

A total of 87 perfect scores were achieved among the 96 1st place winners in this contest. Two of these perfect scores were made in Group A, 11 in Group B, and 74 in Group C. It will be noted that all winners in Group C had perfect scores.

Of the 96 1st place trophies to be awarded, light fabricating will capture the largest share, or 23; next in order will come foundries and heavy fabricating, each with 19. Light machinery will receive 14, and heavy fabricating 10. Finally, steel mills have won four trophies, machine shops with foundries three, and iron and steel rolling mills and non-ferrous metals and products, two each.

(In addition to the 96 first-place winners which will be awarded trophies, there are also 15 second-place and 18 third-place winners, which will be awarded certificates.)

The concerted efforts of the 706 contestants in this Metals Section's contest have resulted in reducing the average accident frequency rate in this industry from 6.53 attained in the 1948-49 contest to 5.35 for the current contest—a reduction of 18 per cent. Each of the nine classifications in this section can take just pride in the part which it has played in this noteworthy accomplishment. Among them, improvement ranges from a maximum of 24 per cent for foundries to a minimum of 14 per cent for both heavy machinery and non-ferrous

metals and products. Machine shops with foundries improved 22 per cent; light machinery 21 per cent; heavy fabricating 20 per cent; and iron and steel rolling mills 19 per cent. Steel mills, which had the lowest rate among all of the classifications in the 1948-49 contest, has maintained that position in this contest through an improvement of 16 per cent and a current low frequency rate of 3.44.

A number of companies have winning units in more than one classification and more than one group. Only one company, however, has more than one winning unit in Group A, and none has more than one winning unit in Group B. Specifically, Bethlehem Steel Company has two winning units in Group A and one in Group C. U. S. Steel has one in Group A and nine in Group C. Republic Steel has one in each of Groups A and B and seven in C. Westinghouse Electric has one in each of Groups A and B and two in C. Jones and Laughlin Steel has one in Group B and four in Group C. Finally, the E. I. DuPont Company, the James B. Clow Company, the Pullman Standard Car Company, and the Western Electric Company each have one winning unit in each of Groups B and C.

It should be noted that American Brake Shoe Company, although not having winning units in more than one group, has the distinction of 14 winning units in Group C.

Possible Clue for Further Accident Reduction

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We, in management, who head up company activities, whether they be safety, operations, engineering or any of the other phases of our business, spend a great deal of time studying the problems connected with our specific activities and those of our industry as a whole. As a result, we obtain definite pictures of our objectives, how we shall attain them and the part each member of our organization will play. We strive in this manner to know how to be ready for any eventuality and how to begin action when a particular problem arises.

The essential facts must be separated from the many details that surround them.

All things must be simplified to the extent that the primary objectives are clear and well-defined and each member of the organization understands the full scope of his job. Despite the time and energy that might be put into studying a particular problem and determining the course of action to be taken, what would be gained if each individual did not fulfill his part in the over-all plan? It is not primarily the plan devised and put into effect that solves problems and brings progress to industry, but rather the job done by each of us while putting that plan into action.

To accomplish whatever task we might

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have to perform, therefore, specifications have been established for each management position in our plants, including the safety engineer.

The first responsibility is "analyzing and appraising the adequacy of existing safety and sanitation conditions, procedures, methods, practices and training." The single objective safety program approached the industrial safety problem by reviewing past experiences and determining those situations that resulted in accidents in the past.

Through such a plan, the safety engineer develops an "awareness" of critical situations which must be corrected to prevent a recurrence of accidents. Another approach is the prevention of accidents before they happen, based upon an awareness of the causes of injuries. The utilization of both of these approaches requires careful analysis of accident reports, procedure, and past records. But these, in themselves, will not permit the safety engineer to do a thorough and effective job.

Each operation must be studied separately on-the-job to determine where potential accidents are "waiting to happen." Awareness is an understanding that is based upon facts obtained through careful study and analysis of all the factors bearing on the safe performance of every job and operation. The development of his own awareness of accident possibilities, therefore, is the safety engineer's first step toward making himself ready for the problems that lie ahead. It is also essential to his helping the operator to do the best possible safety job.

An actual case of lack of awareness concerns a workman in a billet yard who perched on the end of a billet protruding from the pile and proceeded to cut it off with a burning torch. His lack of awareness resulted in a fractured leg. Consider the case, also, of a workman who proceeded to burn off a wall bracket which extended from the wall about four feet above the ground. When the bracket was separated, it fell on the man's foot and also resulted in a fracture.

In both of these cases, the men involved were "looking without seeing." They were not aware of the possibilities of injury existing in the job being done. The safety engineer, therefore, must assume the responsibility of creating an awareness of

injurious situations as they may exist throughout his area.

In a line and staff organization such as ours, line departments have full authority and responsibility for the execution of new improvements and programs. They determine what should be done and give the orders to do it. On the other hand, the safety engineer, as a staff representative who understands that line authority does not belong to him, must not only develop his own sense of awareness, but also that of line department supervisors in his areas.

Closely allied with the analysis and appraisal of safety matters are the safety engineer's duties in connection with accident investigation. The safety engineer makes an independent investigation of each lost-time accident. In addition, he participates in an advisory capacity when department and division superintendents conduct formal reviews of these accidents. On such occasions, he critically examines for adequacy the facts presented, as well as the judgments of the group, and then collaborates with them in developing corrective measures.

In connection with all of the work so far described, a variety of information in the form of reports and records reaches the hands of the safety engineer. It is his responsibility to see that this information is maintained in suitable form for the use of department and plant management in controlling and preventing injuries. In some cases, such as single objective awareness and control charts, records are maintained in the various departments.

We all recognize that the pay-off of safety investigations and appraisals comes when effective controls are established and accident frequencies go down. This matter requires complete collaboration between the safety staff, line department management personnel, and other staffs concerned. The safety engineer consults with his superior, the general supervisor of safety, and then works with departmental management to determine plans, procedures, and programs designed to eliminate accidents. At such times, the safety engineer again acts in an advisory capacity, passing along his recommendations to those members of the department who have sole authority to take the action he suggests. In a similar manner, he collaborates with various staff departments for the purpose of providing better service to the line.