Falls, Minn.

Recorder: R. W. CROUCHER, Safety Officer, Minnesota and Ontario Paper Co., and Subsidiaries, International Falls, Minn.

1. What hazards have been found around chip conveyor?

This question drew but little response, although one member stated an employee had been badly injured when tangled up in one. In most plants the conveyor is completely enclosed, and the walkway running along its length is adequately guarded.

2. In chip bins, the chips often hang up on the sides and have to be freed. What is the safest way to do this?

Answers:

We use a vibrator but it only takes so much and we have to finish the job with air lances.

We have used air jets, but now use a four-pronged hook on a half-inch line, like an anchor. This is dragged up and down on the hung-up chips. Sometimes the prongs get caught in a wad of chips and it takes a lot of effort to get the thing loose.

We had used steam jets, but moisture from them would freeze, so we went to air.

We have four jets on brackets around the walls of the bin. These work fine.

There is on the market an air bag, which is laid against the bin walls and which when inflated, jars the chips loose. Nobody seemed enthusiastic over this idea.

Most of those present stick to the system of a man going down in the bin to knock chips loose with bar or air lance. He wears a safety belt with a rope held by an attendant on the walkway above. In one instance failure to wear the belt resulted in a man sliding into the digester with a cascade of chips, and becoming part of that day's furnish.

3. What are the common hazards around the lime rock pile?

Answers:

Overhanging ledges frequently present dangers of falling rock. The use of long handled hooks is recommended to bring the rock down safely.

Loading rock onto carts or buggies. Many toe and finger injuries result from rock slipping from hands, or from rock falling off cart piled too high. One member strictly limits the height to which rock can be piled above sides of cart.

Rubber tired buggies permit smoother handling, with less danger of rock being dislodged.

Compulsory wearing of instep guards or rubber shoes with built in protection, such as are used in mines. Ordinary safety shoes are not adequate since the instep is most vulnerable.

4. Acid tower hazards. The only experience quoted was that of an employee working down in the tower a few feet below the unloading deck. A bubble of gas came up and gagged him, and he choked to death on part of an apple he had eaten. The ordinary gas mask is declared to be unsafe and an air line mask is indicated. A gas mask in the tower elevator is O.K., if the elevator is open, but not in the tower.

5. Has anybody had any accidents involving acid tower escape ladders? Answer was no, but very thorough inspections should be made, preferably weekly, to guard against weakening from corrosion.

6. During a brief discussion on gas masks in the Acid Plant in general, the statement was made that the canister type gas mask is adequate for conditions where there is 16 per cent or more of oxygen present. Otherwise an airline mask should be available. The Chemox unit was also recommended.

7. What hazards are connected with handling sulphur?

Answers:

Sulphur is unloaded from box cars with wheeled scoops. Sometimes the lip of the scoop strikes a protruding bolt head in the car floor with such force as to injure the unloader's hand or wrist from the shock.

The only solution seems to be an appeal to the suppliers to make more rigid inspection of car floors before loading.

Most common hazards are explosions and fires caused by sparks from static electricity. Some members have changed from steel to aluminum screw type conveyors, but the aluminum type has the drawback of heating and melting the sulphur. On the vertical elevator type bronze buckets are being used.

Another type of fire hazard was eliminated when a member moved the melting tank into a separate room from the burner.

To guard against plugging up of molten sulphur lines, they should be blown out before leaving the plant at a shut-down.

Mention was made of a new source of sulphur from iron pyrites, which may lower the cost of the commodity, especially to Canadian mills.

Sulphur unloaders have trouble with particles getting in eyes and causing inflammation. It is hard to get men to wear goggles on that job, as they are uncomfortable and cause sweating. Some men are allergic to sulphur and in others the tear ducts become plugged. The theory was advanced that wearers of prescription spectacles quit relying on their eye lashes which are nature's dust filters, with the result that particles of dust enter the eye more easily. It was recommended that wearing of goggles be emphasized to unloaders and that the goggles be washed frequently. Also that the eyes be given a washing daily after work.

8. Hazards related to digesters were declared to be few, aside from those of gassing. Protection from that is provided in all mills by a sufficient number of gas masks of the proper type. Every employee should have his own. Some members stated that their charging floor men have speed wrenches to remove and apply the digester head bolts.

Those members who use chip packers, and, those who do not, appeared about evenly divided. One of the former asked what is done about pulp hanging up in the digester after cooking. Answers were to have a high pressure pump installed in the blow line, and blow back up, thus loosening the pulp, and another to run hot water

into the top of the digester and put pressure in.

9. Warnings of blows: What systems are used?

Answers ran from whistles being blown, to bell alarms to cooks banging on pipes and yelling. Men are apt to get used to such sounds and ignore them or delay getting into clear. One system that met general approval was for each member of the crew to report to the cook before the valve is opened. Water reserve tanks should be posted as prohibiting swimming in them, with severe penalties for violation. Claim for compensation might be based on employer failing to enforce such a safety rule. One member had a drowning when a young man was sucked down into the outlet when the large valve was opened while he was swimming in the tank.

