

1972

February 1

First scientific handheld calculator (HP-35) is introduced. It costs \$395.

February 26

A coal sludge spill kills 125 in Buffalo Creek, WV.

"M*A*S*H" premieres on CBS.

May 15

Gov. George C. Wallace of Alabama is shot by Arthur Bremer at political rally in Maryland. Wallace is paralyzed as a result.

Atari introduces the arcade version of Pong, the first video game. The home version comes out in 1974.

February 17

President Nixon makes an 8-day visit to China and meets with Mao Tse-tung.

May 13

Fire in a nightclub atop the Sennichi department store in Osaka, Japan, leaves more than 110 dead.

Movie debuts include **The Godfather and Deliverance.**

May 26

Richard Nixon and Leonid Brezhnev sign SALT I treaty in Moscow.

Motivation: Industry's Challenge

By William W. Allison

Reprinted from June

1972

At the time this article was published, William W. Allison, CSP, was president of ASSE's New Mexico Chapter. During his career, he was safety director of Koppers Chemical Division and safety director of Westinghouse Atomic Power. He joined ASSE in 1942, and received the first-place Professional Paper Award from ASSE in 1962. Allison served as a national director of ASSE (1967-69) and was a member of National Safety Council's Executive Committee (1967-71). He was also known as one of the more prolific authors in the profession, having penned more than 25 articles. Allison was named an ASSE Fellow in 1973.

MODERN MANAGEMENT TOOLS and techniques fail to maintain an economically favorable balance of productivity versus loss costs. Motivation by example is the most effective but most neglected solution.

Motivation has been described as the collective effect of complicated sets of beliefs that have to do with how persons feel about many things, including themselves, their jobs, working conditions, future, their supervisor, the management, the other workers, the environment, tools and facilities. These beliefs are essentially feelings that are neither very clear nor very rational.

In the present state of the art, the reasons for the feelings that determine what we do are not really known nor understood, despite all the volumes of writing and abundance of verbiage. We do know that the things which apparently affect us most are the opinions and the visible examples of those

whom we identify as respected members of the groups we belong to or wish to identify with.

Need the Spur of Motivation

I sincerely believe that we have lost this one effective facet of motivation. While actual studies have shown that the best motivation can only provide a maximum of 30% temporary improvement where morale is already average, there are many instances today where morale is far below average. Furthermore, we need the spur of motivation to move us to provide the 80% to 90% permanent improvements available through physical changes in conditions.

We have indeed lost the art of effective motivation for supervisors and employees. We have lost the art as management has become more and more removed and isolated from supervisors and employees and the real world of work problems. Effective motivation is necessary for efficient business management, which includes the control of all hazards that have a high potential for leading to costly losses. The 1970 award of \$3.5 million to a young diesel mechanic in Nevada (who had half of his skull crushed in an accident) emphasizes the situation we face.

From top management down through upper management and middle management—and often all the way down to the first-line supervisor—hundreds, thousands and even millions of management workhours are consumed in reviewing computer

June 17

The Watergate scandal begins when five men are apprehended by police in an attempt to bug Democratic National Committee headquarters.

August 12

Last U.S. ground troops withdrawn from Vietnam.

September 5

During the Summer Olympics in Munich, Germany, eight Arab commandos kill two Israeli team members and take nine others hostage.

November 14

The Dow Jones Industrial Average closes above 1,000 for the first time.

June 29

U.S. Supreme Court rules that death penalty is unconstitutional.

September 1

Bobby Fischer defeats Boris Spassky to become the first American chess champion.

October 1

Paul Berg and coworkers create the first recombinant DNA molecule.

Mark Spitz wins seven gold medals during the 1972 Summer Olympics in Munich, Germany.

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data, discussing ways to improve efficiency and quality, and how to reduce costs, liability, error and accidents. Specialists, consultants, canned programs, revised procedures and reorganizations are more the rule than the exception. Yet, efficiency, quality and productivity have fallen during the last decade, relative to the soaring loss costs, overhead and productive labor costs.

If only a very small portion of the management workhours were used in effective motivation, present trends could be reversed. In too many companies today, even second-, third- and fourth-level supervision has no contact with the executive; and knowledgeable employees are aware that even their first- and second-line supervision is too frequently almost totally unaware of what is actually going on and of the real-world conditions within their areas of responsibility.

Effective but Neglected Means

One of the most effective, but most neglected, means of effective motivation requires only occasional sincere personal demonstrations of management interest and concern, followed by support of corrective actions. For example, after many years of the unproductive, ineffective standard program, management bulletins, meetings and approaches, a corporation president made a spontaneous, unannounced visit into the shops, observed work practices and expressed shock to a few employees, a first-line supervisor and the division vice president. The grapevine practically surged as his interest and concern were communicated more effectively (and more rapidly) than any written directive or top-level meeting. The problem was solved almost as quickly and permanently. Everyone knew, for the first time, exactly what was expected of them. No tortuous interpretations (changing as communications moved down the line) were necessary, nor could they misinterpret, soften or totally change the message, as is so commonly the case.

