

Q. What special qualifications are required of LP-Gas tank truck operators? What is the industry doing about 18 year old drivers?

A. It is doubtful if there are any drivers below the age of 21 and industry trains their people thoroughly. One plant calling for three months on the job training was explained. Most operators in the industry secure men of stable, reliable temperament and when they are hired they are placed on a 90 day probation period. They must have an interest in understanding the fuel business. The biggest safety problems are usually human problems. In spite of all the work concentrated on this phase of the industry's safety program, a considerable amount of engineering goes into the design of foolproof equipment. As an example, outlet connections on tanks are protected by excess flow valves which automatically cut off the flow of gas in the event of a leak from the piping downstream.

Q. Are firewalls used around LP-Gas storage tanks?

A. Because of the rapid vaporization of LP-Gas, firewalls are not considered necessary, except in the case of large volumes of refrigerated gas. LP-Gas does not flow a great distance without vaporizing. In fact, many persons have handled LP-Gas for

many years without ever seeing it in liquid form.

Q. Should LP-Gas tanks be installed above or below ground?

A. Either type of installation is safe so long as it is made according to the rules of NFPA Standard No. 58. One panelist preferred above ground when possible as the fittings could be checked more easily.

Q. What is the industry doing about gas impurities?

A. The specifications of the Natural Gasoline Association of America are accepted by the industry and followed closely. Marketers are constantly on the alert to keep off-specification product off the market. This problem is an operational one rather than safety.

Q. What is recommended where a radio and an LP-Gas tank are in the same auto trunk?

A. The trunk should be vented. Trained mechanics avoid fuel and ignition sources in the same area. This can be done by compartmentation. It was explained that gasoline vapors are heavier than LP-Gas, which is about 1 1/4 times as heavy as air. In closing the discussion, Mr. Wherry summarized the efforts of the industry in maintaining a safe record and recommended that those using this fuel provide a continuous program of safety education.

SAFETY IN MULTI-PLANT OPERATIONS

SOLUTIONS FOR MULTI-PLANT SAFETY ADMINISTRATION PROBLEMS

(A Panel Discussion)

Moderator:

W. Eugene Stuffing, Director of Safety, Carrier Corp., Syracuse, N. Y.

Participants:

Gordon L. Bowen, Safety and Workmen's Compensation Administrator, American Radiator and Standard Sanitary Corp., New York, N. Y.

Russell DeReamer, Safety Manager, International Business Machines Corp., New York, N. Y.

Raymond D. Harvey, Safety Director, Industrial Safety Section, Ford Motor Co., Dearborn, Mich.

H. M. Huntington, Supervisor of Safety, International Harvester Co., Chicago, Ill.

Stanley W. Parsons, General Safety Director, The Carnation Co., Los Angeles, Calif.

Fred R. Temple, Chief Safety Engineer, Convair, A Division of General Dynamics Corp., Fort Worth, Texas.

Quincy W. Tuma, Chief Safety Engineer, Texaco, Inc., Houston, Texas.

Stuffing: I have selected 15 questions which in turn have been assigned to various panel members for discussion before your group. In the interest of covering as much ground as possible, I have asked each panelist to restrict his discussion periods to a maximum of five minutes. After formal discussion, the other panel members will have an opportunity to speak to the same question, should they desire.

Question 1: What factors constitute the essentials of a minimum basic accident prevention program applicable to multi-plants?

Bowen: The philosophy and policy of my company does not constitute anything possibly that you gentlemen have not heard in the past. First, may I say that we are a large company of small plants, largely self-insured for Workmen's Compensation. We are adopting a basic program of ten points, effective throughout all of our plants. We have some way to go in this; it is not entirely in effect at the present time.

This program is premised upon the responsibility of supervision, from the plant manager to the line foreman—for the safety program. In our 40 plants in this country and Canada we presently have only three full time safety engineers as such. The average plant runs 400 to 500 people, so therefore you can appreciate that our personnel managers, employee relations managers must wear several hats.

Our first program point is *management direction and support*. This is an old point and you are all familiar with it. However, we must insist that this be a regular and routine part of all of their responsibilities and just not window dressing. To this end a series of cost and accident statistics measurements are being validated on the basis of quantity as well as quality and are being carefully studied on a periodic basis by our top managements. This starts with our executive offices in New York as well as at the divisions and the plants operating under these divisions.

The plant manager is held responsible for his cost of operation, safety and workmen's compensation being a part of that cost.

Our second point is *supervisory responsibility*. This also includes our personnel managers, who are also our safety administra-

tors. Supervisors must be trained, and they must be oriented to the proper place of safety in their everyday operations. This training starts with the very basics of safety. What is safety; lost time accident frequencies; severity; Workmen's Compensation insurance; costs; the basic elements of the program; supervisory responsibility and all the other phases of it. This must explore the supervisor's participation at the department level, working with his people and training them on the spot. The supervisor will work on the safety committee and thus have a continuing orientation and training by his rotating participation in these safety committee activities, which also include plant safety and housekeeping inspections.

The third and fourth points of the program are *accident analysis and accident investigation*. To this end we put the supervisor and his department to the test by determining and showing his accident record from the standpoint of the number of accidents and the types occurring in his department. This involves a monthly, cumulative accident analysis. This accident analysis is made, broad and general, not particularly specific for individual detailed problems of a department.

It lists the basic types such as material handling, eye accidents, machine accidents—to orient us and reveal where the problem is in his department. Then the supervisor can find the further detail and what the individual problems are under the broad type headings. He can use the staff services of his personnel and safety departments.

The fifth point involves *accident experience and progress measurement*. Lost time accident frequency and severity is all well and good, but for really close analysis of accident prevention progress, we have found that total accident frequency and costs are of greatest importance to the supervisor in relating to his part of the program. It shows him what the true accident frequency cost is in his plant and in his department. This goes all the way back up the line to the plant manager and relates to his gross sales and net income, and can be shown as a percentage of his profit. All of our managements are quite interested and actively concerned with these accident records and safety performances. Progress is thus measured on a departmental, as well as a total, basis. We in New York get summary information so