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SAFETY PROMOTION

The aim of safety promotion is to induce employees to improve their own protective behaviour and that of their co-workers, and to support an organization's stated safety goals. Safety promotion objectives include increasing safety awareness at all organizational levels and confirming the furtherance of employee safety as a top management priority.

The ultimate effectiveness of any promotion programme or activity depends directly on how well an organization manages its safety programme. Safety promotion can play an important contributory role in improving workplace safety when sound hazard management practice exists at all operational phases, including facilities planning, machine design, employee training and supervision, personal protective equipment, environmental maintenance, housekeeping, emergency response and rehabilitation.

No matter how intrinsically effective and efficient a safety promotion scheme is in changing employee attitudes and behaviour, it requires management support in the form of visible leadership and commitment. This condition is a prerequisite for a successful promotion, be it focused on production, product quality or employee safety and health. It is also the consistent characteristic that marks all successful safety programmes, no matter how much their specifics differ.

Employee Motivation

Safety promotion relates directly to the concept of motivation, which has been the subject of a great deal of research. There is controversy about how and why people are "motivated" either to adopt new behaviours or change old ones. A central issue concerns the relation between attitudes and behaviour. Must attitude change come before behaviour change? Can behaviour change exist without attitude change? Does attitude change predict behaviour change? Does behaviour change cause attitude change?

Answers to these questions are uncertain. There are those who insist that motivation is best achieved by changing external behaviour alone, while others feel that internal attitude or cognitive change must be part of the behaviour change process. Both of these viewpoints have influenced the conduct of safety promotion.

Although not directly observable, motivation can be inferred from changes in behaviour and attitudes. Three variables that define motivation are as follows: Di *rection of behaviour* requires the specification of objectives and the provision of the necessary training or education to achieve them. Di *rection* In *tensity of action* involves the

realization and strengthening of behaviour and attitude change primarily through reinforcement and feedback.

P*ersistence of effort* involves making the desired behaviour and attitude changes permanent in all facets of employee performance.

Safety Promotion Models

The safety literature describes a variety of safety promotion theories and methods that address each of the motivational variables; among these, two models have shown the capacity to improve safety performance. One, *organization behaviour management* (OBM), focuses on behaviour modification and the application of behaviour control methods developed by BF Skinner. The other, *total quality management* (TQM), focuses on process modification and the application of quality control principles developed by WE Demming.

Behaviour modification is founded on the premise that the causes of behaviour are environmental in nature. Accordingly, one can predict and control behaviour by studying the interaction between individuals and their environments. This knowledge requires the specification of three conditions:

1. the antecedents of behaviour-that is, the occasion on which a response occurs

2. the behaviour or action that occurs

3. the consequences that reinforce the behaviour or action.

Quality improvement requires a "constancy of purpose" or commitment by both employees and management to make improved product and service quality a corporate priority. This attitude adjustment rests on a conscious management decision to do whatever it takes to make the quality improvement vision a reality. Quality improvement objectives are broader in scope and the methods for their achievement are less uniform than those of behaviour modification. They are more concerned with changing or even eliminating total processes than with modifying individual behaviours.

As shown in table 60.1, both models are responsive to the variables and supporting actions that motivation requires. The models differ, however, on the safety emphases used to motivate employees. As a result, they differ in terms of their efficiency in satisfying the requirements of the three motivational variables.

Table 1. OBM vs. TQM models of employee motivation

Motivational variable	Supporting action	Safety emphasis	
		OBM	TQM
Direction of behaviour	Specify objectives. Provide training.	Behaviour Behaviour training	Attitudes/behaviour Process education
Intensity of action	Give reinforcement. Maintain feedback.	Behaviour occurrence Behaviour data	Process improvement Operating indicators
Persistence of effort	Commit employee. Commit management.	Behaviour change Style change	Continuous improvement Cultural change

OBM Model

Direction of behaviour

OBM safety objectives are usually narrow in scope and focus on increasing the occurrence of specific safe behaviours, thereby decreasing the incidence of unsafe acts. The following sources can be used to select unsafe acts or behaviours as targets for observation and eventual reduction:

1. analysis of incident investigations and related safety records

2. ·interviews with employees at all levels to obtain data on unreported events, hazards and so forth .

3.·observation of in-house safety inspections.

