



General Safety Considerations

Edited by G. T. Mays

Assessing Safety Culture

By L. Ostrom, C. Wilhelmsen, and B. Kaplan^a

Abstract: *The concept of safety culture developed in the aftermath of the Chernobyl disaster. Researchers, however, have known for many years that safety performance is affected by an organization's socially transmitted beliefs and attitudes toward safety. The safety culture of an organization is very complex and hard to study, but it is possible to examine norms that make up the culture. A written survey instrument was developed to examine the safety culture of EG&G Idaho, Inc., a Department of Energy (DOE) Contractor at the Idaho National Engineering Laboratory (INEL). This instrument was developed by determining safety norms of the organization and then developing statements that reflect those norms for inclusion in the survey instrument. The survey instrument was used by DOE to assess the safety culture at INEL. Statistical tests on the data from the survey showed that the instrument had good internal consistency. The survey instrument, which is included in the article, appears to have merit for use by non-INEL organizations. This article also discusses how the survey should be administered and how the results can be used to help improve the safety culture of an organization.*

The purpose of this article is threefold. First, it discusses the concept of safety culture from a contemporary viewpoint. Second, it presents a survey instrument developed to assess the safety cultures of organizations. Third, it discusses how the results of the survey instrument can be used to improve safety culture.

^aIdaho National Engineering Laboratory, EG&G Idaho, Idaho Falls, ID 83402. The views and conclusions in this article are those of the authors and do not necessarily reflect the policies of the U.S. Department of Energy.

DEFINITION OF SAFETY CULTURE

The concept of safety culture developed in the aftermath of the Chernobyl disaster.¹ However, the concept that the organization's beliefs and attitudes, manifested in actions, policies, and procedures, affect its safety performance is not new. In fact, Heinrich's *Domino Theory* developed in the 1930s was based on the premise that a social environment conducive to accidents was the first of five dominos to fall in an accident sequence.² The other four dominos in sequence were fault of person (personal traits), unsafe act, accident, and injury. This theory is now 60 years old, and much research has been done in this area since; however, from our discussions with managers and safety professionals, there is still a lack of understanding as to what safety culture is or how to assess it.

What is safety culture? The American Heritage Dictionary defines culture as "The totality of socially transmitted behavior patterns, arts, beliefs, institutions, and all other products of human work and thought characteristic of a community or population."³ A culture is comprised of norms or patterns of perceptions, speech, and even building design features that make the culture what it is. It is difficult to understand a culture in total, but it is possible to study and understand individual norms. A social norm is defined as an unspoken rule of behavior that, if not followed, will result in sanctions. In an organization, a norm might be that managers wear suits. In this organization, a manager who arrives at a meeting in casual clothes might be teased or reprimanded. If he consistently failed to wear a suit, he might be considered unprofessional, not reflecting the company image, and face severe sanctions, including loss of his position.

What constitutes a safety norm, then? An example might be that in a company employees receive special recognition for reporting accidents. This could be considered a positive norm. Another example of a norm might be when individuals no longer seek solutions to safety concerns and stop looking to their safety professionals for help because they expect them to be unavailable. This might be considered a negative norm.

Pidgeon¹ says that a "good" safety culture is hard to define. Part of the reason for this is that each organization's culture is somewhat unique. Culture can be influenced by the nation or region, by the technologies and tools it uses, and by the particular history of success and failure it has achieved. Safety culture of an organization may be influenced by the marketplace and regulatory setting in which it operates. Safety culture may be influenced by the vision, values, and beliefs of its leaders as well. All these influences make it difficult to say what a "good" safety culture will look like in a particular setting.

