

Getting Results in Safety

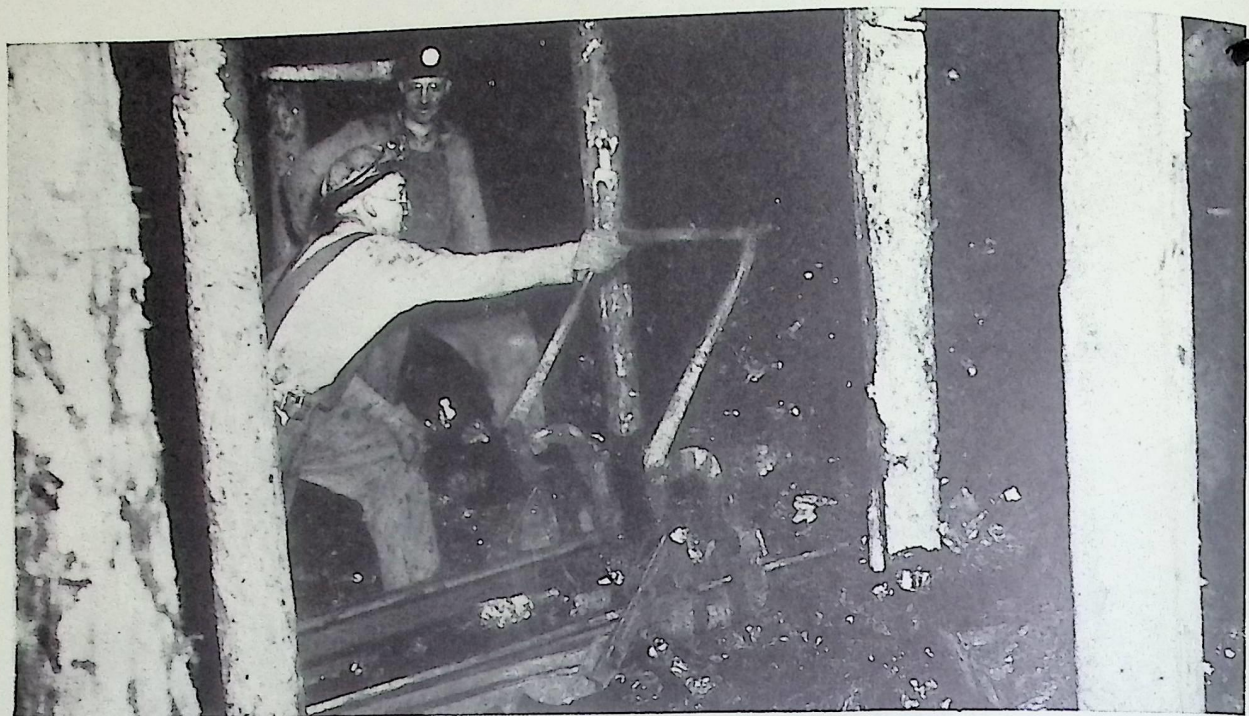
Organization and Training, With Continuous Education and Incentives for Miners and Supervisors, Pay Off in Safety Achievements at Union Pacific—Strong Safety Department and Safety-Minded Top Officials Key Factors

By I. N. BAYLESS

President, The Union Pacific Coal Co., Omaha, Neb.

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SAFETY ON THE JOB is the primary responsibility of the foremen, who attend regular meetings on accident reduction and improved production, and who share in the incentives provided.

