

Safety Plus- a Tool for Modifying Organizational Behavior

Introduction

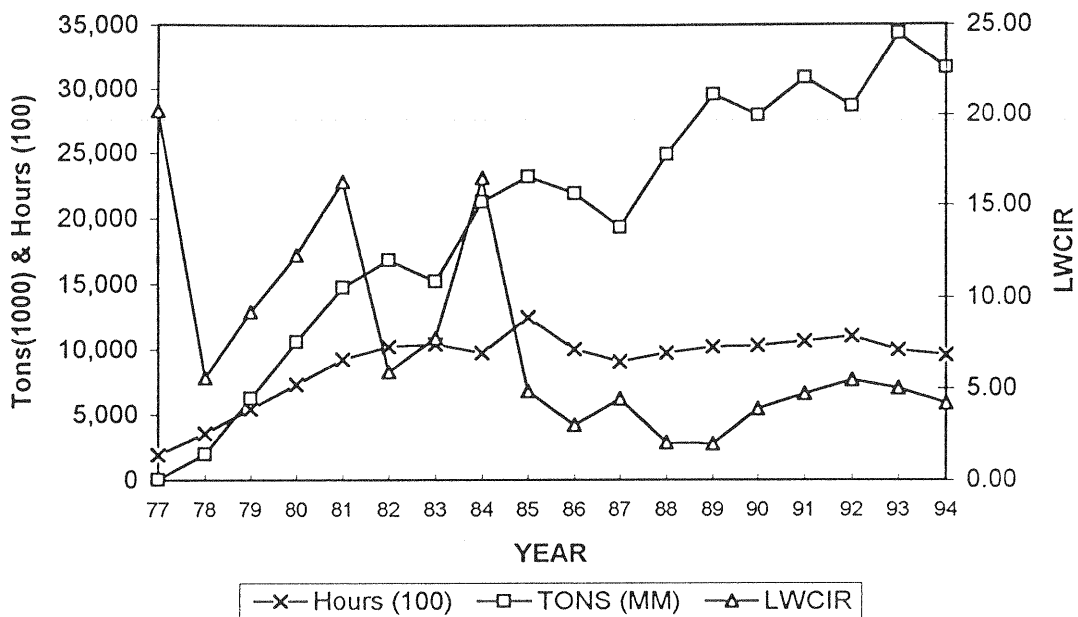
Black Thunder Mine, Wright, Wyoming, is the largest surface coal mine in North America. The mine opened in 1977 as a truck-shovel operation. Today we operate three Bucyrus Erie Draglines for removing overburden, and 5 P&H shovels with 13 Wiseda, 240 ton haul trucks for coal removal. We have approximately 450 employees and operate continuously using a 12 hour shift rotation.

In 1995 we expect to produce more than 35 million tons, our maximum production to date. In the future, we believe we will produce 40 million tons without a significant addition of new equipment.

During the early years of the operation, our safety record was unremarkable. We suffered lost time accidents at rates considered normal for the industry and for similar operations in the local area. There was also quite a bit of variability in annual frequency. During the period of 1977 to 1984, the average Lost Time Accident rate was 11.25 accidents per million man-hours, and the range was from 5 to 20 LTA's per million man-hours.

In 1984, a change in senior management prompted a new and more vigorous attack on reducing all accidents. One of the initiatives was accompanying the injured employee to the physician's office so that everyone involved understood the work conditions and physical impairment of the employee. This single action seemed to eliminate minor back problems that had historically resulted in one or two days off. Either employees ceased to be injured, or they found more value in remaining at work rather than accompanying their supervisor to the physician's office to describe and explain the nature and extent of their injury.

Sudden and dramatic improvement in the frequency and severity of lost time accidents followed. For the next seven years, the LTA frequency rate never climbed beyond 4.5 accidents per million man-hours, whereas the rate from inception had always been above 5. In fact since 1984, the average LTA rate is 4.0 with a range of 2.0 to 5.5.



LWCIR = # of Lost Time Accidents per million Man-hours

As the program matured however, accident frequency and severity again increased. By 1992, it was evident that we were moving in the wrong direction, and that something new must be tried.