10. Hazards of belt elevators, or man lifts. These were admitted to be confined to a man going over the top of the belt when failing to get off at the top level quickly enough and being jammed against the edge of a floor opening when not hugging the belt snugly enough. One member has prevented the possibility of the first named by an electronic control which stops the man lift if an object interrupts a beam placed in the danger zone. Another has funnels at floor openings to prevent the second named. Others have ladders on the frames in case of power failure. It was agreed that mechanics should be prohibited from sending tools up on the steps to a helper or vice versa, and that any form of horseplay on, or around, man lifts should be severely dealt with.

11. Hazards of electric passenger elevator in sulphite mill. Discussion was centered about a combination of power failure and high gas concentration, and means of escape. Practically all members have hatches in the cage ceilings and short ladders to reach the hatches, and which can be pulled through the hatches to reach the shaft door next above. The shaft in one member's mill is large enough to permit a ladder being attached to one wall, and which can be reached by means of the ceiling hatch. A sufficient number of gas masks of the proper type is a must in every sulphite elevator.

Sulphate Pulp Manufacturing

(Round Table Discussion)

Presiding: D. V. HILL, Safety Director, The Mead Corporation, Kingsport, Tennessee.

Recorder: F. O. SOUGHTON, Services and Safety Supervisor, LongLac Pulp and Paper Company Limited, Terrace Bay, Ontario.

Chairman's Opening Remarks—Mr. Hill emphasized the importance of finding answers to our accident prevention problems since "failure in safety is failure in human relations."

Problem 1—Control of Algae

Findings

This presents quite a problem in areas where warm water is used in mill operations wherein the algae cover everything with a scum which creates a serious slipping hazard.

Good maintenance on pipe joints and valves to prevent leaks was considered to be of prime importance. Other suggestions included:

- a. Acid etching of concrete floors and covering of ramps and walk-ways with used machine wires to reduce slipping hazards.
- b. Use of B.S.M.-11 (a mercurial compound) or chlorinated lime for slime control.
- c. Use of copper sulphate for algae control.

Problem 2—Keeping Recovery Furnace Gratings Clean Around Recovery Boilers

Findings

The use of steam was considered to be best with compressed air second.

It was emphasized that safe practices should be carefully established for operators performing the job and that traffic in the area and on lower floors should be controlled during such cleaning operations.

The opinion was also expressed that it should be well defined as to who should be permitted in the recovery furnace area at any time.

Problem 3—What to do with Lime Rejects

Findings

The only feasible suggestion was that such rejects could be used for surfacing on second grade roads and in wood yard areas to cut down on fire hazards. It was further noted that there was not enough free lime

in the rejects to create a problem if used for surfacing.

Problem 4—Mill Entrances and Exits in Close Proximity to Railroad Tracks

Findings

This seemed to be a problem with a number of delegates and it was agreed that there was no simple answer. Ideas which might be adapted to particular situations included:

- a. Handrails directly in front of exits which would block direct thoroughfare and force people to an awareness of the hazard.
- b. Related to (a) might be a handrail long enough to prove inconvenient and therefore slow down traffic over tracks.
- c. An electric eye tie-up with a gate.
- d. An electric eye tie-up with a bell or buzzer.
- e. An electric eye activated tape recording unit which would sound or state a warning over a loudspeaker.
- f. It was also suggested that in some instances, entrances or exits could be relocated or eliminated.

Problem 5—Skids for Loading Rolls of Paper in Box Cars

Findings

Light magnesium skids are now available.

It was emphasized that a better solution would be use of a lift truck with a special type of inverting cradle which had been developed to handle paper rolls. Reference was also made to the new type lift truck with an "up-ender."

A word of caution was added. As means of handling material become more mechanical, the hazards involved should be carefully studied.

Problem 6—Pneumatic Handling of Dry Chemicals

Findings

As a result of the discussion, the following recommendations are made:

- a. Keep hose couplings tight.

- b. Eliminate sharp bends in flexible metal hose.
- c. Inspect hose regularly for wear.
- d. Consider pits under cars to facilitate hose hook-ups.
- e. Specify proper types of railroad cars for dry chemical haulage.
- f. Unload from both top and bottom of cars.

Problem 7—Experience with Mercury Arc Rectifiers Involving Mercury Poisoning

Findings

The equipment referred to converts a/c to d/c in making chlorine and caustic.

Unfortunately no delegate represented a mill with this type of equipment.

(Recorder's Note: Anyone with a problem related to this type of equipment should write to Alex Caldwell, Safety Supervisor, Marathon Paper Mills of Canada Limited, Marathon, Ontario. Mr. Caldwell has had a considerable amount of experience with such equipment.)

Problem 8—Reducing Work Injuries Among Supervisors

Findings

The problem appeared to be fairly widespread. One company with a good record reported that of 5 disabling injuries in their 600 man mill during 1951, 2 involved supervisors.