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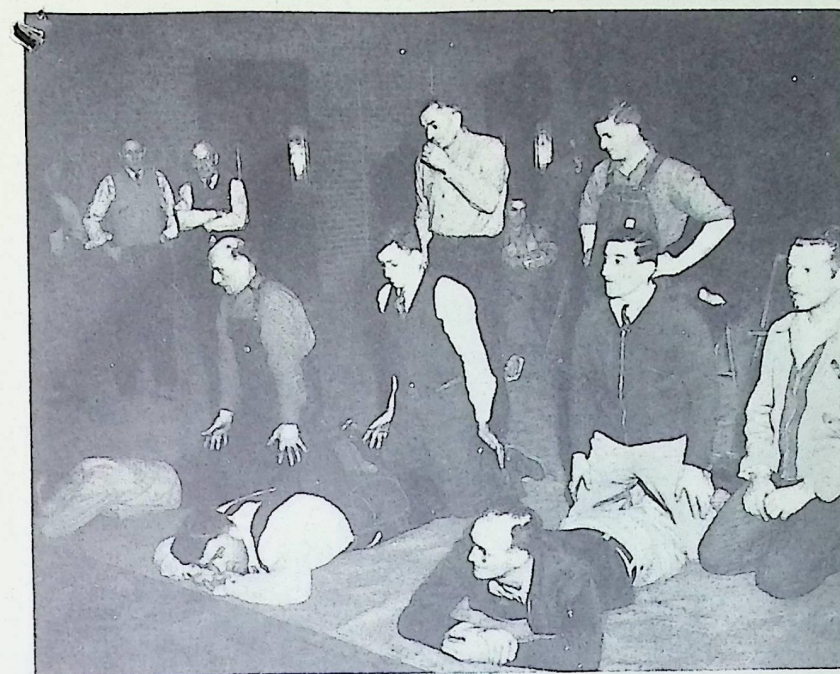
By I. N. BAYLESS

President, The Union Pacific Coal Co., Omaha, Neb.

"HOW DO YOU DO IT—with mirrors?" This question was put to me by a business associate shortly after the announcement of the U. S. Bureau of Mines that mines and employees of The Union Pacific Coal Co. had won seven awards for safety for the year 1947. These awards included the famed "Sentinels of Safety" trophy awarded by *The Explosives Engineer* and given



PHYSICAL SAFEGUARDS reinforce education and training. At the left, Thomas Overy Sr. poses with one of the safety devices he has developed in 20 years of service. At the right is an example of timbering under heavy top.



FIRST-AID TRAINING is a must for all employees, including top officials. Here, a new group is taking the 15-hour course.

the company's Winton mines for working 587,342 man-hours without a lost-time injury in 1947, and six Joseph A. Holmes Safety Association certificates of honor, presented annually to mines and individuals with outstanding safety records.

My associate's somewhat facetious question was no surprise to me since I had been asked similar ones—both serious and half jocular—before in the 16 years The Union Pacific Coal Co. has entered the "Sentinels of Safety" competition. A program was inaugurated in 1924 by Eugene McAuliffe and George

B. Pryde, then president and vice president, and supplemented by those of us who are now responsible for the safe operation of the properties. The mines were entered in the national safety contest for bituminous mines in 1932 and the company has won the trophy nine times in the bituminous group.

While many could be named, credit for the achievements of 1947, and for the additional progress being made since that time, goes both to the employees of the company and to its supervisory, operating and safety officials, including H. C. Livingston, vice president; V. O.



OFFICIAL PARTICIPATION is a key factor in U.P. safety work. Here, the author addresses a semi-annual safety rally and prize drawing.

Murray, general manager; J. B. Hughes, general superintendent; I. M. Charles, chief engineer; F. J. Peternell, safety engineer; H. M. Tibbs, director of personnel; G. L. Stevenson, chief electrician; D. T. Faddis, master mechanic; and the following superintendents: Thomas Overy Sr., Rock Springs; Charles Grosso, Reliance; Hodge Burrell, Stansbury; William Wilkes, Winton; G. L. Addy, Superior; and M. A. Sharp, Hanna.