Late in 1992, "Safety Plus" came to our attention. A large US railroad with ten thousand employees had recently begun using the program, and they were pleased with the early results. Our review of the material convinced us that the program should personally engage all employees in responsibility for safety, and hopefully get them involved in the design and implementation of process and culture improvements.

What is Safety Plus?

Safety Plus is a copyrighted program produced by Gordan Graham & Company of Seattle, Washington. Mr. Graham is a human behavior consultant who focuses on the dynamics of personal and organizational change. The program is presented on video tapes featuring Mr. Graham, whose personal and charismatic style generally appeals to a wide audience.

Safety Plus covers four topics:

Awareness- What is the current reality within your work place.

Barriers to Change- Those things that get in the way of change.

The Thought Process- How self-talk and group-talk forms our behavior.

Vision vs. Current Reality- Where do we want to go and how do we get there.

Four, 25 minute video programs introduce and explain these concepts in simple and entertaining style. In-house facilitators then use these concepts with small teams and apply the general concepts to their workplace.

Application at Black Thunder

Initially, we intended to train only supervisory personnel and lead technicians - about 100 people. We produced an 8-hour program and limited attendance to 20 people in each class. Within the class, teams of four or five individuals were created. These teams identified a key safety problem and spent the day working with it.

By mid -April 1993, we had trained all management and supervisory personnel. In their evaluation of the program, every class recommended that it be provided to all employees. As a result, we opened the program to all 470 employees - Safety Plus II.

In Safety Plus II, we still limited attendance to 20 people. We believe that this is an optimal size for group interaction and problem discussion. This time we made sure that each small group of four or five individuals included a supervisor or manager, preferably one to whom the other team members did not report. In this way, management got to hear first hand the problems and perspectives of the technicians, and the technicians had the opportunity to immediately influence management decision making.

Two fundamental groundrules were established at the beginning of the program: first, there was no rank in the class, everyone had equal opportunity to offer their point of view, and second, controversial discussions, arguments, or references to specific individuals that would occur, must remain confidential within the group and not be brought back to the minesite.

We will discuss the details of the Black Thunder program in the sequence developed by the program: Reality, Barriers, Thought Process, and Vision.

What was Reality at Black Thunder?

The opening group exercise required each team to identify as many safety problems as they could, and then select and describe the most important one. We found that one of the most important and beneficial elements of the entire program was giving the groups the opportunity to freely discuss their concerns and problems with safety and sorting out the more important issues from the less serious ones.

Since each group was usually made up of individuals from different parts of the operation, the initial problem lists covered a wide spectrum. However as they began to discuss and analyze each issue, many found that individual problems frequently are only symptoms of larger and more complex issues such as communication failures.

An immediate and beneficial effect of this exposure to diverse problems was a broadening of each individual's horizons and perspectives. They soon realized that their personal problems were frequently of little concern to others, and that many individual problems are really symptoms of larger processes.

Invariably, each group within a class ultimately identified a different problem. However overall, several of the problems showed up repeatedly, but no two groups ever defined individual problems in the exact same fashion, nor produced an identical solution.

Significant Problems Identified at TBCC

Although each group framed it's specific problem in a different way, we found that many could be classified in two categories: Management Commitment and Individual Accountability. Significant subsets within these major classes were:

Management Commitment

- Production pushed over safety
- Indifference to safety issues
- Slow or no response to safety concerns

Individual Accountability

- Poor personal attitude
- No sense of personal responsibility for others
- Willingness to take shortcuts.

Much less frequently, specific problems such as highwall stability, poor housekeeping, inferior tools or equipment, or lack of knowledge or training were cited. Perhaps it is no surprise that human relations issues rather than environmental conditions dominated the lists of safety problems, since the traditional emphasis of safety efforts within the organization focused on minimizing physical hazards and compliance with regulations.

Since we had processed only managers and supervisors through Safety Plus I, and then used an integrated group of managers, supervisors and technicians in Safety Plus II, we were able to analyze the differences in the two groups. Although the Safety Plus I and II classes frequently cited similar problems, there was a noticeable difference in perspective. Individual accountability and poor personal attitude were most frequently cited by the management groups as the most significant safety issues, whereas the emphasis on production over safety and slow response to problems were of highest concern in technician dominated groups.