Based on information from these sources, employees are asked to assist in establishing a list of priority behaviours judged to be critical to improved safety performance. An observation system to track the occurrence of these critical behaviours is established, observers are trained and an observation schedule is set. . The incidence of priority behaviours is then observed during a pre-intervention period. This phase of the problem definition process provides baseline data against which to measure the success of the behaviour modification process. These data also alert employees to the presence of unsafe behaviour in the workplace.

Employees are then exposed to training that covers the behaviours to be pr. For example, workers are sometimes shown slides or videotapes of safe and unsafe practices, followed by discussion.actised, offers safe behaviour performance guidelines, and allows for behavioural feedback. At this time they are also shown baseline data and encouraged to improve their performance of critical safe behaviours. The data, often in chart form, are posted in the plant to prepare for the subsequent phases of the OBM programme. The activities of observation and recognition are performed on a continuing basis by supervisors or trained co-workers. As appropriate, new job safety performance elements are added to the training and become part of the programme.

Intensity of action

OBM uses both individual reinforcement and group feedback to modify behaviour. Reinforcement occurs at the individual employee level in the form of verbal praise or other sorts of recognition when a display of safety behaviour is seen in the workplace Feedback about the level of safety behaviour exhibited by the group is also communicated throughout the programme.

Various types of rewards can be used to reinforce behaviour, such as the following:

·- individual monetary incentives (eg, cash awards and tokens for the purchase of consumer goods)

·- praise and feedback (eg, knowledge of results, congratulatory notes and positive comments) ·

·- team competitions, which may involve the use of cash awards.

Rewards are often used in combination, so it is very difficult to isolate the impact of any individual type of reinforcement. Nevertheless, it is clear that positive responses to safe behaviour do increase its occurrence.

Reinforcement also includes group feedback about safety performance, which frequently takes the form of learning curves or bar charts tracking the percentage of safe behaviours that are observed during the intervention period. This information is displayed prominently so that the work group is aware of progress. This knowledge tends to maintain safe work group performance and stimulate future efforts at improvement.

In the OBM paradigm, reinforcement and feedback require a continuing programme of behavioural observation. . This condition enables positive communication to occur on the spot when safe behaviours are seen or when unsafe practices require correction. Although behaviour modification emphasizes positive reinforcement rather than discipline, its proponents recognize that reprimands or other aversive actions may be necessary in certain situations. Whenever possible, however, these steps should be

avoided because their effects are usually short-lived and may diminish employee commitment to the total programme.

Persistence of effort

OBM effectiveness in sustaining behaviour change depends on continuous observation and reinforcement of specific safe behaviours until they become self-reinforcing and a habitual part of an employee's job activity. The strength of OBM rests in the creation of a measurement system that allows a company to continually monitor and control critical behaviours. . To achieve long-term success, use of this measurement system must become part of an organization's management style.

There is little doubt that the OBM approach produces positive results and does so relatively quickly. . Most studies show that the use of positive reinforcement, in the form of incentives or feedback, enhances safety and/or reduces accidents in the workplace, at least over the short term. In contrast, longevity of behaviour change as produced by OBM procedures has not been fully demonstrated by research. In fact, most of the studies conducted are short-term in duration (less than one year). This situation has raised questions about the permanence of OBM treatment effects, although two studies of OBM techniques, one conducted in the United States and the other in Finland, have reported some long-term positive effects.

In the United States, the use of a trading stamp award system improved safety performance in two coal mines for more than ten years. . In this study, employees earned stamps for working without lost-time injuries, for being in no lost-time injury work groups, for not being involved in equipment-damaging incidents, for making safety suggestions that were adopted, and for unusual incident or injury prevention behaviour. Besides the token award system, workers received extensive training during the baseline period, intended to prompt safe behaviour and to maintain safe work conditions. This training activity was regarded as very important to the improvements obtained.

In Finland, significant housekeeping improvements in a shipyard were achieved during a three-phase programme featuring feedback to foremen and workers following baseline measurement and employee training. These improvements, expressed as higher housekeeping indices, continued to be observed at the new high level throughout a two-year follow-up period during which no feedback was given. Significant accident reductions were also noted throughout the project's duration. The long-term effects of this programme were attributed to reinforcement that concentrates on the outcome of behaviour and persists in the environment (as housekeeping changes do), rather than simply on a behaviour, which influences workers for only seconds.