In the 19 years since I have been associated with The Union Pacific Coal Co., owned by the Union Pacific R.R., my answer to the question quoted at the opening of this article has varied but little from the following:

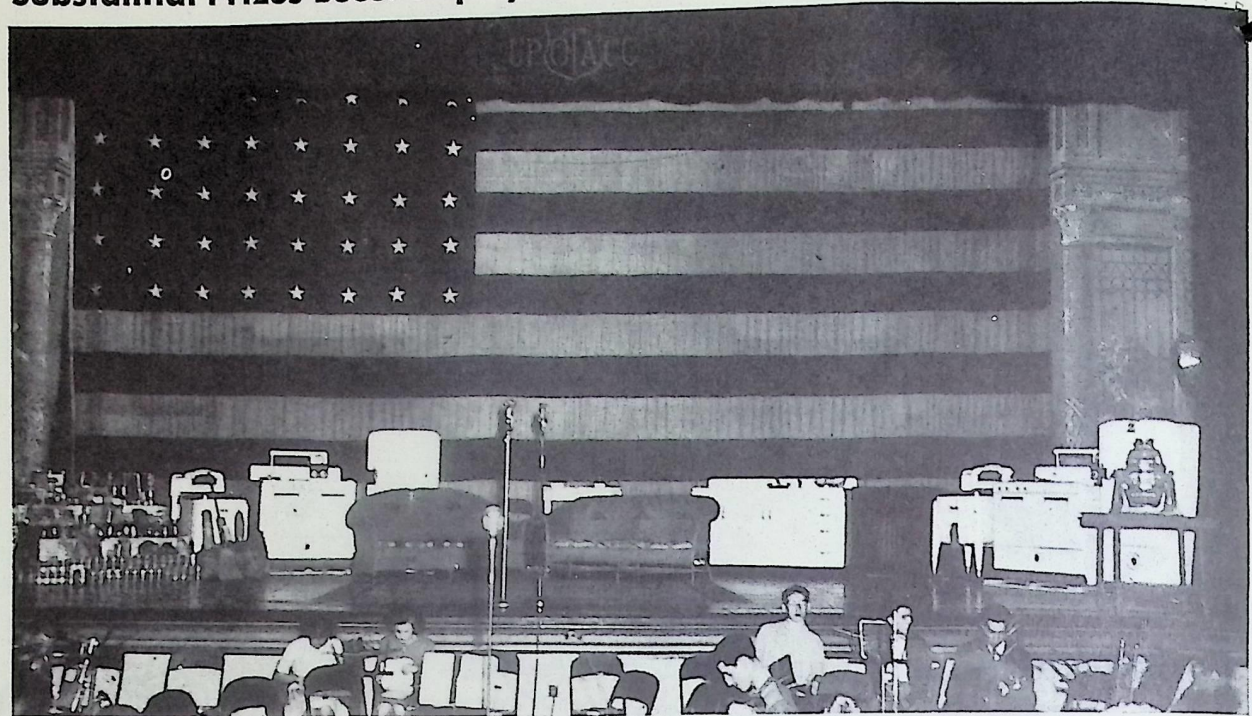
"We don't use mirrors, magic or lucky pennies. It's all a matter of organization and training, mixed with perseverance and hard work."

Although the order is not necessarily that shown, The Union Pacific Coal Co.'s safety program rests primarily on the following foundations:

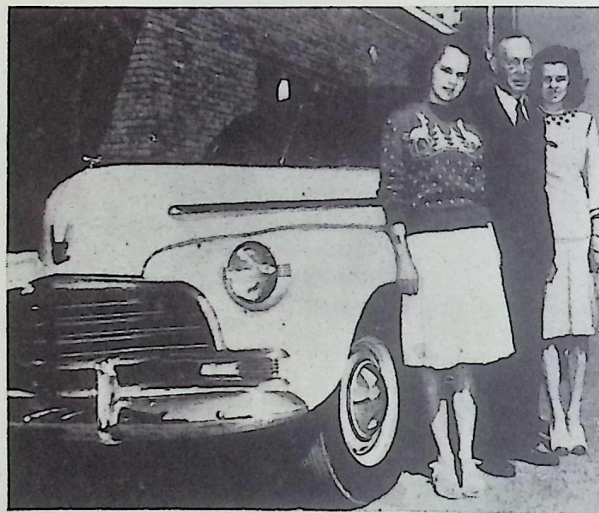
1. Officials sincerely interested in achieving safety.
2. Placing major responsibility for safety on officials in direct contact with employees—unit foremen, and so on.
3. A strong safety department headed by a qualified safety engineer to assist foremen and others in safety work.
4. Proper induction and indoctrination of new employees.
5. Continuous education of officials and men.
6. Complete first-aid and other training.
7. Variety in safety work to maintain interest.
8. Incentives for both men and supervisors.
9. A safety honor society open to all foremen achieving the required safety records.
10. A code of standards for safe operation.
11. A safety manual for all employees.
12. Committees on safe practice.
13. Use of all approved safety equipment and materials.
14. Continuous working-hour inspection of mines and outside facilities.
15. Weekly meetings of supervisors to discuss safety and production.
16. Money.
17. Hard work.

