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BACK TO BASICS — AHEAD TO CONFUSION

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Although it is certainly necessary to get back to basics in safety programs, the basics aren't sufficient to help us meet today's demands for a comprehensive program of employee safety and health.

Our view of safety and health requirements has changed more in the last five years than in the previous 50. As government moves ahead, often erroneously, to establish and enforce new standards, industry needs new approaches and a set of flexible guidelines which will help us work with regulators to assure the highest affordable level of health and safety.

What are the basics? An historical overview includes a look at the JP safety record from 1915 to 1919, when the recommendations were:

- a. Make sure metal guards are in place.
- b. Do your paperwork.
- c. Hold meetings.
- d. Cooperate.

A look at some recent articles on industrial safety includes statistics, managerial involvement and worker attitudes.

Conclusion: What has been accepted as "the basics" are some simple rules, procedures and sayings designed to make everyone "safety conscious." This has often been a paternalistic approach, hasn't succeeded on a consistent basis.

We must ask ourselves why the "Think Safety" approach is only partially successful, and whether it is sufficient in a world of increasingly complex technology and work requirements.

How much safety is possible? Life is a risk, and people are funny.

One Detroit automotive engineer came up with an idea that would eliminate all accidents and only cost five dollars—weld the keyhole shut.

A speaker from the Motor Vehicle Safety Commission pointed out that dropping the speed limit to 55 had saved thousands of lives. He asked his audience how many would be willing to drive 50 to save more lives. Almost all hands went up. He kept dropping the limit five miles an hour until at about 35 miles-per-hour not one hand remained. It seems that there is a threshold of inconvenience below which we are willing to sacrifice our more accident-prone fellow motorists.

The point of these two examples is that while zero accidents is a desirable goal, it is not possible. The "basics" approach assumes that it is and believes that with more safety meetings and closer supervision we can eliminate daydreaming, carelessness, alcohol and drug abuse, recklessness, thoughtlessness, clumsiness and a myriad of other human foibles which are the main causes of accidents at work, home or play.

Like a preacher speaking out against sin, we can continue to call for zero defects and a thousand days of accident-free performance; but we shouldn't be too disappointed when it doesn't occur.

Ahead we see confusion—with OSHA, EPA, and NIOSH.

What's right with OSHA? A look at

performance and criticisms involves the uncertainty and cost of regulation, the conflicts in present regulations and safety and health. What should the standards be?

Keys to a safe work environment:

- a. *Start with the basics.* Procedures, meetings, management involvement, awards and statistics—all help prevent accidents. They should be retained, improved and followed.
- b. *Look for new problems.* Processes should be constantly examined for sources of danger that haven't been considered, using old methods. This would include the effects of chemicals, dust, machinery location, and new technology. Take nothing for granted.
- c. *Foster an attitude whereby every person feels responsible for his own safety and the safety of others.* Regardless of job or position, every individual must realize that "the Company" cannot know every

problem in every area and attend to them all immediately. It is up to individual plants, shops, work units, and people to constantly evaluate and improve their own work environment.

Everyone has a responsibility for safe performance, not just the management and safety specialists.

- d. *Keep the pressure on to reform OSHA.* Of all government agencies presently regulating the workplace, none has as much power, costs business as much, and is more in need of reform than OSHA. Change will only come from effective industry effort.

Standards for inspectors must be raised, the Agency must set its priorities with greater logic and common sense, and the goals and timetables to be used by the Agency should be formed with industry participation and with full awareness of cost-benefit effects.

HEARING CONSERVATION TODAY *See*

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Wood Products Sessions

It is estimated that 40 million Americans suffer from hearing impairment. Of these, approximately one-half are caused by exposure to excessive noise. This makes hearing impairment this country's number one physical disability, and accounts for one-fourth of all physical disabilities in America.

Noise induced hearing impairment is the dumbest thing in the world—because it is preventable. I do not believe enough data has yet been collected to state unequivocally that 85 dBA is the magic number where noise induced hearing impairment begins, but I can state unequivocally that the probability of getting a noise induced hearing impairment is very low when the noise level that actually reaches the eardrum is below 85 dBA.

There are three ways to prevent workers' ears from being exposed to excessive noise:

1. Engineer out the noise.
2. Use administrative measures to insure that ears are not overexposed, and
3. Properly fitted and religiously worn ear protection.