Barriers to Change

Pre-existing beliefs are the major barriers to change. Our personal beliefs about what is expected, what is rewarded, and what is punished, significantly influences our behavior.

Individual group discussions frequently revealed many “old” reasons for the current problems under discussion. Frequently people referred to policies or statements made by managers or supervisors who had long since left the organization. More than once we heard that a supervisor had said something ten years ago that still bothered an individual. Still others were continuing to use practices and procedures established during the truck-shovel operation and had not fully adapted, or accepted, process changes involved with a dragline operation.

We found that people continued to perpetuate obsolete practices or harbor old resentments, and failed to realize that a change in their attitude or opinion was necessary before a change in the operation could take place. We challenged these beliefs in this group setting, and tried to force these individuals to confront the fact that conditions have changed and old practices and beliefs must also change. Immediate success in overturning old beliefs was not always obvious, but since then, we have seen a change in time in the willingness of individuals and groups to try new ideas, and look forward rather than back.

During this segment, we used a brainstorm session to define all the factors that motivate a company to operate a mine. Invariably, money / profit led the list. As they continued to work through it, other ideas such as public recognition, providing for the social good, etc., also appeared. Next we asked the group to identify the factors that personally motivated them to come to work. Again money usually led the list, followed by a list of benefits, and finally social interaction and friendships.

By comparing these lists of motivating factors, we were able to demonstrate that the organization and the individual share many of the same objectives. We highlighted the point that in order for an individual to succeed in an organization there must be mutual satisfaction of needs - a shared value system. If there is too much conflict in expectations, the individual won't fit in the organization.

The Thought Process

The focus of this segment is the concept of self-talk and group talk. Self-talk refers to the idea that we carry on a continual dialogue within ourselves that influences our behavior. The dialogue may be positive- “ I am good, and able to succeed,” or harmful- “You screwed up again, stupid!” The psychological principle at work is that “we become that which we think about the most.” Negative, self-deprecating internal dialogue predisposes individuals to failure and may increase their accident potential.

Group talk extends the concept to the organization. “Production before safety” seemed to be a recurrent theme in our organization. Although no individual could point to a single instance where a supervisor or manager forced them to operate unsafely or produce in an unsafe manner, this phrase seemed to be common in our everyday conversation. Perhaps, our continuous production measurement and reporting systems contributed to the idea that production is all important, even though every supervisor or manager would disagree with such a statement.

The Vision

The objective of this entire program is to help an organization begin the process of developing a shared vision. Frequently, goals or mission statements are developed and announced to the workforce without discussion, or consideration of the question "what's in it for me." This practice is described as an "imposed" vision, and is likely to fail because of failure of the workforce to identify with it and understand "what's in it for me."

A "shared" vision, on the other hand, is an objective which the workforce will strive to achieve. The individual believes their ideas and concerns have been considered in its formulation, and they can identify some personal benefit in its accomplishment. Even if everyone sees potential benefit, a shared vision must also be seen to be achievable. Establishing unachievable targets only creates frustration in an organization.

In this final segment, each group was asked to define how the organization would look or operate, if the problem they had identified didn't exist. Once they defined the "vision, they were asked to develop an action plan to achieve it.

At this point we discussed the idea of incremental change. It is extremely rare that a dramatic and drastic change in practice succeeds. On the other hand, a series of small steps all focused on an ultimate goal, will generally succeed. We asked each group to identify some simple initial steps that could be immediately undertaken to begin the process solving their problem.

Zero Lost Time Accidents

One of our objectives for initiating this program was to introduce the idea that Lost Time Accidents are unacceptable and that the mine should operate without personal injury. Historically we had "budgeted" a given number of accidents per department per year. But beginning in 1993, senior management had realized the folly of budgeting for a set number accidents, and had re-established our budget at "0" for LTA's. We wanted to make Zero Lost Time Accidents a shared vision.

Initially there was some resistance. "Mining is a dangerous occupation, you'll always have serious accidents," was a common objection. However, it was interesting that during this discussion people stated that they believed that they would personally not be injured, but it would happen to someone else.