As I pointed out in part in my remarks during the ceremonies attending the presentation of the "Sentinels of Safety" trophy to the

Substantial Prizes Boost Employee Interest at U.P. Safety Rallies



MONTHLY AND SEMI-ANNUAL RALLIES AND PRIZE DRAWINGS heighten interest and provide an incentive for employees. This illustration shows a part of the prizes at one semi-annual affair.



A NEW CAR—grand prize at a semi-annual drawing (right)—goes to a Union Pacific employee for safety at his work.

employees of Winton mine for their 1947 achievements:

"The management of The Union Pacific Coal Co. has an obligation to be sure that the conditions under which men work are as safe as practical engineering can devise. In addition to the humanitarian angle, there is the important consideration of the economic value of safety. It is an economic waste when the services of men trained to perform certain work are lost because of death or serious injury. Serious injury to an employee is not only a loss to the company; it also is a serious drain on the economy of the nation. We cannot appraise the

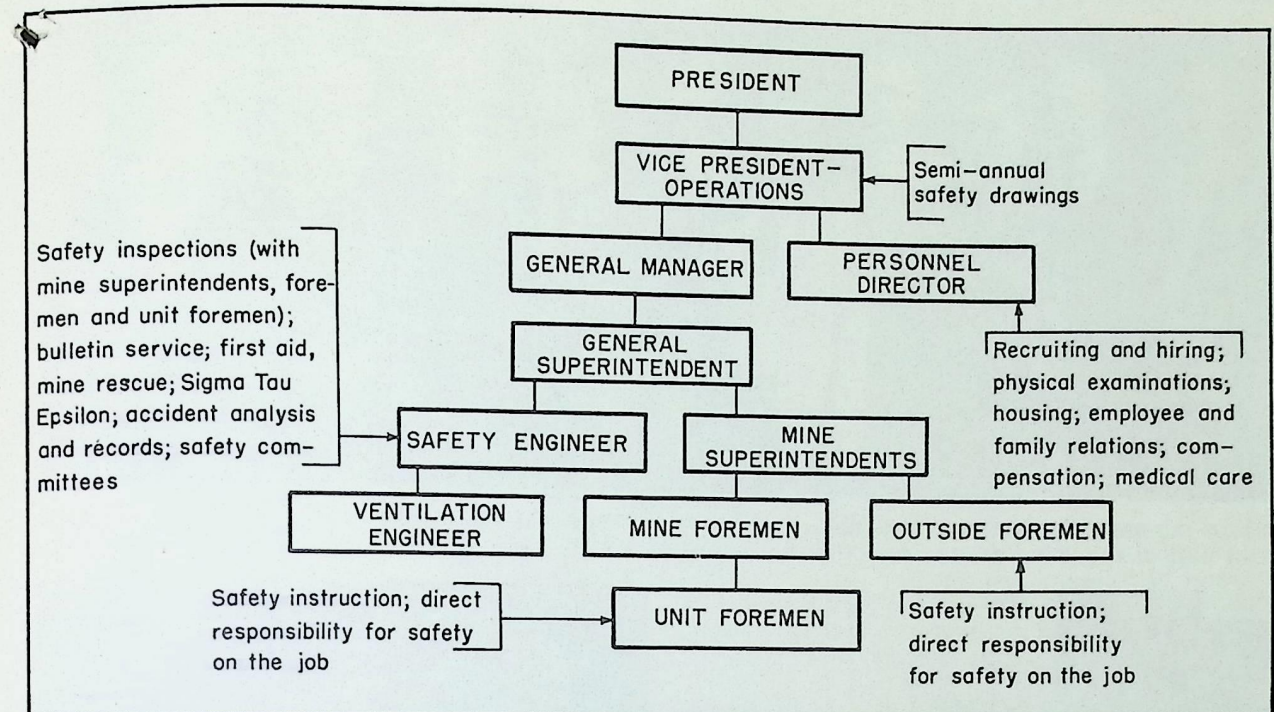
value of safe working conditions in dollars and cents. However, we should look upon safety as making it possible to get the most out of life."