After a huge chemical plant maintenance shutdown was extended 2 days beyond schedule, the cor-

porate vice president made a quick trip to resolve the impasse between the safety director and the plant management. In 5 minutes, the corporate vice president heard both sides, then said, "Do as safety recommends." The plant maintenance superintendent realized he had to follow the safety requirement and, for the first time, quit defending with many reasons why he could not do so, and proceeded to do so.

To his amazement, he found that what he had believed he could not do, he did in less than 1 hour. Was the loss of some \$70,000 an hour for 2 days caused by a safety director's arbitrariness, by a maintenance superintendent's blind opposition to "safety," or by prior lack of effective motivation and communication from top management? After that single 5-minute meeting, there were no more costly delays due to arguments that "safety requirements" were too time-consuming and unnecessary.

Alarmed at the increase in defective products produced by a major division, a president went into the plant, observed the operations, expressed his concern to individuals working on the critical components and the fact that their future as well as the company's depended on the dependability of the product to the customer. Again, the grapevine went to work with astonishing results. For the first time, the employees and the first-line supervisor really knew what, above all else, was expected of them.

The general manager of a large chemical plant was being conducted on a plant tour by his staff. The general manager, to everyone's amazement, stopped, picked up a greasy scrap of paper, carried it to a waste container and deposited it. He never said a word, but his entire entourage of superintendents, the research director and others silently followed his example during his plant tour.

A small fire occurred as an operator switched burners on a chemical cracking furnace. The operator quickly snuffed out the fire with a nearby extinguisher. The general manager questioned the operator, who assured him that this occurred frequently but was no problem. The manager said, "Son, there is no such thing as a small fire in a chem-

ASSE began publishing a journal in 1956.

To celebrate 50 years of keeping SH&E professionals current in this dynamic field, each issue of Professional Safety in 2006 will feature an article from a past issue of the journal.

ical plant." Turning to the superintendent he said, "Find better burners for this furnace." A month later new burners were in place and there were no more "small" fires. Yet again, the grapevine went to work, telegraphing top management concerns and interests. The result was that this became one of the cleanest, most orderly and most fire-safe plants in the chemical industry.

Can Yield Unbelievably High Returns

Reports, data and conferences are necessary, but they cannot effectively replace the necessary motivation that can be provided only by top management's demonstration of its priority concerns and interests. It requires only a modest investment of top management time, but can yield unbelievably high returns if it is wisely done on a relatively rare, periodic (as-needed) basis.

Few can hope to master this technique to the extent that Admiral Rickover has. It enabled him to whip out a seaworthy, working nuclear submarine in an unbelievably short time and follow up with an entire fleet of submarines. While many in his program believed that the word "whip" is most appropriate, all would readily acknowledge his superb skill in motivation by his personal observations and comments on the job. The grapevine telegraphed his concerns more effectively, more clearly and more rapidly than any other communications media could.

The late B.J.C. van der Hoeven did the same thing, without any suggestion of coercion, in his emergency construction and operation of the U.S. government's huge synthetic rubber facility during World War II.

Donald Burnham, president of the 120,000-employee Westinghouse Electric Corp., seldom misses an opportunity for at least one brief but obviously sincere personal conversation with an employee during his tours of their many plants from coast to coast. When Frederick Kappel was chair of the board of AT&T, he was driving along a country highway when he observed a lineman working with no regard for the safety of himself or his helper. Kappel pulled off the road, introduced himself, then proceeded to explain why safe procedures were so important to the worker, his family and to the company. That lineman's story of the chair of the board's concern for safety was repeated all over the U.S. via the grapevine which transmitted that message.

When Thomas Watson was president of IBM, he used the first closed-circuit television to simulate personal contact with every employee from coast to coast. He did it very effectively. But the impact of personal example and individual contacts carried by the grapevine can probably not be exceeded by any other media.

Raymond Hay, president of Business Products, Xerox Corp., says, "We must actively strive (beyond the new Occupational Safety and Health Act) to seek, recommend and insist on the best hazard con-

trols available for employees, customers and our communities."

A Motorola Co. executive in a recent speech said, "Management has learned that the safe way really is the right way—technically, economically and ethically. Our experience, like others, confirms the fact that an intelligent, aggressive, industrial safety engineering program does result in definite production and profit improvements."

If It Can Happen, It Will Happen

"Management must actively, obviously and visibly support the safety engineering concept that if it can happen, it will happen, and that only removal of high potential hazards will achieve proper and lasting results."