One delegate smilingly stated that perhaps the supervisors should be subjected to some safety training by the union:

It was noted that sometimes, because of a heavy work load or an emergency, a supervisor would step in and do work normally done by one of the trades and often with unfortunate results due to unfamiliarity with details of hazards involved. It was felt that supervisors should not do this.

Other points mentioned were:

- a. That supervisors should, in reality, be responsible for the safety of persons working under them and should above all set a good example.
- b. That supervisors often needed more training in order to be good supervisors.
- c. That supervisors should develop more confidence in their department and the individuals therein.
- d. That the fact should always be recognized by everyone that no one learns to do

this or her job over-night and that "haste" and "pressure" often cause accidents.

(Recorder's Note: A number of items were also discussed which have broad application to industry in general. They are probably dealt with best by questions and answers.)

Question 1—What Policies Prevail Regarding the Periodic Medical Examination of Employees?

Answer—Policies vary measurably, anywhere from no interest at all to pre-employment physicals and annual re-examinations thereafter with a decided trend toward the latter. In some instances special clinical examinations are arranged for, regardless of the level of the employee. In most cases where a well-developed plan had been established the pre-employment examination is compulsory and the re-examinations are not. Only in rare instances do people turn down the re-examination privilege. Normally it is not policy to have such examinations prejudice advancement, and reports of examinations are nearly always kept strictly confidential in medical departments.

Question 2—How Many Plants Have Periodic Medical Examinations for Supervisors?

Answer—Twenty per cent of the plants represented.

Question 3—How Many Companies Voluntarily or by Law Give a Copy of the Medical Report to the Employee?

Answer—Eight per cent of the plants represented.

Question 4—How Many Companies Have Back X-Rays Taken as Part of Pre-Employment Physical?

Answer—Four per cent of the plants represented.

Question 5—How Many Companies Have Sick Benefits?

Answer—Eighty per cent of the plants represented.

Question 6—How Many Companies Are Teaching the Holger-Nielson Method of Artificial Respiration in First Aid Training?

Answer—About twenty per cent of the plants represented.

Question 7—Are Safety Display Windows Useful in Selling Safety?

Answer—A number of opinions were expressed indicating that display windows devoted to selling safety were very useful particularly when departmental committees alternated in taking responsibility for changing

the windows. Prizes for the best windows also created interest. Windows should be changed frequently, one to two weeks being considered long enough for a display. One company utilizes a double-sided display window on wheels to sell safety. It is moved about daily throughout strategic plant locations.

Paper Converting

(Round Table Discussion)

Presiding: A. O. VRANEK, Safety Dir., Container Corp. of America, Chicago.

Conference Recorder: R. G. BELKNAP, Personnel Mgr., Bemis Bros. Bag Co., East Pepperell, Mass.

The first topic for discussion was the charging of the supervisor with the responsibility of safety in his department with the plant safety department acting only as an assistant. After a short discussion, it was generally agreed that the foreman is the only logical person to be responsible for the safety of the people in his department and that the safety department can only supply him with information, material, and assistance. This is particularly true in the large plants and companies with several branches. The point was made that it would be impracticable in such situations to have the safety department totally responsible.

It was found that the majority of the companies followed this pattern—the safety department sets the policy, coordinates the program, assembles material and information; assists the foreman in presentation, but it is the foreman who actually carries out the program.

A lengthy discussion was held on the question of incentives to workers for safe records. Most of the men present were basically opposed to paying workers to be safe; however, most companies do use a form of incentives in that they give the workers pencils, cigarette lighters, dinners, etc. for departmental and individual safety records. It was also generally agreed that while it is almost impossible to determine

any monetary savings as a result of incentives, the possibility of preventing any pain and suffering made them worth-while. The subject of incentives ended after a short description of an incentive plan which has been developed by Professor Joseph Scanlon, of the Industrial Engineering Department at M.I.T. This is an all-inclusive plan covering safety, production, quality, etc. If anyone is interested in this plan, he should contact Professor Scanlon direct.

Questions from various participants brought forth the following: None of the companies represented gave safety shoes or other equipment as rewards for good safety records. None of the companies represented actually gave money as incentives. Four of the companies represented had Union appointed safety committees. Only a few companies required safety shoes and eye protection on the job.

The subject of training had entered into each discussion throughout the meeting and finally became the main topic. Various methods of indoctrinating new employees were described by different individuals. The foundation for all these methods was the four-step system as followed in JIT. The point was also re-established that safety and training men in a plant should work closely together.

Paper Manufacturing

(Round Table Discussion)

Presiding—FRANCIS H. WAGNER, Dir. of Safety, The Mead Corp., Chillicothe, Ohio.

Conference Recorder—C. R. JOHNSON, Personnel Dir., Cornell Paperboard Products Co., Chicago.

The following subjects were discussed:

1. MARION HODGES, West Virginia Pulp and Paper Co., Charleston, West Virginia—We have been using iron pry bars to bump large rolls of paper around and have found that this practice has caused a breaking of concrete in the floor leaving many holes that make the floors uneven. These holes have caused several injuries. Has anyone with a similar problem done anything to avoid this problem?