How safety is organized at Union Pacific and some of its outstanding operations are shown in the accompanying chart. It will immediately be noted that top officials have a major part to play. Perhaps second, a strong safety department is an essential part of the organizational set-up. Third, operating officials have an active responsibility.

Safety work begins with hiring and—it can be truly said—never ends. A full-time personnel director

reporting to the vice president in charge of operations handles recruiting and hiring, including physical examinations for all new employees. The personnel director also handles housing and any problems that crop up in employee and family relations, in addition to his other duties in the line of compensation and medical care of injured persons.

Before actually going to work, each new employee meets with the mine superintendent, who gives him the company book of rules and discusses at some length certain company policies, such as those dealing with hard hats, shoes and goggles. After that, the unit foreman or



HOW UNION PACIFIC ORGANIZES FOR SAFETY. Top management plays a major role.

other supervisor takes over, except for such things as first-aid training. Courses in first-aid are conducted every six months and involve 15 hours of instruction by, as a rule, men from the first-aid teams. The courses, incidentally, are conducted under the supervision of the U. S. Bureau of Mines, which furnished the original instruction to members of first-aid teams.

First-aid training includes everybody—not only miners but all other workers, supervisors and officials up to and including myself. Upon successful completion of the 15-hour course—without pay—employees receive certificates from both the Bureau of Mines and the company. If an employee is unable to pass an examination after 15 hours of instruction, he is given special additional training until he is qualified for a certificate.

For maximum personal protection, miners are required to obtain and use goggles in addition to hard hats and safety shoes. Promotion of goggle use is an example of the unusual steps taken to effectuate a particular safety measure. When goggles were first introduced, each miner's eyes were examined and he was given—also free—goggles corrected to his vision. Free eye examinations still are given new employees—as well as older ones who request it—but the men must now provide their own goggles.

Other tried-and-true methods of promoting safety consciousness

among employees include such things as bulletin boards at each mine showing the number of days the operation has been without an accident, and the publication of a monthly safety bulletin listing safety records by districts and reporting accidents and injuries. This monthly publication is designed for home reading and includes material, besides safety, of interest to other members of the family as well as to the worker himself.

On the job, the book of rules and the company book of standards provide perhaps the major hard-and-fast principles to be followed by both workers and supervisors. Other than that, the job is largely left to the supervisors and men to work out as they proceed, always remembering that "Safety is the first consideration." This policy is followed as a result of experience which indicates that keeping the program informal and letting men and supervisors use their ingenuity and initiative, plus keeping interest up by varying the program, are more conducive to results than rigid formalism all the way through. The code of standards, incidentally, took nearly two years to prepare and has been revised seven times since its original publication date—July 15, 1925. Based on experience and engineering study, it provides the best possible guide to safe and efficient installation of wire, tracks, machinery and equipment, the construction of