All of these methods work. However, for the 4.5 million production workers currently exposed to 85 dBA or more of noise at work, it would cost approximately \$18.5 billion a year to engineer out the noise. For \$43 million a year, however, properly fitted ear protection could probably achieve similar goals.

Now that the public hearings on the inflation impact statement regarding the revised OSHA Act have terminated, a new noise standard is imminent. But even if it wasn't, you have the responsibility of protecting your workers' ears, as well as your employer from needless state compensation claims for hearing impairment.

If you want to have an effective hearing conservation program today, you must do the following things.

1. Get a good sound level meter that has an "A" scale (such as the B & K Type 2205). Make a sound survey at the various work places in your plant to determine the noise levels and exposure times. If there is any question whether or not an employee is overexposed, resort to a noise dosimeter (such as the B & K 4425).
2. Obtain a baseline hearing test for every employee exposed to 85 dBA or more for an eight-hour period, as well as pre-employment audiograms.
3. Retain a certified audiologist to review your employees' hearing tests. Insist on having all of the baseline data stored in a computer for comparisons of subsequent hearing tests.
4. Initiate a mandatory hearing protection program in which continued employment is contingent on an employee's compliance.
5. Obtain an annual hearing test for every employee exposed to 85 dBA or more for an eight-hour period.
 - a. Compare the annual hearing test with the baseline test for each employee to determine if a significant threshold shift has occurred.
 - b. Employees who show a significant threshold shift relative to their baseline audiogram should be retested within 60 days to verify the shift. If the shift persists, the cause should be determined by an ear specialist.
 - c. If non-occupational causes for the shift are ruled out by the ear specialist, then failure to wear, or improperly fitted ear protection must be suspected. Thus, if your audiologist consultant would provide you with a list of those

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LOSS CONTROL AND THE BOTTOM LINE

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employees who show a significant threshold shift, you have isolated immediately those employees who need special attention or counseling. This is critical data to have. Insist on it.

The mass of data created by only a few hundred audiograms can best be analyzed with a computer. When the data from baseline audiograms necessary for analyses is stored in the computer's memory, subsequent audiograms can be analyzed more accurately, rapidly, and at less cost than analyses by hand.

In order to transfer the data necessary for analyses from an employee's audiograms administered with routine manual or self-recording audiometers, it must first be coded. That is, an audiologist must actually record the threshold in numbers at each test frequency for both ears.

This code is then keypunched on data cards along with other pertinent information such as the employee's identification number, date of the test, etc. The data cards are verified, then fed into the computer.

With the proper program, a computer can provide almost any desired printout. A list of those employees who have significant threshold shifts relative to the baseline as well as a retesting schedule is also provided.

In 1974 I introduced a "computer audiogram" for use by large corporations who use manual audiometric procedures for employee hearing testing. This form is read by an electric optical scanner, and the tape generated by the scanner is fed into the computer for analyses. By eliminating the coding, keypunch and verifying procedure, turnaround time is faster, the cost for audiogram analyses is less and the source of error inherent in any procedure where several people manipulate the data is minimized.

The computer audiogram has two sides. Side one is labeled "employee case history," and side two is labeled "computer audiogram."

On the case history side there are thirteen numbered boxes. Essential information required by OSHA as well as data relevant to research projects can be entered into these boxes.

The computer audiogram side is used for recording hearing threshold. Since the electronic scanner assumes that any block not filled in is zero, it is critical to enter the threshold point for each frequency in the correct column.

Although a graph type audiogram is provided below the left and right ear computer audiogram, they are not read by the scanner.

My program is written to printout "no response" when the number 200 is marked on the computer audiogram at any frequency. To record a minus threshold value, the number 3 is marked in the first column and the threshold is then marked into the other column(s).

When one considers the time involved in keypunching and verifying 20,000 or more audiograms for one large industry, and realizes that some of the employees will need to be retested in 60 days, the computer audiogram concept takes on added interest.

I am currently gathering data in a wide variety of industrial settings regarding the relation of various noise exposure with employee hearing thresholds. The computer audiogram is ideally suited for this type of research since the employee's job location as well as their hearing thresholds are always indicated. Thus, when noise exposure times are known, a three-way analysis of variance completely randomized can be employed to analyze the main effects or interaction effects of job location, noise exposure times and hearing thresholds.

A two-way analysis of variance can be used to analyze the main effects or interaction effects between job location and significant threshold shifts. In my judgment, these data may prove to be most valuable to industries in isolating the job locations causing excessive numbers of significant threshold shifts.

