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## Safety Problems in the Sugar Industry

FRANK M. SABINE<sup>1</sup>

### General Discussion of Safety and Accidents in Industry

It is felt that this is an appropriate time to discuss safety problems in the beet-sugar industry in view of the fact that accidents and injuries to workmen have been taking such a large toll in American industry. The safety problem is definitely an operating and management problem and is a cost burden to operations that can be reduced. The accident experience in the beet-sugar industry is certainly no better than average when compared with other American industries, and published figures of accident ratios indicate that we have much to accomplish.

As no accident figures for the beet-sugar industry as a whole are available, the scope of the problem can best be brought out by a few figures quoted in current literature on the subject. In 1940 accidents in American factories cost 11/2 billion man hours of production. There were 17,000 deaths and permanent disabilities were quoted from 60,000 to **93,000**. In addition to this, there were over 1,250,000 temporary disabilities or an average accident toll of one day per worker.

In 1939, according to the National Safety Council, accidents cost this country \$600,000,000, and of this amount almost \$32,000,000 was paid out to cover the cost of eye injuries alone. Each year 75

<sup>1</sup>Assistant General Superintendent, American Crystal Sugar Company, Denver, Colorado.

workers lose the sight of both eyes and 2,000 others lose one eye as the result of accidents. It has been recently stated that more time has been lost during the past year as the result of industrial accidents than has been lost through labor difficulties which have been so highly publicized. In the face of these facts it is apparent that every industry must be concerned in promoting safety and safe-working conditions.

### **Types of Accidents in the Beet-Sugar Industry**

In a general discussion of safety problems in our industry, no statistical analysis of the various types of accidents has been made. In view of the wide range of our operations, the various types of accidents occurring may be classed as typical of industry as a whole. In the light of our own experience, we at least have the satisfaction of knowing that probably 95 percent of the accidents are such that no mechanical safeguard would have prevented the accidents and it was, therefore, not caused by laxity in providing adequate safeguards for employees. The accidents occurring in our operations are divided into agricultural and factory. The accidents most frequently noted in these two groups are as follows:

**Agricultural.**—The accidents occurring in connection with these operations are not large in numbers and occur mainly during the harvesting period. They are, however, usually severe as in most instances beet-handling machinery is involved. In connection with these, the types most commonly noted are as follows;

1. Strains caused by moving cars or beet-handling equipment which involves the movement of heavy objects and judgment is not used in considering the weight factors involved.

2. Slipping and falling while moving cars and equipment, or tools slipping while moving cars.

3. Actual injuries caused by the equipment itself and the result of working on equipment such as oiling parts while in motion, adjusting belts and gears. The largest percentages of these accidents are the result of action contrary to safety rules and instructions. They are usually severe, resulting in the loss of hands, arms, or fractures. Fortunately the number is not high and continual safety education is stressed to reduce their number. As the employment is seasonal, the problem is complicated since men so employed have not had the experience with the equipment that would be of value in reducing accidents.

**Factory.**—The accidents that occur in connection with factory operations are largely the result of carelessness on the part of employees and are usually of a minor nature. They may be classified as follows:

**Slipping and Falling.**—A large percentage of the accidents reported are caused by slipping and falling. It is impossible to keep floors perfectly dry and in most cases the men hurry without giving

consideration to the hazards involved. These accidents occur mainly at the beet sheds, beet flumes, and on filter-press stations. A large number of accidents that are caused by tools slipping while working on equipment could be classified in this group. This is particularly true during the inter-campaign period when equipment is being overhauled. These accidents are not the result of faulty tools, but are caused by the employee not taking the time to use tools properly.

**Strains While Lifting.**—A large number of accidents are the result of strains while lifting and usually are caused by the worker standing in the wrong position while he lifts a weight. In a few instances the men are not physically fit for heavy lifting, but the majority of the accidents are the result of improper practice either as to the proper manner of lifting or in attempting a load too great. Accidents of this type occur mainly in the sugar and pulp warehouses, lime kiln, and in connection with handling of supplies.

**Burns.**—There are a fairly large number of burns reported each year, although accidents of this nature are not as high in number as they used to be. During operations these are caused by hot water while cleaning and brushing against steam lines, and there are some chemical burns from handling acid, caustic, and lime. We have had a few burns caused by improper lighting of gas-fired equipment in a manner contrary to all instructions in this regard. During inter-campaign, there are a number of burns incurred in welding operations.

**Eye Injuries.**—This type of injury is frequent in occurrence but mainly of a minor nature. The bulk of them are the result of airborne objects being blown into the eye. Goggles and shields are provided and during recent years there has been a reduction in the number and severity of this type of accident. The accidents of this nature occur mainly in the yards and lime kiln, handling supplies, and during the cleaning of tanks and equipment.