K. GILBERT, Lowe Paper Co.—Is bar a solid bar—solid for strength? We used an extra heavy pipe a few years ago with a square section which was stronger. It was hung on a nail when not in use.

M. HODGES—Did pipe bar slip on the floor?

C. BELLAMY, Canton, Ohio—We use a bar with a wedge shape attached to the bottom to which is attached a piece of an old automobile tire which acts as a shoe and prevents the iron of the bar from contacting the floor and causing damage to it.

2. JULIUS A. DRAPER, Director of Safety, Consolidated Paper Corporation, Ltd., Grand Mere, P.Q., Canada—Has anyone a mechanical device for coiling air hoses used at various places in the plant?

M. A. GIBSON, Alton Box Board Co., Alton, Illinois—We have reels that coil air hoses when not in use and will send information concerning them to MR. DRAPER.

3. MR. TOPMILLER, Champion, Hamilton, Ohio—We would like a little information on how shells or cores are handled in the various plants and on the types of shells or cores used.

ORA HAZEN, Safety Supervisor, M & O Paper Co., International Falls, Minn.—We use paper cores (shells) with metal tips on them.

HOWARD KROLL, Safety Director, Blandin Paper Co., Grand Rapids, Minnesota—We use steel tubing to make our cores from. We buy the tubing in carload lots and make up our cores as we need them. The cores

are fifty-one and one-eighth inches long with a three-inch inside diameter. Each end is reinforced with a one-sixteenth-inch thick collar and tips made from three-inch pipe are pressed in each end. We have also designed a machine that will straighten out these cores should they become bent.

FRANCIS WAGNER, Dir. of Safety, Mead Corp., Chillicothe, Ohio—What do these cores cost you made up and ready for use?

H. KROLL—The tube cost is about \$7.00.

K. GILBERT, Lowe Paper Co.—We use eight-inch aluminum cores which are stored on wagons and secured with a chain over the top of the load. Also a staked skid is used which permits cores to be piled six feet high when tied with a strap.

R. PETER, Eastman Kodak Co.—We use an enclosed cart with one end open. Cores are taken out of or put in this cart from the open end.

4. MR. HARTWIG, Crown Zellerbach Co.—What has been done to eliminate the high pitched noises caused by couch rolls? Are there any companies using a Beloit Silencer?

H. KROLL, Blandin Paper Co.—Couch rolls on our machines raise a terrific howl and we have ordered a Beloit Silencer.

MR. HARTWIG—What about ear plugs? We have used them and they seem to work o.k., that is, the ones equipped with a diaphragm—ear wardens, I think they are called.

H. KROLL—We tried the plugs but they didn't work out too well for us. Men will wear them for a day or two and discard them.

It was suggested that ear plugs be fitted to the ears by a doctor. They come in three sizes—small, medium and large.

O. WAGERS, Champion—The Beloit Silencers are considered by engineers to be about fifteen to twenty per cent effective.

W. BERGER, Kimberly Clark—A lot of research is being done on Beloit Silencers and new developments can be expected.

5. K. GILBERT, Lowe Paper Co.—Has anyone done anything on general reduction of noises in the plant such as hanging absorbing material from the ceiling or used insulating material of any type?

Mrs. ETTER, Michigan Carton Co.—We have tried it and the rats just love it.

H. KROLL—I have nothing on noise control but we have an exterminating company come in to our plant and for around \$700.00 per year we can absolutely control the rat problem. After a month of using this service you could not find a rat in our plant. We have bait boxes filled with meal that is poison only to rats. When the meal is eaten by the rat, it breaks down its blood cells.

Mr. HARTWIG—Does this preparation require the use of water?

Mr. KROLL—No.

6. C. C. McPIKE, St. Regis Paper Co.—What kind or type of scrapers are being used on calendar stacks?

W. BERGER, Kimberly Clark—We used to make hand scrapers out of old files, now we purchase scrapers from our file supplier.

H. KROLL—We have devised a leather carrying case so men can safely carry hand scrapers while on the job.

KEN FAIST, Champion—We use a scraper with a blade coming out of the handle and can't be carried. Some are placed on the calenders.

E. B. LAMBTON, Safety Engineer, St. Regis Paper Co.—We have had trouble in the use of scrapers. There is definitely a right and a wrong way of using them safely. We have trained our men on how to use scrapers safely.

C. C. McPIKE—Do you have trouble enforcing use of scrapers—with men carrying them or returning them to their proper place if not carried?

E. B. LAMBTON—We have a slot designed into the frame of the calendar stack and we don't have too much trouble in keeping the scraper in this slot when not in use.

7. MARION HODGES, West Virginia Pulp and Paper—We have experienced some difficulty with slippery shipping platforms. Our platforms are open and under certain weather and other conditions they become slippery. The floor is concrete surfaced with steel filings.