These studies notwithstanding, it is difficult to determine the long-term efficacy of OBM approaches in maintaining safety performance improvements. In the US study, the use of tokens evidently became an accepted part of the mines' management style, but there was also a strong emphasis on training. Learned feedback from environmental changes that are an outcome of behaviour, as reported in the Finnish study, looks promising. . Here too, however, there is some indication that other factors may have been operative to influence shipyard employees during the follow-up "no feedback" period.

With these observations in mind, the bulk of research suggests that feedback must be maintained if OBM programmes are to achieve lasting success, and that this process must be accompanied by a management style that permits it. . When these conditions are absent, positive behaviour change effects diminish rapidly and revert to previous levels. Where housekeeping improvements are involved, there is some evidence that the higher performance levels continue for a relatively long period, but the reasons for this remain to be determined. Где улучшение хозяйствования занимаются, есть некоторые доказательства того, что более высокие уровни производительности продолжаться в течение довольно длительного периода, но причины этого будут определены позднее.

TQM Model

Direction of behaviour

TQM goals are broad in scope and centre on creating improved processes. There is an emphasis on discovering and eliminating the conditions that cause or support the existence of unsafe behaviours, as opposed to a concentration on unsafe acts as the cause of injuries.

Additionally, it concentrates on the management systems and practices that contribute to these problems.

The TQM approach uses many of the same methods as OBM to uncover safety performance deficiencies that are to become targets for improvement. These conditions may appear in all functions, from planning, through organizing and decision making, to evaluating cost-effectiveness. They also include the presence or absence of practices that incorporate employee safety considerations into everyday business processes such as the application of ergonomic principles to workplace and equipment design, review of purchasing specifications by safety and health professionals, and timely correction of reported hazards. Operational indicators such as the lattermost, combined with injury, downtime and employee absence records, provide baseline information on how well the management system supports the safety function.

Employee safety programme perception surveys have also become a popular tool for assessing the safety management system. Employees give their opinions about the effectiveness of the management practices and safety support activities that are present in their company. These data are gathered anonymously according to standard administrative procedures. Survey results help to set improvement priorities and provide another baseline against which to measure progress.

Just as TQM defines its performance objectives more broadly than OBM, it also makes a broader spectrum of training available to employees. TQM-based instruction teaches employees not only how to be safe but educates them about self-improvement and team-building methods that make possible ongoing contributions intended to increase safety throughout the organization.

The importance cannot be overstated of task planning at the systems level and providing sufficient safety training for employees whose jobs are expanded or enriched through process changes. There is some evidence indicating that as the number and variety of nonrepetitive tasks to which workers are exposed increases, so too does the frequency of accidents. It is not clear that this unwanted potential outcome has been recognized in the TQM literature.

Intensity of action

TQM uses various methods for reinforcing improved processes. These aim at creating an organizational culture that supports concerted employee effort to make process improvements. The mechanisms for behaviour change also incorporate reinforcement and feedback techniques to both recognize and reward performance improvement.

Several key conditions that support the development of improved processes are as follows:

1. an open corporate climate with increased information sharing and removal of formal departmental barriers
2. a focus on employee involvement, teamwork and training at all levels
3. the removal of informal barriers to pride of workmanship
4. a corporate culture that involves all employees in contributing to improvements
5. up to act upon or more fully develop new ideas for process improvement.

Adoption of these measures leads to higher employee morale and satisfaction that can increase the willingness to improve safety performance.

It should be noted that reinforcement at the employee level is regularly used in the TQM model. Rather than responding to specific critical behaviours, however, individuals

receive praise for safe work at any phase of a process, with the goal being to encourage employees to internalize a process that incorporates improved safety performance.

Feedback about observed safety and health improvement results is also provided periodically through such media as meetings and newsletters, as well as through the conduct of follow-up surveys. These results are presented in the form of operating indicators. They may include such indices as lost workdays due to occupational injury and illness, number of safety and health improvement suggestions submitted, attendance levels, workers' compensation costs and employee attitudes toward safety.