Whether your business involves production distribution or service, your actions are motivated to create a profit. That single motive provides the limits within which all plans are made and controls are exercised.

My topic, "loss control and the bottom line," is not a thesis on profit; it assumes it. This assumption goes as far as to assert that unless the management of a non-profit organization supports the urge to create a surplus of value in the goods or service delivered over the cost of operations, his enterprise is a parasite. It feeds on the public's good will, or dies.

Management exists to get things done through people—the pressures that never cease require constant improvement in methods of getting things done safer, better, quicker, and less expensive. Any deviation from this premise is a plan gone wrong, which is an accident.

Safety must be a management objective, and there are incentives for eliminating losses. Eliminating injuries eliminates pain and suffering to employees, resulting in less absenteeism, improved production, improved quality, better employee-management relations, and improved profits.

With rising costs, the watch on accident prevention must be doubled. The real control of cost means accident prevention.

How can we establish safety costs in the language of management as a capital expenditure with a real and statistically supportable return on investment that can be evaluated and measured? First of all, what are safety costs?

Safety costs should be any real dollar outflow from a company that is required because of accidents of any kind. More specifically, what are these costs? For example, in a hypothetical company, personal injury claims would be the primary loss; then, damage to company property and equipment, machinery, doorways, buildings, tools, trucks, automobiles and so on. Anything that must be repaired or replaced because of an accidental occurrence is a real cash outflow, or safety cost. Any damage or loss to raw materials or inventory of the company's product due to unsafe conditions and practices is a real dollar loss and cash outflow, inasmuch as it must be replaced.

Finally, lost production time costs money, and when it is lost because of an accident, it becomes a safety cost. That is, lease cost, wages paid, electricity paid for, water paid for, etc., are monies that the company continues to pay out during a period where production has stopped because of the occurrence of an accident. That cash is flowing out of the company and cannot be stopped. In the aftermath of an accident, it is no longer an investment that produces sales dollars that pays the bills and produces profit; rather, it becomes a useless drain of the company's money with no potential for producing anything. Only when that production time is returned to a safe, accident-free status can it stop draining off the company's resources and again be a generator of sales dollars for the company.

So personal injury claims, damage to

company property and equipment, damage to company materials in inventory, and lost production time are the major safety costs.

Let's focus on the language of management for a moment. The language of management is, simply and clearly, net income. That is to say, all of the resources, efforts, and money of the company, and indeed its corporate purpose, come to rest on the bottom line.

A company spends X dollars on labor, materials, maintenance, depreciation, a sales force, and administration in order to produce a product or service that brings in sales dollars. When taxes are paid we have X dollars in net income left to invest, to improve the company, to attract additional investment, to keep up with the competition, to make the company bigger and stronger. To management, the language of management—net income—is always the "bull's eye."

Perhaps this is an oversimplified exercise in corporate finance. How do safety costs relate to this? It comes right back to the net income status. We know that we need good safety programs, and we know why we need good safety programs. We know that our safety purpose is to work for an environment where we can live and work free from the fear and suffering of accidents, and that this goal is and should continue to be one of our most important national and societal concerns.

What, then, does that have to do with the net income statement? Quite frankly, when safety directors are doing their job well, they must come to management to ask for money. Where is that money going to come from? It's going to come right out of the net income statement, and it's going to come right out of operating expenses. Which means that a good safety director is a liability in himself. Why? Because he wants to increase operating expenses to improve safety. If the safety director wants to equip people with safety shoes or put safety glasses on the eyes of those working in an area with flying objects, or

spend even more money eliminating the cause of flying objects, that safety director is the proponent and promulgator of higher operating expenses. And that would seem to jeopardize net income. How?

There's no secret or magic to a net income statement. We all know that higher operating expenses up-top are going to mean less net income down at the bottom. That's why safety costs and the language of management are important to the safety director. The safety director must show management that all of that money he wants to spend is not going to increase operating expenses; it's going to decrease them. That safety director must be prepared to show in precise language of management terms that there is a return on the safety investment.

So why are safety costs important? First, the return of investment for safety programs becomes a known, quantified, easily understood benefit to the company. The safety director is no longer one who jeopardizes net income; he improves it.