LLOYD PRAHL, Marathon Corp., Wausau, Wisconsin—There are many types of floor coverings that may be useful in eliminating this hazard. Minnesota Mining Glass Paint holds up pretty well, metal plates with abrasive surfaces—safety walk, and U. S. rubber grip tread to mention some of them. We use six inch by six inch hardwood curbs to prevent four wheel trucks from going off the platform. Then, of course, you could enclose the platform either permanently with solid construction or temporarily with tarps.

8. GEORGE HINDORN, Eastman Kodak Co., Kodak Park, N. Y.—We are looking for a way of threading calenders without using the fist. We run a stiff dry sheet of board ranging in speed from two hundred and fifty feet to three hundred and fifty feet per minute.

K. GILBERT, Lowe Paper Co.—We have developed a stack threader that works very well where nip guards are not practical. Calendar sticks also can be used, as well as carrier ropes.

FRANCIS WAGNER—We can't use carrier ropes with stiff paper.

E. B. LAMBTON, St. Regis Paper Co.—I think it depends on whether you have a long or short draw; with a fairly short draw of about six feet or so you could mostly use the knuckles or heel of the hand to put the board into the nips. Tails are cut so board is easier to handle. Cutting tails is a problem. There are various ways of cutting tails.

O. WAGERS, Champion—We use a special type of saw.

MR. ADDERHOLD—We use a splitter on a handle which is drawn across the face of the calendar.

C. C. McPIKE, St. Regis Paper Co.—There is a patented tail cutter made by Black and Clawson.

9. Mr. ADDERHOLD—We had some difficulty with loading trailers. The trailer is parked at the loading dock and the tractor moved away. In loading the trailer it has happened that the front end tips up.

FRED BERRY, Alton Box Board Co.—The front ends of trailers are equipped with a set of wheels that crank down to hold the front end up when not connected to the tractor. These wheels have been known to collapse. Most of this type of trouble occurs with the first load put into the trailer. Chains have been used to hold front end

down but care must be used to make sure that the chain is disconnected before the trailer is moved away.

10. MR. VAN HOCK, Kimberly Clark—Has anyone had any difficulty with knobs on steering wheels of power trucks? These trucks come equipped with the knobs.

MR. THOMPSON, Marathon Corp.—Why not take the knobs off the wheels?

It was suggested that the rim of the wheel be built up in an incline about two and one-half inches or three inches of each side of the knob.

MARION HODGES, West Virginia Pulp and Paper Co.—Put the knob on a spring arrangement which swings down out of the way when not in use.

MR. SLIDER, St. Regis Paper Co.—General Motors came out in 1941 with a special steering wheel which was equipped with a handle that rotated in a circle which gave the same ease of control as a knob but did not extend above the wheel.

11. FRANCIS WAGNER, Mead Corp.—Has anyone had experience with Hydro Pulpers guarded with a weighted gate?

H. KROLL, Blandin Paper Co.—We use a dump belt.

R. PETERS, Eastman Kodak—Our Hydro Pulpers are placed below the floor and are fed with a chute leading from a hole in the floor to the Hydro Pulper. Hole in floor is guarded about forty inches high.

MR. ELLIS, Consolidated Water Power and Paper Co.—How do you cut the tail from the Hydro Pulper?

W. OLIVER, Gardner Paper Co.—We use a good heavy axe and sharpen it about every other day.

MR. THOMPSON, Marathon Corp.—We have had some difficulty feeding trim into Hydro Pulpers. The loops get around the men's arms. Is there any mechanical method of doing this? Can an airveyor be used?

C. WEEN, Michigan Carton—Install a floor beater.

MR. DILLINGHAM, Regal Paper Co.—We feed from a broke box picked up with a hoist using hooks which are fastened to the side of the box which is turned, dumping the load into the Hydro Pulper.

W. BERGER, Kimberly Clark—When we feed trim into a Hydro Pulper we wind it up into rolls.

MR. MARQUANDT, National—We use a chipper and blower combined.

12. F. WAGNER, Mead Corp.—Anyone doing anything with color coding? No comments received on this.

13. MR. ELLIS, Consolidated Water Power and Paper Co.—What covering do you use for covering catwalks on the wet end of the paper machine? We use a one-quarter inch mesh covering which is not too good.

L. PRAHL, Marathon Corp.—We use safety walk. This to be effective and long lasting must be properly applied to a dry surface.

MR. MARQUANDT, National—We use an expanded metal covering with diamond shaped openings.

F. WAGNER—A new product is out now. An expanded aluminum that might work out.

14. W. BERGER, Kimberly Clark—What about guarding the dryer gear spokes on back side of the Paper Machine? What has been done with this?

L. PRAHL, Marathon Corp.—We have a fence arrangement with the post aligned with the outside edge of the catwalk.

MR. ADDERHOLD—We use sheet metal disks enclosing the driver gear spokes.

O. HAZEN, M & O Paper Co.—Put a rail around back side sixteen inches back from driver gears.

15. W. BERGER, Kimberly Clark—What about exposed nips? There are two companies I know of that have exposed nips guarded.

F. WAGNER, Mead Corp.—There are retractable nip guards that can be snapped into position after calenders are threaded. These are not used during threading.