**Miscellaneous.**—The accidents that are classified in this group consist of cuts and bruises, sugar boils, and those that do not fit into the groups listed above. They are of a minor nature and medical attention and expense is mainly the result of carelessness on the part of the employees in not having their injuries properly attended to and infection results. Proper attention when an accident occurs and general use of sanitation facilities available at the plants will greatly reduce the expense of infections resulting from minor cuts and scratches.

### **Safety Program for Accident Prevention**

In presenting the program that has evolved from our experience, it is not with the thought that ours is either perfect or elaborate but more for an exchange of ideas on this subject. We continue to give much thought to make improvements yet do not wish to carry out one

that is too complicated and out of proportion with regard to operations as a whole.

We consider a safety program as essential in our operations not only from the economic standpoint but also as a matter of good relations with employees as is best shown from the following considerations:

**First.**—From our point of view, an injured fellow-worker is in most cases in pain or threatened with a permanent disability. We, therefore, ask ourselves if this suffering could not have been prevented by proper safeguards or instructions?

**Second.**—Safety is a matter of good relations with fellow employees. We want them to know that we are interested in safety and unless we do this we will be unable to obtain the interest and cooperation of our men.

**Third.**—A safety program coupled with adequate insurance coverage is costly and any savings that result reduces the cost of our operations. The large burden borne by industry in connection with accidents must be added to operating costs and the amount involved makes it essential that safety problems be given serious consideration.

**Fourth.**—Safety and production go hand in hand and we, therefore, must consider this from a production standpoint. An injured man cannot contribute to production to the full extent of his capabilities. The labor situation is becoming more acute, men skilled in the sugar industry are hard to obtain, and the training period in certain phases requires time. It is, therefore, necessary to do everything from a safety standpoint that will maintain production at efficient levels.

In carrying on our safety program, it is divided into two classifications, the plant organization and general office having the following functions:

**Plant Organization.**—The plant organization is patterned along familiar lines and consists of a safety committee headed by the superintendent, master mechanic, and chief chemist. There is also a safety committee made up of at least five members of the regular employees who meet and discuss accidents and recommendations. General safety meetings are held to discuss and compare accidents occurring locally and at other plants.

**General Office.**—The safety work handled by the general office is of a supervisory and statistical nature. The office serves as a clearing house for accidents and recommendations. Each month a statistical letter is prepared comparing the accident records of the plants and attempting to present them in a manner that will be of interest and help in reducing accidents. We feel that a safety program is largely a selling matter and do everything possible to maintain interest and to make our men safety conscious. The method of recording and reporting accidents is as follows:

1. All injuries that require medical attention are classified and tabulated as accidents regardless of any lost time involved. We do this because all injuries are potentially serious and while one plant may not have any lost-time accidents they may have a large number of minor accidents that are potentially dangerous, or costly from a medical standpoint. All cases requiring medical attention are tabulated each month together with total hours worked at the reporting plant. A graphical chart is made up showing the accidents on the basis of 100,000 man hours. The plant having the highest number of accidents per 100,000 man hours is shown in red, and a safety slogan is placed on the chart each month as a reminder. A letter accompanies the chart and this lists the accidents occurring and during inter-campaign the name of the injured workman is included. We feel that this makes the letter more personal in nature. The campaign accidents are summarized in groups. These monthly letters go to all interested parties in the company and one is posted so that it is available for all employees to read. In addition, the letters are read at the regular safety meetings and the accidents discussed. The charts are made up for periods of 6 months and are labeled for "Campaign" and "Inter-Campaign" periods. The attached charts are typical of these 2 operating periods and you will note that the inter-campaign accident frequency is somewhat lower than the campaign frequency. This is due partly to the more experienced employees and the possibility of continued education in safety matters,

2. A further basis for our safety program is our regular inter-campaign crew consisting principally of foremen and men in key positions during campaign operations. They are an excellent nucleus for a campaign safety organization and efforts are directed to obtaining their interest and cooperation so that they in turn will work along these lines when operations are under way. We plan to inaugurate a foreman's report for each accident so that they will be made to feel more directly responsible for the men working under their supervision. The proposed form will carry the information indicated on page 573.

3. Letters of commendation from the general office are sent to each plant operating a month without any accidents requiring medical attention. These help to maintain interest and are a relief after the various letters of criticism made when accident rates are high or when attention is called to specific cases.

4. Safety posters received from insurance carriers are posted about the plants in convenient places and these are changed at frequent intervals to create interest.

This in brief is our method of handling and reporting accidents. We have not gone to elaborate safety contests as this requires constant changing in order to maintain continued interest. The results have

**Foreman's Accident Review**

Name of injured worker..... date..... hour.....

Brief description of accident.....

In every case indicate below by an "X" your opinion as to the direct cause of the accident.

**PHYSICAL CAUSES**

..... Poor housekeeping (misplaced tubes, slings, chains, etc.).