Second, and equally important, safety costs and safety cost systems allow the capability of pinpointing safety trouble spots, those areas of operation where safety program dollars should be invested because safety costs show that's where the greatest loss or exposure is, and those areas where the greatest return on investment is. One of the important aspects of this is that it gives the capability of directing the company's limited resources first to those spots that need it most.

No safety department has enough money, no company has enough money, to solve all of the safety problems at once. A priority list must be made. The safety problem must be defined in small, manageable, solvable chunks.

Having broken the company's accident history down into small, workable, analyzable chunks, it's up to your judgment to determine the most serious problems and develop a program to stem the loss. In other words, to design a

safety investment that reduces the accident-caused cash outflow from the company and thereby creates a return on that safety investment.

This brings us to the final step of the safety system, which is monitoring the performance of safety programs. You will find out how good or how bad your safety program is. You will find out whether or not you should continue the investment of the company's money. It's important to know which of your programs are working and which are not, so that if they are not, you can do

something about them.

The same system of pinpointing the trouble areas that give justification of spending money on them will, if maintained, give you reports that show how your safety programs are performing.

This is what we mean by "safety costs"—the language of management. It's giving the safety profession the tools to record losses, to pinpoint the trouble spots, to measure the effectiveness of the previous programs, and to show safety for what it is—a very sound investment.

BEHAVIORAL SCIENCE AND SAFETY MANAGEMENT

By DANIEL PETERSEN

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There are five categories of behavioral theorists that seem to be particularly relevant to the field of safety management:

1. Motivation theorists. In this category we might look at some of the thoughts and theories of Abraham Maslow, Chris Argyris, Frederick Herzberg, and Renis Likert. There are, of course, many other motivation theorists in the field of psychology, but the works and thoughts of the above four seem to be particularly applicable to the industrial situation and particularly useable to us in safety management.

2. Learning theorists. The first of these would be B. F. Skinner, and the second might be Robert Mager. While totally different in concepts, these two are saying some things that tie together very closely and are useable to us in our efforts to communicate with and change the behavior of workers on the job.

3. Interpersonal skills theorists. There has been a lot written in recent years on the whole area of interpersonal skills, but one particular approach to it and two particular theorists stand out as being applicable to the field of safety management and industrial situation. They are Eric Berne and Tom Harris. These names are probably quite familiar to you as they are the people who have experimented with and have talked about the uses of transaction analysis.

4. Communication theorists. Here we might look at the works of Janis and Hovland. Since much of what we do depends on our communication skills, the research and theories from communications are highly important to us.

5. Management theorists. Some of these people are in the behavioral

sciences and some of them are in the field of management, but notable for our use are the theories of Douglas McGregor, the works of Blake and Mouton, and the models of supervisory behavior that come to us from Lyman Porter and E. E. Lawler.

Let's take a look at what some of these people have said and how it might relate to us. First of all are the motivation theorists. All tend to agree on a definition of motivation as a starting point as being fulfilling of a man's needs at his current level. This is contrasted to our traditional definition in the safety field of motivation, which is the utilization of numbers of gimmicks and other kinds of things that we have viewed as motivation.

The first of the motivation theorists is Abraham Maslow. His particular contribution to the field is his hierarchy of needs. The lowest need level, according to Maslow, is the physiological level; the need for water, drink, and other basic needs. Once these are satisfied, man is no longer motivated by them, but moves up to the next level, the security level, where he is motivated to assure that he shall have his basic physiological needs assured tomorrow. Once this is assured, he is no longer motivated by the security level.

The next level is the belonging level, where he is motivated by the need to be a part of a group. Once he has satisfied his need for belonging and is a usual part of a group of his own, he moves on to his next level of need, which is that of self-esteem; here of course, he is primarily interested in satisfying himself. There is a final level in Maslow's hierarchy which is beyond that of self-esteem; that is the

level of self-actualization: a man wanting to do those things that he knows he is capable of.

In Maslow's hierarchy of needs, the key point, of course, is that if you are going to motivate a man you have to hit him with things that will be satisfying to his current need level. For a man who is at the self-esteem level, it is ridiculous to try to motivate him with things that have to do with belonging, security, or physiological needs that are quite a bit below where he is at.

What does all this mean to safety and the management of safety programs? Probably this: we ought to examine our current safety programming and see what need level we are aiming at. Most people in most industrial organizations today are not at the physiological need state or at the security need state. They are somewhere above that—the belonging level as a minimum, or probably at the self-esteem level. People in today's industrial organizations are looking for jobs with meaning; they are looking to be a part of a peer group, and they can be motivated by things that satisfy those needs. If we are appealing to them in our safety program at a lower level we are going to be totally unsuccessful.