16. ROSS WELSH, Gladfelter Paper Co.—Has anyone had any experience with using richburn oil for burns such as dryer burns? We have found that it will relieve the pain but it is not too successful to aid the healing of the burn. We apply it to the burn with cotton. What do the doctors think of it, and, if used by them, how do they apply it?

MR. BELLAMY, Champion Carton—Have you used it on burns where skin is broken? Is it water soluble?

It was suggested that treated gauze medicated dressing be used for burns.

17. F. WAGNER, Mead Corp.—What experience has been had with service connected injuries? We had a man in our plant who had shrapnel in his knee which caused the man to favor the knee which resulted in a fall.

M. HODGES, West Virginia Pulp & Paper Co.—When we hire a veteran, we have a form he fills out, describing any injuries or wounds he experienced while in service.

Mr. HARTWIG, Crown Zellerbach—Should a man be injured, the cause of which was due to a previous service connected injury, the commission devaluates the second injury by making a minus award. That is an award less in amount than is usually paid for such an injury.

F. BERRY, Alton Box Board Company—The first injury must be compensable in Illinois.

18. MR. VAN HOCK, Kimberly Clark—What experience has been had with rewinder guards? On our rewinder, the guard must be up in order to engage the controls and we have to stop the rewinder to get the guard down. Does any one know of a new design?

There were no comments on this question.

19. F. WAGNER, Mead Corp.—Has anyone developed a standardized housekeeping report form? It was suggested that Elliot Service has a standardized form.

R. WELSH, Gladfelter Paper Co.—We have a housekeeping program set-up on a competitive basis. The mill is divided into three sections which are given ratings. We have our own form which is used in evaluating the experience of each section.

Question—Do you have any trouble getting top management interested in the program?

Mr. WELSH—No. Our executive vice-president takes his regular turn at inspections along with the foremen. Comments are sent to each foreman along with the standing of his department.

M. HODGES, West Virginia Pulp & Paper Co.—In our plant each department is responsible for its own housekeeping. Inspection reports are made and sent to top management.

QUESTION—How often do you make inspections?

Mr. HODGES—About every three weeks and we let each department know when we are coming.

QUESTION—Do you include safety items in your inspection report?

Mr. HODGES—Yes.

Pulpwood Logging

(Round Table Discussion)

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

Conference Recorder: SETH JACKSON, Safety Officer, U. S. Forest Service, Washington, D. C.

The meeting opened with a short statement by chairman Jefferson about logging's high injury rate, and that something must be done about it, especially through safety training.

The Weyerhaeuser successful logging safety program was described. Top management is sincerely sold on safety from the board of directors to the manager. The company has about 10,000 employees. There are 19 full-time men on safety, who get together three times yearly. Work supervisors have local meetings about four times yearly.

Weyerhaeuser has 190 foremen trained in how to train by five University of Chicago instructors. Nobody can train the workers in safe methods better than the foremen. The company gets all the help it can from joint labor-management committees. Labor is getting more active in safety on the West coast.

When accidents and near accidents happen, the job is stopped and a safety discussion is held right on the spot. In case of death, the job is shut down for at least a day. The foreman goes to town in the

ambulance in serious lost-time accidents, and a trained understudy takes over the job. Safety meetings are held when and where needed, on company time.

Many companies could profit by adopting some of Weyerhaeuser's safety policies. At Great Northern in Maine, 90 per cent of the work is piecework. The contractors are foremen, company men with complete control by the company. They can make bonuses. They have standardized on tools.

Most of the cut is done by chain saws in the last three years. They are causing only a few accidents, none serious.

They have no control of safe practices on purchased wood. Accidents have gradually diminished on their own operations, partly through training, but mostly by standardizing tools. There is a lot of river driving. Axe cuts are most common. Axes are neglected due to use of chain saw. Movies are used.

Logging in the Southern states is by direct dealing with the cutter and colored boys. A power circular saw is used. Indirectly the companies are billed for injuries. The small contractor problem is probably bigger than realized. Training is the best way to prevent accidents.

There is a very low insurance rate in Maine, \$3.26 per \$100 payroll, or 27 cents per cord. This is deducted from the contract price. If the injury frequency is below a certain figure, a 5 cent better price results.

In Quebec, there is a kickback per cord if the accidents are below a certain figure. In Ontario, the government controls the cut, tells what cordage is wanted from definite areas.

Complacency in the woods—men being too self-satisfied with their efforts—is a major problem. Most of the trouble comes from small operators, in crews under 12 men. These are the ones causing the high accident rates.

What can be done to bring down these high rates caused by contractors having far too many accidents?

1. Standardized tools and work methods will help to make gyppo jobs safer.
2. Encourage mechanical logging, which will attract more skilled men.
3. In the Lake States and other places where we have no direct control over cutting practices, the benefits of safe work

methods can be shown by demonstrations given by outfits such as the Wisconsin-Michigan Forest Products Council and the American Pulpwood Association. Contractors are lined up by companies and training is given in safe use of tools, equipment, and maintenance thereof.