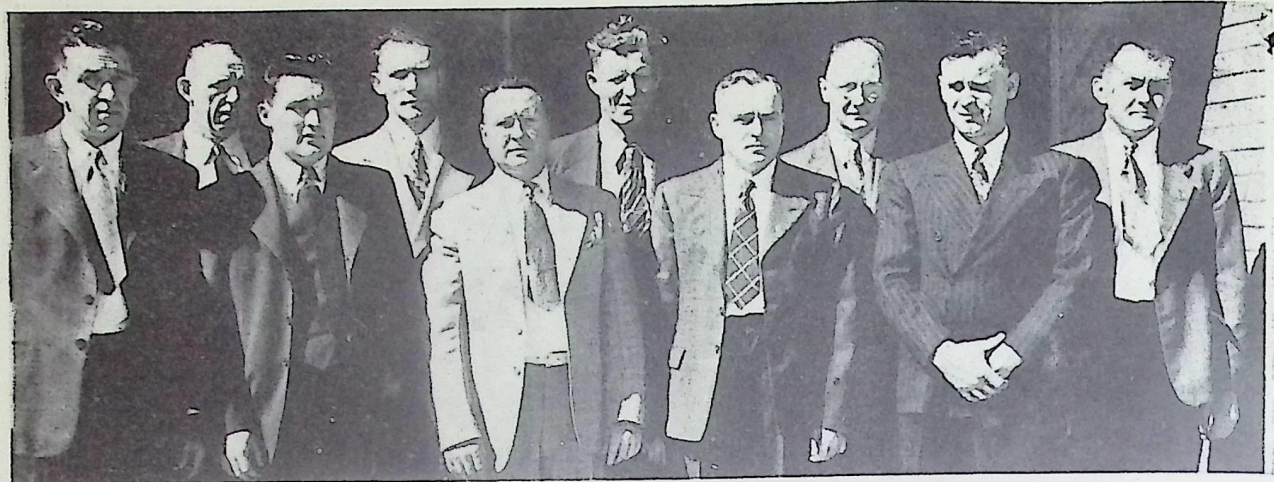
clearances and the conduct of other mining operations.

To facilitate joint worker-supervisor effort in the field of safety, each unit foreman is considered a supervisor of safety and functions as such. The average number of men assigned to a unit foreman is eight; the maximum, 16. Worked out by the general safety engineer, his assistant and the ventilation engineer, this arrangement has proved its worth in achieving maximum safety results.

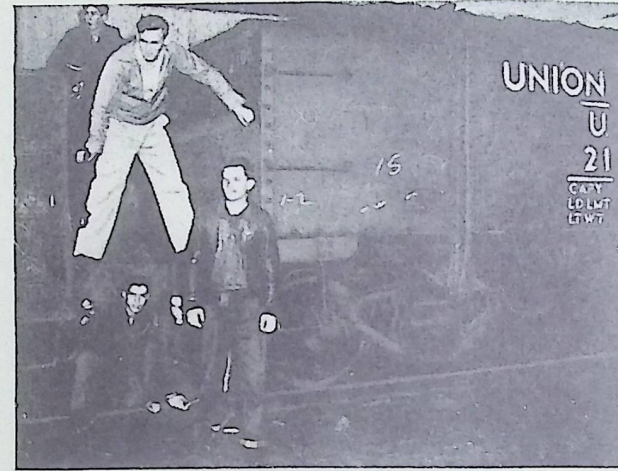
The most attractive features of the safety program from the employee point of view are the monthly and semi-annual prize-drawings. These provide variety and incentive—both of which have been found most important factors in stimulating interest in safety. They also afford the management an opportunity to discuss safety problems with the miners under conditions most conducive to good reception, relaxation and good humor.

For administrative purposes, Union Pacific operations are grouped into six mining districts. A prize drawing is held in each district each month. If the district has experienced a lost-time accident, door prizes only are given. However, if the district has not had a lost-time injury, the door prizes, consisting of \$50 in merchandise and varied each month, are supplemented by safety awards. For the first month without a lost-time injury, the men

Honors for Supervisors and Community Safety Feature U.P. Program



SIGMA TAU EPSILON INITIATES for 1946 honored for three years of supervision without a lost-time injury to their men were: Alex Clark (left), W. H. Buchanan, Ben Dona, James Herd, Thomas Lucas, J. J. Balog, Arthur Munn, Clyde Rock, R. Batista and Frank Subic.



SAFETY AT HOME AND IN THE STREET is included in the U.P. program. These photos were a part of a recent campaign.

draw for prizes of \$15, \$10 and \$5. If the district goes two months, the prize is a suit of clothes, which also is offered every month thereafter until a lost-time accident occurs.