A second motivation theorist who gives us, I think, considerable insight is Chris Argyris. Argyris looks at industrial organizations and how people fit into those organizations. First of all, he looks at the human being as he matures and changes, and finds that he goes through a change from a certain set of activities and characteristics as a child to other sets of activities and characteristics as an adult. For instance, as children, people tend to be somewhat passive; as adults they are very active. As children they are very dependent upon other people; as adults they are very independent and believe they can stand on their own. As children they exhibit relatively few behaviors; as adults, many. As children they have a relatively shallow and short term interest in things, and as adults they are capable of deep and long term in-

terest. As children they find themselves in every interpersonal situation as subordinates; as adults they like to think of themselves as at least an equal in every interpersonal relationship.

So as a person matures he goes through this process of change. These changes are what maturation is all about. We find an adult is one who has these kinds of characteristics: he is active, independent, exhibits many behaviors, is capable of deep and long term interest, and he perceives himself as at least an equal in all situations. He moves into an industrial organization which has certain characteristics that run counter to his characteristics. All industrial organizations have a chain of command, which is a series of subordinate-superior relationships. This creates dependency, passivity, short term and shallow interests. All organizations are structured around a principal of unity of command, which means that one person should have only one boss, which creates dependency, subordination, etc. Finally, a principal of all organizations is the principal of specialization, which means that of the total work that must be done within an organization, you break it down into small subunits and give one small subunit to one individual. This, of course, runs counter to the adult's characteristic of having deep and long interests.

Therefore, most individuals, if they are in fact mature and adult, perceive themselves in an industrial organization, particularly as they start at the bottom of that organization, as being in a situation that is incongruent with their own personal needs. This results in all kinds of problems. Some of the problems that happen are: (1) people quit—there's a turn over problem; (2) people quit mentally—they become apathetic; (3) people daydream on the job; (4) loss of motivation—they are disinterested in the corporate goals as they don't seem to be at all in harmony with their own personal goals; (5) people tend to climb the organizational ladder—they want to get

out of the situation they're in; (6) they gather together in informal groupings and set their own group standards and group norms; and (7) they evolve a psychological set against the company in the belief that the company is wrong in most of the things they do.

These kinds of behaviors lead on the part of management to a feeling that "if they are going to act like babies, we will treat them like babies," and that results in more management pressure, more managerial control, more specialization. This, of course, makes people exhibit the above behaviors even more, and we have a circular process.

The answer, according to Argyris, is less specialization, less control, less superior-subordinate relationships, and a leaving process between various levels of the organization. In other words, more treating of individuals on the job as human beings and less treating them as a part of the machine.

How does Argyris's theory relate to safety? It seems if our safety programs are structured with the normal characteristics of organizations: chain of command, span of control, unity of command, and specialization. Chances are also that our safety program is coming across counter to the needs and characteristics of mature human beings. Most safety programs are structured this way.

The third motivation theorist whom I think holds some insight for us is Frederick Herzberg. Herzberg came up with a concept that some of our previous theories of motivation of people were wrong. It seems that we used to view everyone as being somewhere on a scale that might stretch between dissatisfaction on the job and motivated. For many years we manipulated all kinds of variables to try to move people up the scale and be less dissatisfied and more motivated on the job. Herzberg's key insight was the fact there is no such thing as a single continuum that stretches from satisfaction to motivation; rather, there are two: there is a continuum which

reaches from not being satisfied on the job at its worst up to being satisfied on the job, and there is a separate and distinct continuum which stretches from unmotivated at its worst to motivated at its best. Every individual lies somewhere on both lines. Individuals can be satisfied on the job and not motivated; conversely, they can be dissatisfied and motivated. The key in Herzberg's theory is that there are different variables that regulate where we are on each of the two continuums. The things that determine whether or not we are satisfied on the job are things having to do with company policies, supervision, working conditions, interpersonal relations between a man and his boss, money, status, security, and things of this nature. Satisfiers, as we can call them, tend to determine whether or not we are going to stay on the job and be satisfied in the situation we exist in. They are not going to determine whether or not we are going to work. Different things determine our level of motivation, and those things have to do primarily with work itself; does it offer a chance for achievement; is there any recognition connected with it; is the work itself any fun; does it give a sense of responsibility; does it give personal and professional growth. These kinds of things determine our level of motivation.