Persistence of behaviour

The long-term effectiveness of the TQM approach resides in its capacity to create or continuously improve processes that support safe job performance. improvements require both attitude and behaviour change. They also must be endorsed at the deepest levels of management practice and philosophy if they are to last. That is, they must become part of an organization's culture. For these reasons, positive results are not realized immediately. For example, successful users of TQM report an average of three years to achieve improved quality performance.

Evidence about the relationship between TQM and improved safety performance comes from two sources: the safety records of companies that have used TQM to successfully improve product and service quality, and the safety support processes used by companies with excellent safety records. . Of 14 US companies receiving national recognition for excellence in quality management and achievement in the form of the Malcolm Baldrige National Quality Award, 12 had better lost-workday injury and illness rates than their industry average. Eleven of these companies also reported improved rates associated with the introduction of TQM practices, while only three companies had worse rates.

The efficacy of TQM techniques as applied to occupational safety is also exemplified by National Safety Council member companies with the most outstanding safety performance records in the United States. These successful programmes emphasize a "humanistic" approach to employee management, featuring less discipline, more active worker participation and better communication between workers and management.

Because TQM emphasizes employee involvement and empowerment in implementing system and process safety and health improvements, the potential for permanent change is maximized. . Its emphasis on educating employees so that they are able to better contribute to future safety performance improvement also lays the

groundwork for long-term effectiveness. Finally, TQM approaches visualize employees as active decision makers who are *responsible for* rather than simply *responsive to* the environment. These features make it highly likely that both employees and management will be committed to change produced through TQM on a long-term basis.

Comparison of OBM and TQM

OBM seeks to decrease specific unsafe practices and increase safe performance through a structured approach that defines critical behaviours, trains employees in safe/unsafe practices, establishes a system of behaviour observation, and uses a schedule of reinforcement and feedback to control employee behaviour. Its strengths are its emphasis on behaviour observation and results measurement, and the rapid production of positive results when the programme is present. . Its weaknesses rest in its focus on specific behaviours that may not have been integrated with the need for management system changes, the use of an external control programme to maintain employee behaviour, and lack of demonstrated staying power.

TQM seeks to improve processes within the management system that affect employee safety and health. It stresses both attitude and behaviour changes and relies on a broad range of employee involvement and training programmes to define both safety and health improvement objectives and the means to achieve them. It uses reinforcement and feedback aimed at recognizing process improvements and employees' contribution to them. Its strengths are in its emphasis on employee participation and internal control (facilitating and reinforcing both attitude and behaviour change), its capacity to sustain safety and health improvements, and its integration within an organization's total management effort. Its weaknesses rest in its dependence on: (1) high levels of management/employee involvement that take time to develop and show improved results, (2) new process measurement systems, and (3) management's willingness to allot the time and resources it takes to produce positive results.

Safety Promotion Programmes and Practices

In what follows, the interaction between wage systems and safety will first be considered. Wage systems have a critical effect on employee motivation in general and have the potential to influence worker safety attitudes and behaviour in the context of job performance. . Incentives, including both monetary and non-monetary rewards, will be examined in light of their debated value as a safety promotion tactic. Finally, the role of communications and campaigns in safety promotions will be described.

*Wage systems and safety *

Wage systems can affect safety indirectly when incentive compensation, gain-sharing or bonuses are established to increase production, or when piece-work pay structures are in effect. Each of these arrangements may motivate workers to sidestep safe work procedures in an effort to increase earnings. Also, wage systems can be directly tied to safety considerations in the form of compensating wages that are paid for work that involves above-average risk.

Incentive wages

Incentive compensation or gain-sharing programmes can be established for productivity; for safety records; for scrap, rework and return rates; and for a variety of other performance criteria, alone or in combination. Such programmes have the potential to communicate management strategy and priorities to employees. For this reason, the performance criteria that an organization includes in its incentive wage system are critical. . If safety performance and related factors are part of the package, than employees are likely to perceive them as being important to management. If they are not, then an opposite message is sent.

There are situations where work performance is introduced as a wage incentive criterion to induce workers to put up with dangerous conditions, or to fail to report accidents. . Some commentators have noted the increased occurrence of this abuse, particularly in enterprise bargaining agreements and in efforts to reduce workers' compensation premiums. Obviously, this practice not only sends employees the wrong message but is counterproductive and will ultimately increase employer costs.

