

Introduction

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IN THE PETROLEUM INDUSTRY there is a saying that "oil is where one finds it." In similar vein one interested in safety matters might say that "an accident is where one makes it." This is apparent from numerous incidents, such as those described in the following newspaper reports: "A poison with the tongue-twisting name of tetraethylpyrophosphate took the life of a boy six days after some of it spilled on his legs;" or "A workman was rocketed 14 feet into the air by a gasoline explosion touched off by a spark as he was squeezing himself into the top of an empty tank;" or "At least 27 persons were hospitalized after an ammonia compressor exploded;" or the humorous situation wherein "The sign at two holes dug by the gas company read 'Danger Area. No Smoking. No Open Flares, No Matches.' The signs could be read last night because they were lighted by red kerosene lanterns and open-pot flares. A gas company spokesman explained that the flares were to light the holes, not the signs. Workmen had failed to find a reported gas leak, but the signs were left in place because the men who place flares don't handle signs."

Not only because of the wide variety of accidents that have occurred at plants of the oil and fat indus-

try but also because each accident has several facets from which its cost and trouble radiate to those in the industry, this fourth symposium under the general auspices of the members of the Technical Safety Committee of the American Oil Chemists' Society was planned to give broad coverage to the safety problem rather than to highlight certain specific safety matters with which various plants of the industry are concerned. Therefore the reader will find that the following eight papers present the view-points of operating superintendents or managers, insurance representatives, safety directors and safety technologists connected with the various phases of the oil and fat industry. Also, as a related part of the program, there was given at the Technical Safety Committee meeting a lecture-demonstration on the role of static electricity in dust and gas or vapor explosions by S. J. Douglas of the Vincennes, Ind., office of the U. S. Bureau of Mines; this was an extremely interesting and informative lecture, as was proven by the lively attention shown by those fortunate enough to be present, but it is not included with these Safety Symposium articles since its demonstration features are difficult to reduce to print.

Why a Safety Program?

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IT IS NOT because some wanted to promote a popular subject and not that the American Oil Chemists' Society wanted to jump on the band-wagon. The A.O.C.S. is an organization of people in the oil and fat industry devoted to improving their lot through the mutual exchange of talent.

As the solvent-extraction industry grew, accidents likewise grew. It is generally known that the extraction industry grew rapidly; many fields were entered, such as soybeans, cottonseed, flax, corn germ, and meat scraps. Also various solvents as well as a variety of equipment were tried. As would be expected, there were mistakes, costly mistakes. Many were more conscious of the total life and dollar value than I was. Much of this took place during the war years. These are the reasons why we did not get together to swap experiences, to ask questions. But we mightily quickly got curious when the costs for these misfortunes appeared.

We wanted to progress, make money, and stay in business. About this time insurance people looked at us with a jaundiced eye and insurance costs increased. Added to premium cost were penalties for not having this and for not having that kind of protection, such as water hi-tanks, complete sprinkler system, fire-wall building clearance, fenced-in areas, and lightning rods. Then came suggested legislation. With little effort it could be seen that these suggested rules (make no mistake about it, in a short while they would soon have been laws) were not wholly for the best interest of the operators. My memory says a set of mimeo-

graphed ideas for extraction-plant regulations for the state of Texas was among the first organized printed forms I saw. I had the immediate thought that they were largely written by someone who directly or indirectly made his living from insurance premiums. I might further say he would have lived well to a ripe old age.

Well back to the subject at hand—we had little meetings in various rooms, we wondered would they try really to pass such laws? If they did, who would enforce them? What background would those people have to assure us just treatment? You all know the answer, we all felt the same way. At one of the A.O.C.S. conferences a formal meeting was set for extraction-plant safety discussion. A safety committee was formed with "Doc" MacGee as chairman. Doc had considerable background for this job. You all know of his many articles on safe handling of flammable liquids. Added to this was Doc's broad acquaintance in the industry, and we were off to a flying start.

One of our first tasks was to prepare a set of Recommended Safe Practices. Doc had quickly sensed the broad expanse of this safety job so he divided the committee into three groups: the extraction plant, the laboratory, and the general which embraces those not specifically covered in the first two groups. We found ourselves quickly at work, greatly aided by a set of Rules published by the National Fire Protection Association, known as N.F.P.A. No. 36T. The T meant it was in Tentative Status. It was their practice to