What does this mean to safety management? I think it means that if we have a safety program that is built primarily on things that relate to where we stand on the satisfaction scale, we are not going to turn anybody on with safety program. At best, we can have people who are not totally dissatisfied. At worst, they shall be totally dissatisfied with their safety program. If we are going to turn people on with the safety program we have to build into that safety program things that are motivators.

A final motivation theorist that we have to look at is Renzis Likert. Likert has major research in behavioral science in two areas that relate very importantly

to safety management. First of all, he researched the area of supervisor style and how it relates to productivity. He studied, for instance, the relationship between closeness of supervision and the amount of productivity received, and he found that the closer a supervisor supervises, the less people work, and the more loosely he supervises, the more people work. He studied the relationship between the foreman's reaction to a poor job and the amount of productivity, and he found that the more punitive and critical a foreman was toward the job done, the less work got accomplished.

Likert studied the relationship between freedom that men feel to set their own work pace and the amount of work they put out, and vice versa. He studied the relationship between the pressure men feel for production and the amount of production they give, and he found that the more pressure that was applied by the boss, the less work got done. What he studied in total might be summed up by his description of two kinds of supervisors—an employee-centered supervisor who gets high production because he is primarily interested in the good of his people, and a job-centered supervisor who gets relatively low production as he puts emphasis on production.

How does this relate to safety management? I think probably that this gives some real insights as to what makes people want to do what we want them to do. If we are truly interested in them, we get results. If we are truly interested in the task and not in them, we tend not to get results.

The second major category of theorists from the behavioral sciences that gives us some insights on how possible future uses in safety management is the learning theorists, represented by B. F. Skinner and Robert Mager.

Most of you are familiar with the work of B. F. Skinner, which has been translated in the industrial situation into concepts of behavior modification. These are being used in different kinds of

industrial situations today, even in safety situations. What it says is that if you reinforce positive behavior (that is, behavior you want), it is more likely you will get that behavior again. If on the other hand, you ignore the kind of behavior you want and pay attention even punitively to adverse behavior or the kind of behavior you do not want, you are going to get negative results. This means that if we pay attention to unsafe acts we are not going to get very good results. Rather, if we reinforce and reward people for what we want—that is, safe acts—we are going to build safe behavior.

Robert Mager also has things from learning theory which are useful to safety managers. He talks about the kinds of situations that determine whether or not a person is going to build a good attitude toward safety by looking at the learning situation for that subject. His work goes directly into the field of industrial training and is very usable to us in that field. Another major category of behavioral scientists that are very usable to us are the interpersonal skills specialists, notably Eric Berne and Tom Harris and their work in transactional analysis. Most of you are familiar with T. A., and many of you have heard Jack Gausch's presentation for the ASSE on transactional analysis in safety. It talks about the relationship between two people—a man and his boss. He makes a particular point of the fact that you can only accomplish results or solve problems between two people when each of these people is in the adult stage. If one assumes the role of a parent and the other a child, as is typical in a supervisor-worker situation, you cannot accomplish results. Only when people are talking man-to-man can you really accomplish anything in safety or anything else.

A fourth major category in behavioral sciences useful for us in the field of safety management are the communications theorists, primarily Janis and Hovland. They talk about and have developed

communication models and then try to identify what makes for good solid communications, communications that result in behavior change. They first developed a model which says that if a communication is to take place, there must be a sender (in our case, management), a media (a way to send it), a message (what we want to say), and a receiver (in our case, the worker). They examine the variables that determine what makes for effective communication in each of those four categories. One of the things that comes out of their research is that the determining factor of whether or not a communication is successful is, first of all, management's credibility. Do the employees believe that we as managers know what we are talking about and do they believe that we have the right to be saying these things to them? If credibility is lacking on the part of management or on the part of the safety director, there is no sense communicating, because they are not listening.

As to the message itself, there are some variables that have been identified from the research which are very important; the most important is whether or not the message is meaningful. By meaningful, we find they mean whether the material can be used by them on their jobs. If these two aspects are there, they will listen. As for variables in the receiver, we find that if we are talking to workers in opposition to what their peer group believes, they are not listening. If they have had any participation in what that message will be, they will be listening. So we have aspects of peer pressure and participation in the decision-making process that determine whether or not the listeners will be listening. These kinds of things are very important, as we do a lot of work in safety management with managers to our employees all the time. About 85 per cent of the time they are not listening and we are wasting our time. Communications research has some answers for us which safety managers should be listening to.