In all of these groups, we challenged the idea that anyone has to get hurt. No one sets out at the start of shift to have an accident. No one volunteers to be the Lost Time Accident we budgeted! We believe that no one wants them, they injure the individual and the organization, and it is within our power to eliminate them. Therefore we used this opportunity to emphasize that our shared vision and goal must be Zero Lost Time Accidents.

Again resistance and disbelief were common during the class. However we have found in the two years since the program was launched, that this goal has become a shared vision accepted throughout the organization, and is now the standard by which we all measure ourselves.

Results

As stated before, the most significant problems we identified were those that involved human relationships and communications. The relatively infrequent environmental or equipment issues were usually resolved immediately. Unfortunately, there were no quick and final fixes for the people problems.

One of the major accomplishments of the program was its ability to identify some fundamental people problems within the organization and focus the attention of management on solving them. For almost a year, senior management met at least once a month to discuss and review all of the action plans developed by the individual groups. When possible, they implemented the specific recommendations. In other instances, highwall stability concerns for example, outside experts were called in to consult, and a number of operational procedures were evaluated to try to make conditions safer.

A great deal of effort was necessarily focused on improving communications between various levels and groups within the organization. Some of the more important accomplishments included:

- Initiation of a process for immediate feedback and resolution of safety problems.
- Break down of long-standing barriers between various operating departments.
- Elimination of unhealthy production competition between individual crews.
- Elimination of the focus on production statistics without concurrent recognition of safety.
- Revision of safety award program to emphasize team achievement versus individual performance.
- Emphasis on incident reporting to solve problems before accidents occur.

From May 1993, the last month of Safety Plus I, through January 1994, we did not incur a single Lost Time Accident. In 1994, we incurred a total of 4 LTA's, but unfortunately, through May 1995 we have already had four.

What Now?

Obviously, we have yet to achieve our vision of Zero Lost Time Accidents. Does this mean that Safety Plus didn't work? The answer, I believe, is Yes and No.

“Safety Plus” proved to be an effective tool in getting people to focus on their individual role in safety. It helped destroy old myths about safety, and management and employee attitudes, and helped us focus on the future. For a time it raised the awareness of individuals about their own role in safe operating procedures, and modified individual and organizational behavior in a positive manner. But it didn’t create a perfectly safe organization.

Its value lay in getting all levels of the organization focused on a common goal - in our case, Zero Lost Time Accidents. But hard work, and most of all perseverance, is required of the entire organization to achieve that goal.

What I believe happened can be termed organizational entropy- the natural decay of any system into a lower energy state. To some degree, we have let our shared vision fade. We still talk about Zero Lost Time accidents, but after an initial burst of energy and activity, we have slipped back into old and easy patterns of behavior. Perhaps we have become less concerned with immediate response to safety concerns, perhaps we have resumed talking too much about production goals and targets, and failed to mention safety.

So what do we do about it now?

- We are currently in the process of re-energizing our program. A group of employees was recently organized to study past LTA’s in the Maintenance Department and make recommendations for eliminating them.
- We have reworked our Accident Investigation procedure for more immediacy and involvement of technicians, are training all supervisors in the new accident investigation procedures.
- We are modifying our Safety Recognition program to appropriately recognize individuals with long term safe work records.
- We are working on a supervisor’s evaluation program that more effectively measures their contribution, and rewards them appropriately.
- We have initiated the use of a slogan “If it’s not safe, don’t do it!” and are widely promoting it throughout the organization. We want to use “group-talk” to our advantage.

Conclusion

We believe the fundamental concepts Safety Plus teaches are valid: creating a shared vision, identifying and overcoming barriers, and focusing on the desired outcome through self and group talk. But we’ve learned that it must be an ongoing process. Continual effort must be devoted to maintaining a shared vision. As new obstacles appear, or the old ones re-emerge, we must find new and creative solutions. And most importantly, people must continue to talk to one another about problems.

We've found that it is easy to fall back into the same old patterns of thought and action. It's difficult in many instances to persevere with new patterns until they become habit. We intend to continue to attack the issues and overcome the obstacles. We remain committed to the goal of Zero Lost Time Accidents. We will create an organization that can produce 50 million tons of coal per year without a serious injury. Once we've accomplished that, we will seek to eliminate personal injury altogether.