..... Improper clothes (shoes, loose sleeves, no goggles).

..... Defective tools, ladders, materials, and other equipment).

..... Defective plant conditions, (floors, stairs, and rails).

..... Lack of light.

..... Not listed above (describe briefly).....

**PERSONAL CAUSES**

..... Incomplete knowledge of work attempted.

..... Disobedience of instructions.

..... Unfit (weak, excitable, easily tired, etc.).

..... Inattention or distraction.

..... Unsafe practice (haste, taking chances).

..... Inability (inexperience, lack of judgment).

..... Lack of proper supervision.

..... Not listed above (describe briefly).....

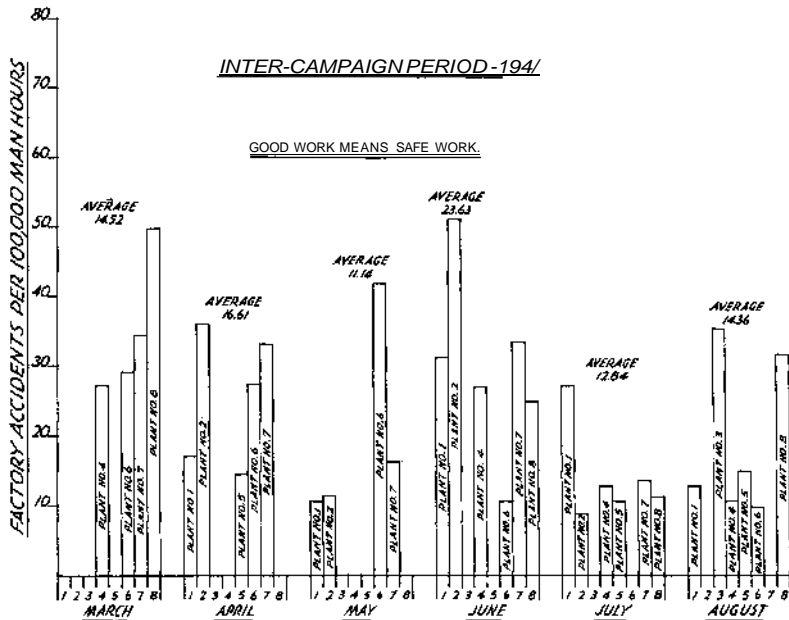
Actions that I have taken to prevent a similar future accident:

Foreman's signature.....

not always been found to repay the cost and work required for those who have attempted this type of safety education. We feel that a conservative, well-rounded program, that attempts to maintain interest in safety matters will do more than anything to contribute to a lowered accident rate. The experience gained since 1938 along the lines outlined above has indicated this to be the case and the number of accidents reported has decreased materially and we are hopeful of continued improvement along these lines.

INTER-CAMPAIGN PERIOD - 194/

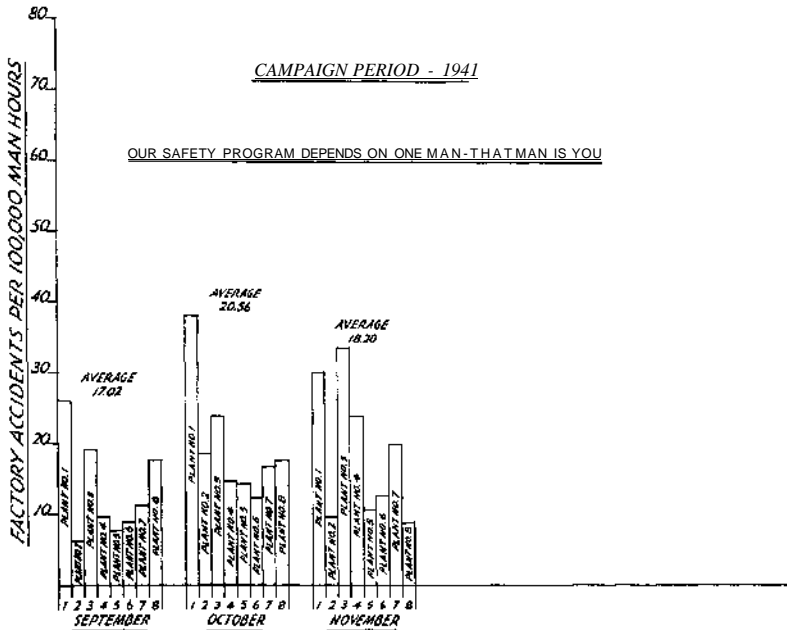
GOOD WORK MEANS SAFE WORK.



MONTHLY ACCIDENT TABULATION - ALL PLANTS (MEDICAL CASES)

CAMPAIGN PERIOD - 1941

OUR SAFETY PROGRAM DEPENDS ON ONE MAN-THAT MAN IS YOU



MONTHLY ACCIDENT TABULATION-ALL PLANTS (MEDICAL CASES)