A fifth major category of behavioral scientists useful to us are the management theorists. Many of you are familiar with Douglas McGregor's X and Y assumptions about people. Often times we talk about the X manager and the Y manager; McGregor never talked about a manager who has certain assumptions about what people are like. The X assumptions are that people basically do not like to work, and the managerial task is to force or coerce them in some way to do the task. Conversely, the manager who has Y assumptions about people believe that people do in fact like to work, that work is not foreign to their nature, that they perhaps are turned off by the work situation because they have learned to be turned off by poor managerial practices of the past. The Y assumption leads the manager to believe that his role as manager is not to force his people to work but rather to clear away the barriers that lie in his way to effective job performance, a quite different role.

Blake and Mouton have developed a similar kind of thinking. Looking at a grid approach to managerial styles, they say a manager can be both interested in his people and in production, and in fact the best manager (which is McGregor's Y manager) is the person who has high performance goals and also is highly interested in the good of his people.

A third useful concept from management theory is the model developed by Lawler and Porter on what motivates supervisors. Their model is very simple. It says that performance or accomplishment of any task by supervisors are dependent upon three things: (1) their abilities and traits (are they able to do what you're asking them to do and have you trained them and taught them what it is that you want); (2) what is their role perception (do they perceive that what you are asking them to do is truly in fact a part of their legal job as supervisor); and (3) do they try. They go on and look at the effort aspect of performance and

say that whether or not a supervisor tries to accomplish the task you want done is a function of two things: (1) value of the reward (is it really important enough that management has attached some rewards to it, either positive or negative); and (2) is there any connection between whether or not they do in fact try or whether or not they do in fact get that reward—the effort-reward probability. This model is very applicable to safety management because normally we have a situation where we have a lack of supervisory performance in the safety field, not because they don't believe it's a part of their job, as management policy usually specifies this, but because they don't try. Performance or lack of performance, then, is a function primarily of their lack of effort. This model tells us that if that is true, then we should look at the reward structure and the probability of a connection between that effort and reward.

What do we get out of all this? We get pictures like this: (1) Argyris says that the interpersonal characteristics of organizations turned people off in the organizational setting—lack of caring as expressed by the top of the organization to the bottom; (2) Herzberg says that only through caring about a worker's needs and creating of the feeling worth can we truly motivate people; (3) Likert says that only employee-centered managers get results—those managers who exhibit a caring attitude; (4) communications research theorists say that they won't even be listening to us if we are not credible (unless we have demonstrated prior to the communications that we do in fact care); (5) Maslow says that we can only motivate people if we recognize their need level (if we care enough to find out where they are at); (6) both Skinner and Mager identify the averse and positives in every kind of a situation including a

safety situation and show that only in a positive environment will people learn; (7) Eric Berne and Tom Harris are clear in saying that problem-solving progress between two people takes place only when they are in an adult ego state (when they are treating each other as equals); (8) Blake, Mouton, and McGregor all indicate that the employee-centered supervisor of Likert gets the better production if he exhibits a caring attitude. Finally, Lawler and Porter in their model have clearly demonstrated that supervisors perform when (a) they know what to do, (b) they believe it's part of their job to do that, (c) there is a reward contingent upon their performance of those tasks.

All of these people have messages which are very relevant not only to management generally, but notably relevant to safety management. All of these people demonstrate that when trying to turn on employees we have got to treat them as mature human beings, give them jobs with meaning, and treat them as adults.

If we want to get performance from supervisors we have to tell them very specifically what we want from them, demonstrate through policy statement and by fixing of accountabilitys that safety is a part of their regular normal job, and have some kind of reward structure that has some contingency upon their actually performing. When these things are present, supervisors will do what we want them to do in safety, and employees will not be turned off by our safety program.

All this means, I believe, that the key to employee safety performance is a management that cares and does something to demonstrate that caring and the key to supervisory performance is doing something to make it matter to that supervisor whether or not he performs in safety.

77-3046

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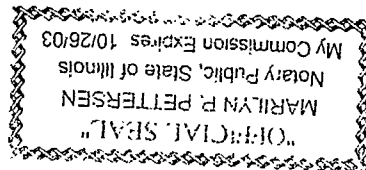
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