Although the theory behind incentive compensation appears to be strong, in practice its influence on worker productivity is far from certain. Research on the effects of financial incentive schemes on productivity shows extreme variability of results, indicating that naive approaches to the planning and implementation of incentive compensation programmes can lead to problems. However, when applied correctly, these programmes can have very positive effects on productivity, especially output.

A US investigation of the effects of bonus plans on accidents and productivity in 72 mines yielded little evidence that they had any significant impact either on improving safety or increasing production. Some 39% of these plans included safety in bonus calculations, while the rest did not. Within the study sample there was wide variability in the bonus payout frequency Although the modal payout period was monthly, in many cases miners earned productivity bonuses only once or twice a year, or even less often. In such cases, the effect on production was negligible and, as might be expected, safety performance was not affected. Even among mines that paid production bonuses more

than 80% of the time, no significant negative effects upon miner safety (ie, increased lost-time accident frequency rates) were found. . Mines that had monetary bonus plans directed solely at safety also failed to produce accident rate reductions. Most of these used lost-time accidents and violations as performance criteria, and experienced the same low payout problem that plagued many of the productivity-based plans. Although increased wages are important, the perceived value of money varies among workers. There are also many other factors that can influence whether monetary incentives will have the desired motivational effect.

The failure to find a clear-cut relationship between incentive compensation and productivity or safety in this study highlights the complexity of trying to conduct successful wage incentive programmes. Incentive or gain-sharing programmes often fail to produce expected results when employees think the programme is unfair. Actions that can be taken to help prevent this from happening and reinforce the motivational properties of an incentive programme include the following:

1. Set a performance standard that employees perceive to be reasonable.
2. Make bonus earning intervals short.

Controversy also surrounds the use of piece-rate pay. It is, perhaps, the most direct way to relate pay to performance. Even so, the literature is full of studies that describe adverse behaviour that piece-rate plans produce. . Piece-rate plans often create adversarial relationships between employees and employers in matters that are inherent to productivity. These involve the determination of production rates, the establishment of informal limits on production, and the negotiation of off-standard piece-rate plans. In some situations, performance may decline in spite of higher rates of payment.

Unfortunately, the very existence of piece-rate plans, whether or not they have their intended effect in the form of increased productivity, creates an atmosphere that can be detrimental to safe job performance. For example, a study investigating the transition from piece-rate to time-based wages in the Swedish forestry industry found reduced accident frequency and severity. Following the wage system change, several hundred forestry workers were questioned about its effect on their job performance. They indicated three major reasons for the reduction, including:

1. reduced pressure to work fast, take risks and ignore specific safety guidelines
2. reduced stress, leading to fewer errors in judgement
3. more time to consider safety matters, try new methods, and benefit from interactions with peers.

The Swedish experience was only partially corroborated by earlier research conducted in British Columbia in Canada. In this case, there were no differences in accident frequency between piece-work versus salaried "fallers" in the logging industry, although more severe accidents among piece-work fallers as compared with their salaried counterparts were reported.

In the final analysis, opinion remains divided as regards the potential uses and abuses of incentive wage systems, their contribution to increased productivity, and their effect on safety. Nevertheless, research supporting any of them is scarce, and what evidence exists certainly is not conclusive. Clearly, the effect of incentive compensation programmes on safety depends on their content, their mode of conduct, and the circumstances surrounding them.

Compensating wages

Economists have been studying the subject of extra pay for high-risk work in an effort to place an economic value on human life and to determine whether the marketplace already compensates for high-risk exposures If so, it may be argued that government interventions to reduce risk in these areas are not cost-effective because workers are already being compensated for their exposure to increased hazards. Attempts to validate the compensatory wage theory have been made in the United States and England using available mortality estimates. At this time, it would appear that the compensatory wage theory has been supported to a degree in England but not in the United States.

Another problem that besets the compensatory wage theory is the fact that many workers are unaware of the true risks associated with their jobs, particularly occupational disease exposures. Surveys done in the United States suggest that large percentages of workers are not aware of their exposures to hazardous working conditions. Also, psychologically speaking, individuals have a tendency to minimize the importance of very low probabilities associated with their own death. As a result, even if workers were aware of the actual risks associated with their work, they would be willing to take those risks.

Although the issue of compensatory wages poses some intriguing theoretical questions which remain currently unresolved, the true danger of a compensatory wage structure relates to its underlying causes. When employers use extra pay in any form as an excuse for continuing a substandard safety and health programme, the practice is harmful and totally unacceptable.