When the fact that two high-potential accidents of maintenance cranes contacting and breaking power lines was reported by the plant safety engineer to the vice president, an apparently very costly decision was made by top management. Two independent power circuits were provided in place of the existing single power circuit. This wise decision of a costly extra expenditure resulted in savings that paid for the expenditure in one year. Shutdowns caused by accidental power outages actually had cost more each year than the extra one-time expenditure for a duplicate power circuit. Necessary work by mobile cranes could now be done with electric power shut off in the area without stopping chemical manufacturing operations. Again, we see that when top managers are given a forthright, clear report on the problem, they rarely have any difficulty in making a wise decision.

A top executive will ask at this point, "What can I expect safety professionals to contribute to the overall motivational guidance for my organization?" A qualified professional in industrial safety engineering should be expected to:

- 1) Devise meaningful policy statements for top management which spell out the fact that successful management and supervision require finding, correcting and controlling significant hazards because they directly affect the profit or loss and the meeting of or failure to achieve project schedules or goals.

- 2) Promote and include in both policies and practice, not negative blame, but positive accountability for safe facilities, equipment, processes and procedures. How are managers held accountable for good management except by making their salaries, bonuses and promotions dependent on performance?

- 3) Provide management with meaningful reports that concentrate on and emphasize those situations, processes, procedures and those no-damage, no-injury damage or injury cases which have a high potential for resulting in significant losses. These will provide realistic goals for the profitable control of hazards within one's own organization.

- 4) Involve management in objective inspections to ensure safe conditions, equipment, processes

ASSE on OSHA circa 1972

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On Aug. 11, 1972, the Senate Subcommittee on Labor and Public Welfare held an oversight hearing on Public Law 91-596—the OSH Act. ASSE and its leadership at that time sent a statement to the committee in which it offered six recommendations regarding the act. Excerpts from that statement follow:

Our previous testimony before this committee on June 12, 1968, and Nov. 20, 1969, was concerned with our professional opinion on the ability of the proposed occupational safety and health legislation to accomplish the purposes for which it was designed.

At this time, a year and one-half after PL 91-596 was signed and over a year since it became effective, we must take a realistic and professional look at what has, or has not, been accomplished and the actions we believe are now required to fully carry out the intent of Congress.

In presenting our recommendations and comments, it must be acknowledged that passage of OSHA '70 has focused unparalleled attention on occupational safety and health problems. It appears that steady progress toward the goal of Congress has been made during the past year, although statistically it cannot be verified. Our Society does believe that Congress and the OSH Administration deserve appropriate praise for the progress we believe has been made.

At this time, we submit for your thoughtful consideration the following six recommendations:

1) Employee Exemptions

That adoption of an “across-the-board” exemption by number of employees (regardless of the number) should not be considered. If any exemptions are to be considered, they should be established only after careful

analysis based on a qualitative analysis of hazards rather than a quantitative exemption by number of employees, and these should be granted only in certain small establishments such as offices and retail clerking operations. Further, the matter of exclusion of federal and state political subdivision employees should be reviewed to provide protection for those who are not covered under an approved federal or state plan.

2) Standards

That occupational safety and health standards promulgated under the act be given the widest possible distribution, free of cost, to all establishments where compliance will be required; that interpretative guides for the standards be developed for use by all establishments and especially by smaller establishments; and that standards having little or no direct effect on the occupational safety and health of workers be rescinded.

3) Consultation

That the act be amended to specifically direct the establishment within the OSH Administration of an “Office of Consultation,” staffed by safety and health professionals, whose duty shall be to provide advice and guidance on occupational safety and health standards promulgated under the act and on related aspects of the act. Because the need for this service appears greater in small establishments, such an office should be

directed to spend a majority of its time with these smaller establishments. Imminent danger noted during consultation should result in appropriate and immediate action to abate the danger.

4) Education

That utilization of existing educational programs for employers, trade associations and by employee organizations concerning the act, its requirements and standards, be greatly expanded.

5) NIOSH

That the Institute be directed to equally emphasize the safety and health missions, as Congress intended in the act; that the act be amended to direct the Office of Research and Standards Development to devote effort and funds to accident prevention research commensurate with the activities and expenditures for occupational health research; and that the act be amended to establish in NIOSH a Division of Technical Services using safety and health professionals in equal numbers.

6) Federal & State OSHA Employee Competency

That the act be amended to require that both federal and state employees employed to administer and/or enforce PL 91-596 or an approved state plan be occupational safety or occupational health professionals fully qualified by education and extensive experience as safety and health practitioners.

and procedures. Management teams that inspect each other's activities invariably make more realistically frank and critical inspections than most safety departments dare to document.

5) Provide professional and confidential advice on your specific organization's problems in achieving the profitable control of hazards. These then can provide both the real-world motivation and the ever-changing goals that ensure increased and continued success in any organization. ■

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