4. Some companies are not using gyppos now because they had so much trouble with them.

5. Some companies have clauses written in the contracts, about abiding by laws and safety codes.

6. Much time is spent in schools and communities putting on safety talks to men, women and children. "You'd be surprised the control the wife has over a worker." One contractor in the Northwest employing 60 men uses movies regularly.

7. Some camps have one instructor in each 75-man camp—100 per cent of his time is spent on training trainers and men on the strips in JIT, JST. Price Brothers in Quebec have been doing this 6-8 years.

8. Get a man in the company with interest and enthusiasm—get safety through good supervision.

9. Take supervisors one at a time and send them to Safety Congress or other places. One foreman got 50 hard hats in camp after attending Congress. Yearly safety meeting for key logging supervisors is a good way to promote safety.

10. One form of contractor control would be to look him over beforehand. If he has had many accidents, don't sign him up.

11. Why haven't manufacturers formed an association as in 28 mills in Quebec? Inspectors in the woods have helped to get the rate down from \$7 per \$100 to \$1.60 per \$100. Quite an incentive!

Accidents are paid for in the pulpwood cost. If we don't control accidents, somebody will. Legal talent says we're on shaky ground to dictate to contractors, but these 11 points give a few leads on how to get them to do the job more safely.

Discussion on hard hats brought out that they are well accepted in the Northwest where McDonald metal ones are worn. In the Lake States, loggers prefer plastics; they don't want to wear miners' type.

The president and on down should set the example—lead the way in wearing hard

hats and safety shoes. Somebody mentioned that Lehigh loggers' boots are not cold on the feet the way safety shoes were formerly. One large company charges \$3 for a hat. If this is returned at end of the job the \$3 is refunded. The men furnish their own headbands.

Films that have been effective in accident reduction in this industry are:

- a. *The Story of Pierre and Marie*—a young woodsman is inspired to work safely and to persuade others to do likewise. 16 mm., sound, color, 35 min., produced by the Quebec Pulp and Paper Safety Association. Available from United World Films, Inc., 1445 Park Avenue, New York 29, New York.
- b. *Hauling Logs*—accident prevention in truck driving. 16 mm., sound, color, 40 min. This and two other pictures on

falling and yarding, were produced by the logging industries in the Pacific Northwest. Available from Rarig Motion Picture Company, 5514 University, Seattle 5, Washington.

- c. *Helpful Hints for Pulpwood Cutters*—produced by Brown Corporation in cooperation with American Pulpwood Association. Available from Brown Corp., 18 minutes.
- d. *Do It With E's*—a Forest Ranger analyzes his safety problem and develops a safety program which gets results. 16 mm., sound, color, 26 minutes. Available from United World Films, Inc., (See 5a). Produced by U. S. Forest Service; other safety subjects, especially on fire fighting, listed in film catalogue available from U. S. Forest Service, South Building, Washington 25, D. C.

Insulation Manufacturing

(Round Table Discussion)

Presiding: H. M. JACKSON, Safety Mgr., The Johns-Manville Corp., New York, N. Y.

Conference Recorder: B. J. LEE, Safety Director, Wood Conversion Co., Cloquet, Minn.

Mr. Jackson opened the meeting with a short talk on the three "E's" of accident prevention, Engineering Enforcement and Education. He stated that the biggest problem was designing the job to fit the employee and adapting the employee to the job.

A question was asked as to how it would be possible to fit the employee to the job when most plants have union seniority rights; this certainly restricted the free movement of employees.

Delegate: In our company the foreman has sole judgment of the advancement of the employees working in his department and there is departmental seniority, but not plant wide seniority.

Delegate: Our contract with the union is written so that employees would be advanced according to both seniority and ability.

It was the consensus that in most plants there is very little free movement of employees from one job to another.

The chairman said that in most companies he thought there were very few jobs

requiring much ability and most employees could be trained so it was not absolutely necessary to have one hundred per cent control over the advancement of the employees, although he said they had displaced many employees for working unsafely.

The question was asked whether or not the companies had written or verbal safety instructions.

The chairman reported that they had job analysis made by Industrial Engineers, and also the foreman is responsible for job instructions. Some of the delegates stated they thought there is a lack of on the job training.

Delegate: In our company we do not fill any position with an untrained employee. We have written into the contract that employees who are selected to fill a position would be paid the new job rate while being trained, consequently we keep a trained employee on the job until the employee who is being advanced is properly trained.

Delegate: How could a trained employee be kept on the job when an employee leaves without notice?

The answer was that some companies have a labor crew who have been trained on all the jobs and they are used on this job until a new employee has been properly trained.

The chairman reported that the next step after the training of the employees is to check the results by audit and of course by the accident record.

Chairman: How many companies have to accept employees for the next job without taking into consideration the qualifications?

It was the consensus that most companies could stop the advancement of employees lacking necessary qualifications.

Delegate: Our company advances the next employee in line for the job, but we have to post, regardless.