Safety incentives

The term *incentive* can be defined as a reason for undertaking action with extra zeal in an effort to receive a reward. The use of incentives to motivate employees is a common practice throughout the world. Nevertheless, the value of incentive programmes is a subject of controversy among scientists and practitioners alike. Opinions range from the denial of any link between incentives and motivation to the contention that incentives are primary factors in the behaviour change process. Between these two extremes, there are those who see incentive programmes as a useful stimulus to improve productivity and those who see them as promoting the wrong sort of employee behaviour with results that are exactly the opposite of what is intended.

In the area of safety and health, opinions about the utility of incentive programmes are no less diverse. In some organizations, for example, management is reluctant to offer extra incentives for safety because it is already an integral part of job performance and needn't be singled out for special emphasis. . Another opinion suggests that offering incentives for improved safety performance diminishes the perceived intrinsic value of worker well-being on the job, which is, after all, the most important reason for emphasizing safety in the first place.

Along with the philosophical reasons for questioning the value of incentive programmes there are other issues that must be considered when discussing their merits or potential contributions as a safety promotion practice. These are problems related to the criteria upon which incentive programmes are based, the possibility for abuse of the programme by both employers and employees, and the maintenance of employee participation.

The criteria for awarding incentives are critical to the success of the programme.

There are shortcomings attached to incentive programmes that are tied solely (1) to accumulating a certain number of safe days, (2) to lost-time injury rate (to workers' compensation premium reduction), and (3) to some other accident-related measures. Accident criteria are not very sensitive. Success is measured negatively, by the reduction or non-occurrence of events. Because accidents are rare events, it can take a relatively long time for significant improvements to occur. Such indices do not assess an organization's safety record but its reported accident record, which can be influenced by numerous factors not under the control of incentive programme participants.

Both employers and workers can abuse safety incentive programmes. Employers sometimes use incentive programmes as a substitute for the establishment of a legitimate safety and health management system or as a short-term cure for long-standing safety and

health deficiencies that require much different and more fundamental treatment than can be rendered by a promotion effort. At the employee level, the principal form of abuse appears to be the failure to report an injury or incident for fear that either an individual or work group will not receive an award. The chance of this problem occurring appears to be increased when monetary incentives are at stake or financial incentive plans for improved safety performance are written into labour contracts or agreements.

The success of an incentive programme is heavily influenced by the nature of employee participation and their perceptions about its fairness. If goals are set too high or if employees cannot perceive how their personal efforts can affect reaching the goals, then the programme is not going to be effective. Also, the longer the distance between safe job performance and reward reception, the less influence the incentive system is likely to have. It is difficult to maintain worker motivation with an incentive programme that won't pay off for several months or longer, and even then only if things go well for the entire period.

Clearly the pitfalls that have been described help to explain why many organizations hesitate to use incentive programmes as a safety promotion device. It is easy to design an incentive programme that doesn't work. But, there is a good deal of evidence, both quasi-experimental and anecdotal, that documents the contributions of incentives to the successful operation of safety and health programmes. The use of incentives, awards and recognitions to motivate employees to perform safely is an accepted feature of both the OBM and the TQM models. In the OBM model, use of incentives to reinforce employee behaviour is critical to programme success. With TQM, rewards, promotions and other incentives are used to recognize individuals for contributions to process improvement. Also, at the group, team or company level, special days or other functions are used to celebrate achievement.

Broadly speaking, the use of incentives may be viewed to have a positive influence on employee attitudes and behaviour. When evaluation of safety and health performance is made part of the decisions to increase an employee's pay, these factors take on added significance as important job-related requirements. As indicated above, accident rate and related measures present significant problems when they are established as the sole incentive criteria. In contrast, the use of positive safety performance measures in the form of behavioural or process improvements provide specificity for employee action and create an opportunity for frequent feedback and incentive distribution. The characteristics of successful incentive programmes appear to remedy some of the problems associated with performance criteria, programme abuse and the nature of employee participation.

Although the research into these areas is far from complete, sufficient data are available to provide guidance for organizations that want to make incentive programmes part of their safety and health management system.