The door prizes promote attendance whether or not a main prize is being drawn for. As a result, attendance in 1948 was approximately 60 percent for the second shift and 75 to 80 percent for the first shift. The meetings usually last about an hour and, in addition to the drawings, include a sound picture running about 20 minutes and talks by the general safety engineer and at least one other official on safety, supplemented by addresses by outside men, such as highway patrolmen.

The semi-annual prize drawings with a number of prizes have replaced earlier annual drawings for one big prize. This change from yearly to twice-yearly drawings, and from one to a number of prizes, was made to introduce variety and

promote interest by broadening the possibility of winning.

One of the two drawings is presently held in February and the second in August. All employees without a lost-time injury are eligible to compete, and the main program is held in the Old Timers' Hall in Rock Springs. The event is broadcast not only to the public but to meeting halls in all six districts if bad weather or the mine-operating schedule make attendance at Rock Springs difficult. Instead of an automobile, a trip to Alaska or some similar grand prize, awards now consist of merchandise, such as refrigerators, deep freezers, radios, furniture, groceries, and so on. Each district is allotted a prize to draw for, which keeps people at the meetings.

As with the monthly district meetings, the semi-annual affairs are more than merely prize drawings. In addition to safety messages by Union Pacific officials, an outside speaker is provided. It may

be a state official, a representative of the Bureau of Mines or some other outstanding man, and he also carries the safety theme forward.

From day to day, however, as previously noted, supervision over safety is largely the job of the unit or other foremen. To help them, provision also is made for both variety and incentive. Unit foremen whose crews have not suffered a lost-time injury over the month are eligible to draw for separate money prizes at the monthly district safety rallies and prize drawings.

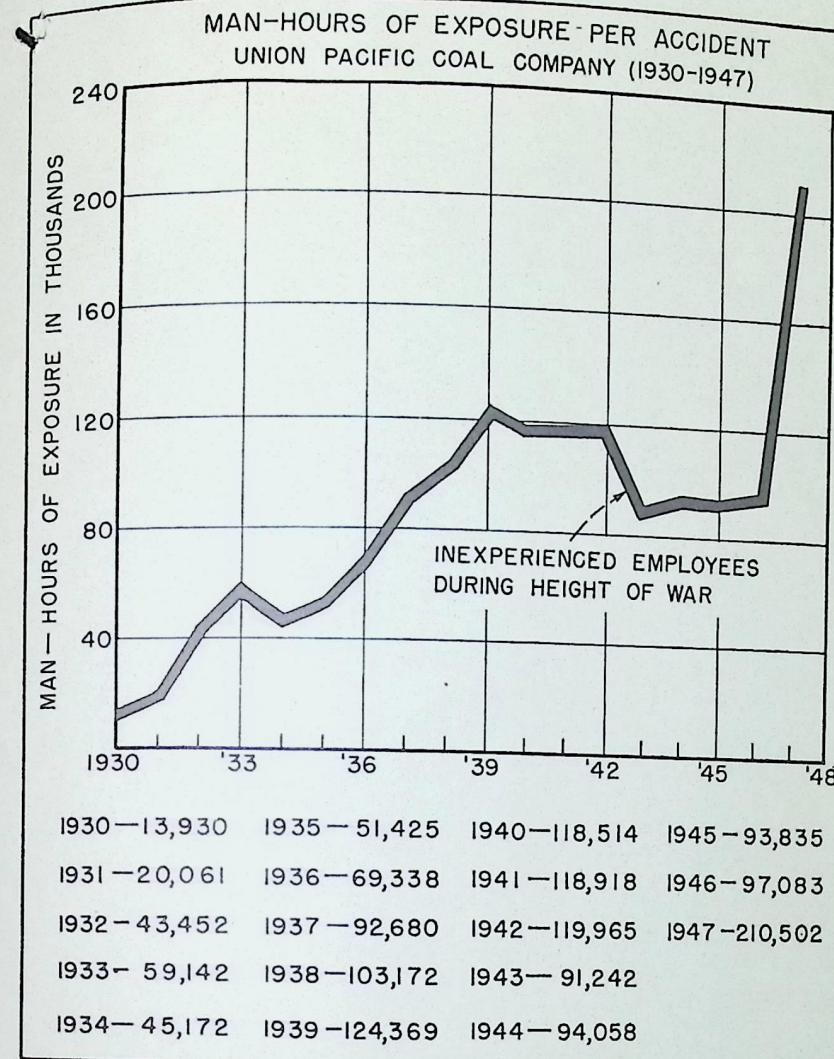
Since he is, in fact, the supervisor of safety on the job, the unit foreman is charged with the particular responsibility of welcoming new men, introducing them to their work and training them so that safety becomes automatic and they are able to function most efficiently. Also, of course, new safety rules and new production methods are imparted to all men, whether new or old, by the supervisor.