Delegate: In our company the union insists that the employees be advanced by their seniority rights.

Delegate: Do all the companies, represented here, have to post for production jobs?

Delegate: Our company does not post for jobs in the production departments, but follows a regular line of promotion.

Delegate: In our company all jobs are posted and everyone in the plant has a right to bid.

Chairman: I am wondering how many of us have jobs that require abilities that most employees do not have.

Delegate: Truck drivers need certain abilities necessary for efficient and safe performance. Since we instituted an Industrial Truck Program we can choose employees who have the necessary qualifications.

Delegate: Our company evaluates the physical and mental qualifications of all new employees, and those who do not meet our standards are limited to certain jobs.

Delegate: If an employee in our company suffers physical or mental disabilities and no longer can handle his job safely, the union helps management find a job suitable for him.

The question was asked as to the best method for working out an agreement with the union for the purpose of limiting advancement of new employees with disabilities. Some of the companies reported that this subject was discussed when veterans returned from World War II, and both the unions and the companies agreed that some-

thing should be done for the men with disabilities. However, the unions would not agree that these men should waive their seniority for advancement.

Delegate: Are there handles on the market for steam hoses?

Delegate: We use a one-quarter inch sash cord wrapped around the steam pipe and have eliminated hand burns.

Procedures for tagging safety switches were discussed. It was agreed that the tag system was fair, but the locking out of these switches with padlocks was a more positive and consequently, a safer method.

Considerable discussion was held in regard to the loading of box cars. This was brought about by a lost time accident caused by an employee who was loading board in a box car by hand. Empty pallets were piled up and the employee stepped on these pallets to reach the top of the load. The employee got his leg caught between the slats in the pallet and broke his leg. It was the consensus that most companies loaded their box cars with power trucks and the only hand loading was in the doorway and pallets were not used to stand on.

Chairman: How does the Engineering Department, who does the designing of machinery and equipment, benefit by your accident experience?

Delegate: Our safety mechanics make all of the guards and safety equipment for all new equipment.

Delegate: 1. All drawings are routed to the Safety Department before the job is approved. 2. We give memoranda to our Engineering Department giving our accident experience so that in the future this will be incorporated in the design of the machinery. 3. The National Safety Council books on Safety are given to each engineer.

Delegate: Last year it was decided that we would exchange accident information by sending all our disabling injury reports to the chairman who would in turn have them reprinted and sent to the participating companies. However, very few reports were sent in and consequently we did not benefit from each other's accident experiences. Considerable discussion was held on the subject. A committee was appointed to work on this program for the purpose of improving the exchange of accident information. It was the consensus that the exchange of accident

information would be very valuable to Board Insulation Safety men.

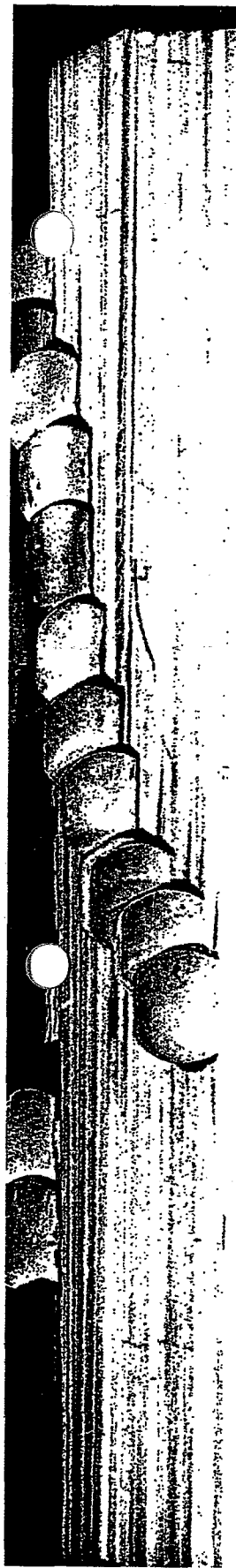
Delegate: What guards are used for the protection of drivers on bulldozers?

One company stated that they designed their own and would be willing to let other companies have the drawings.

G. E. Allen, Wood Conversion Company, past chairman, advised the committee that the Insulation Board Institute members had expressed appreciation for the activities of the Insulation Manufacturing Committee. He stated that throughout the year he had distributed additional copies of the Monthly Safety Contest Report to the various plant managers of the Insulation Board Institute. It was apparent this activity had increased their interest in safety. He recommended this practice be continued.

He also suggested the exchange of disabling accident reports be continued. He advised that throughout the year several companies had been added to the Insulation Manufacturing Committee and there were still Insulation Manufacturers who should be included. It was recommended that efforts be made to increase the membership of the committee by contacting these companies, and the statistical committee be approached again reminding them that all additions to this group should be approved first by the Insulation Board Institute and then the chairman of this committee.

There was considerable discussion held on the type of meeting that should be planned for the next Safety Congress. It was decided that a few five minute safety reports on specific subjects would be assigned to certain companies to be given at the next meeting.



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