Employer and employee abuses are largely circumstantial in nature. The reasons that incentive programmes are used to remedy safety management deficiencies largely determine whether the abuse can be corrected. If management sees employee safety and health as a low-priority concern, then such abuse is likely to continue until circumstances force a change in policy. In contrast, if management is committed to making safety and health improvements, then the need for a comprehensive approach to solving problems will be understood and accepted, and the support role played by incentive programmes will be recognized and valued. Similarly, the problem of employees not reporting accidents can be substantially reduced by changing the criteria that govern how incentives are awarded.

Research has shown that, to be effective in holding employee interest, rewards must be both frequent and tied to improved performance. If possible, to stimulate the feeling of participation in an incentive programme, employees should be involved in the selection of safety performance priorities. In this regard, it is necessary to insure that attention to priority behaviours does not lead employees to neglect other important job functions. Specific criteria and means for successful job performance should be clearly communicated and frequent progress reports given to programme participants.

There is also some evidence that distinguishes between the effects of rewards that are perceived as "controlling" and those that are viewed as "informational". Studies of these differences have found that rewards for achievement that recognize personal competence are stronger than those that simply provide positive performance feedback. One explanation for this finding is that employees perceive informational rewards, which recognize achievement and personal competence, to be under their own control, rather than in the hands of another person who gives or withholds rewards based on the performance being observed. Accordingly, the focus for control of informational rewards is within the employee, or intrinsic, as opposed to being outside the employee, or extrinsic, as is the case of controlling rewards.

In summary, the appropriate use of incentives can play an important helping role for organizations that use them wisely. They can increase employee interest in safety and can stimulate enhanced self-protective actions by workers.

Communication in safety promotions

Communications of various kinds are used to enhance the effectiveness of any safety promotion effort. The communication process can be summed up by the following question: "Who says what in which channel, to whom, with what effect?" Accordingly, communication programmes usually involve a source, message, medium, target and objectives.

Communications vary in terms of their coverage and impact. Safety posters, banners and other mass media are high in *coverage,* because they are easily exposed to large number of people over time. They are generally considered to be low in *impact,* because it is unlikely that every exposure will produce the desired effect. Mass media or one-way communications are most effective in increasing general awareness about safety and health topics, and giving directives or safety reminders. They can also be a useful vehicle for making employees aware of management's general interest in their welfare. In contrast, person-to-person or two-way communication, either through group discussions or individual contacts, though low in coverage value, can be high in impact and lead to decisions to change behaviour.

Credibility of source is very important in safety and health communications. In the workplace, for example, knowledge of a task and its hazards and the setting of a good example are important to making supervisors credible sources of safety and health information.

With regard to communication content, the use of fear has been a topic of research and controversy for years. Fear messages are used to change attitudes about the risks involved in hazardous behaviours by frightening the target audience. The message goes on to reduce the fear it has instilled by providing methods to prevent the danger or lower the risk. Workplace examples include campaigns to promote the use of personal protective equipment, while non-workplace examples include anti-smoking campaigns and auto seat-belt programmes. The main argument against using fear messages is the contention that receivers block out or suppress the message. Reactions such as these are likely to occur when the highly threatening communications fail to reduce the fear and individuals feel personally or situationally unable to handle the danger.

If fear messages are used, the following precautions should be taken:

· The message should attempt to evoke a high level of concern, and stress the positive benefits of the action to be taken.

·- The suggested preventive actions should be concrete, relatively detailed, and specific.

·- The guidelines for risk reduction should be presented, at one time, immediately after the fear response is evoked.

·- The suggested preventive actions must be understandable and perceived by the target audience to be effective in preventing danger.

·- The source of the communication should have high credibility.

·- Use of statistics or risk data should be specific to the workplace or situation.

Finally, safety and health communications should consider the target groups at which messages are aimed. For example, research has shown that fear messages are more effective with new employees than with seasoned employees, who can use their experiences to discount the message. Additionally, fear messages have been found to be especially effective in influencing employees who are not under direct supervision and are thus expected to comply with safety regulations on their own.

As an aid both to defining targets and establishing objectives, the use of employee surveys is recommended to assess prevailing levels of safety and health knowledge, attitudes toward safety management programmes and practices, and compliance with rules and procedures. Such measurements assist in pinpointing education and persuasion priorities, and set a baseline for later evaluations of the effectiveness of communication efforts.