Supervisors are kept abreast of safety developments and management policy at weekly meetings, which invariably are attended by one or more general officials. The meetings normally last an hour, and the proceedings include discussion of accidents, if any have occurred, consideration of safety inspection reports and discussion of production problems. The supervisors also are encouraged to subscribe to and read the pertinent technical and safety publications and to study meeting papers and transactions dealing with both safety and efficient operation.

A key factor in the Union Pacific safety program is continuous working-hour inspection of all mining operations and surface facilities. In other words, one representative of the general safety engineer inspects continuously on the day shift and a second on the night shift. The inspectors are accompanied by the mine foremen or other supervisor and, from section to section,

by the respective unit foremen. Any violation of the code of standards is reported to the general manager who, in turn, passes it to the superintendent of the operation for corrective action. The safety department then checks to make sure that the corrective action was taken. Standard report forms are not used in safety inspection because, among other things, it was felt that they would be conducive to getting into a rut, whereas freshness and a flexible approach are the real essentials.

An out-of-the-ordinary additional step has been done much to reinforce safety work at Union Pacific operations. That step was the founding in 1941, with 43 charter members, of Sigma Tau Epsilon, the first Greek-letter safety honor society in the world. Membership is restricted to supervisors "who have attained a commendable standard of safety in the conduct of their work." Those eligible for membership and the qualifications are:



THE PAY-OFF AT UNION PACIFIC—a steady accelerating rise in man-hours per accident.

Mine superintendents at mines that have won the Sentinels of Safety Trophy.

Mine foremen in charge of an operation that has won a Sentinels of Safety Trophy, or which has completed a calendar year without a lost-time accident.

Unit foremen and outside foremen who have conducted operations for three consecutive years without a lost-time injury to men in their charge. Only unit foremen and outside foremen are eligible to vote and hold office. General officers are not eligible for membership, but any society member promoted to a general office position may retain his membership.

The society meets quarterly. Its major contribution, however, is through the operation of committees on safe practices. Ten such committees function continuously in the following fields:

- Roof and rib falls and timbering.
- Haulage.
- Handling and use of explosives.
- Handling and storage of material inside.
- Ventilation and rock-dusting.
- Electrical and mechanical installations.
- Proper operation and maintenance of tools and machinery.
- Handling and storage of materials outside.
- Prevention of injuries from slipping and falling of persons.
- General welfare, inside and outside.

Each committee keeps a continuous eye on its phase of the safety problem. All accidents are reviewed and discussed and, when all the evidence is in, the committees make the necessary recommendations for hazard elimination and safe operation. If accepted by the final authorities—the president and vice president in charge of operations—the recommendations go into effect.

Actually, what has been presented previously barely touches on the highlights of our safety program. It is notable that the company has dug deeply into its pocket for safety materials and the employment of safety engineers. Except for the war period, when the necessity for hiring large numbers of green men was a complicating factor, and for years in which major strikes or strike threats occurred, which our records show are reflected in an immediate increase in accidents during the period of disturbance, the result has been a steady and accelerating rise in man-hours of exposure per accident, as shown in the accompanying chart.