Despite differences, good safety cultures do have things in common.¹ Good safety cultures have employees with particular patterns of attitudes toward safety practice. Because it is impractical to establish formal, explicit rules for all foreseeable hazards, norms within the organization are required to provide guidance in particular circumstances. In a "good" safety culture employees might be alert for unexpected changes and ask for help when they encounter an unfamiliar hazard. They would seek and use available information that would improve safety performance. In a "good" safety culture, the organization rewards individuals who call attention to safety problems and who are innovative in finding ways to locate and assess workplace hazards. All groups in the organization participate in defining and addressing safety concerns, and one group does not impose safety on another in a punitive manner. The result is an overall positive attitude toward safety.

Organizations with a "good" safety culture are also reflexive on safety practices. They have mechanisms in place to gather safety-related information, measure safety performance, and bring people together to learn how to work more safely. They use these mechanisms not only to support solving immediate safety problems but also to learn how to better identify and address those problems on a day-to-day basis.

What is acceptable in a company regarding safety must be defined and practiced if a corporate culture that values safety is to be created.⁴ Ideally, employees should know all the risks associated with their jobs, what is required for safety, and take responsibility for themselves. In other words, develop a norm in which employees

are aware of all the risks in their workplace or are continually on the lookout for risks.

ASSESSING SAFETY CULTURE

How does an organization assess its safety culture? A plan called the Safety Outreach System developed by John Thirion, corporate safety director at Johnson & Johnson, emphasizes asking employees what their safety concerns are and then responding to those problems.⁴ "You start asking every employee, every visitor, every contractor, 'What worries you the most about your safety? What hazards do you see here in the work place? Where is the next accident going to occur? To whom? What can we do to prevent it?' What I do is create the most real time safety agenda that any management can have," says Thirion. This is a very desirable system. Also needed within the organization, however, is a means of measuring and comparing improvements or decrements in safety culture. We have found that a standardized written survey instrument can and should be used in addition to informal employee interviews to gain a broader understanding of the safety culture.

Bailey and Petersen⁵ concluded that a safety perception survey is useful because (1) the effectiveness of safety efforts cannot be measured by traditional procedural-engineered criteria like safety reviews, audits, and inspections; (2) the effectiveness of safety efforts can be measured with surveys of employee perceptions; (3) a perception survey can effectively identify the strengths and weaknesses of elements of a safety system; (4) a perception survey can effectively identify major discrepancies in perception of program elements between hourly rated employees and levels of management; and (5) a perception survey can effectively identify improvements in and deterioration of safety system elements if administered periodically. We agree with the conclusions of Bailey and Petersen. In addition, a properly developed survey instrument can be a valuable tool to compare against a company's accident-illness record or to provide data in the form of survey results in safety meetings covering the real safety concerns that employees have. A survey can enable an organization to compare the results from a certain department or company with another in a standardized, structured manner that helps target efforts in light of limited safety budgets.

Currently, there are very few safety surveys cited in the literature. Bailey and Petersen⁵ discuss the use of a perception survey to assess safety system effectiveness among four railroads. The survey instrument they used, however, was not presented in the article.

DEVELOPMENT AND VALIDATION OF THE SURVEY

Bruce Kaplan developed an original version of the safety norm survey in 1989. The development process included three techniques. The first technique involved interviewing 86 EG&G Idaho employees, including managers, professionals, office workers, and laborers from various facilities at the Idaho National Engineering Laboratory (INEL). The individuals were asked three interview questions addressing safety and procedure compliance at EG&G Idaho. These questions were:

1. Suppose that three years from now our company had become a national leader in safety. What would you see people doing with regard to safety?
2. For each of the major areas named, how far do you think we have to go from the way things are now?
3. For each area rated, what do you see going on now, or not going on now, that makes you say we have that far to go?

The first of these questions was designed to elicit desired future norms, the second question was intended to have people consider and compare the present with the desired future, and the third was designed to elicit current norms. Results of the interviews were content analyzed and used to generate several of the items in the survey.

The second technique used to generate survey items involved holding an all-managers meeting in which managers were asked to write down a personal safety credo: what they say they believe about safety that they would like each of their employees to understand. Examples of the managers' credos included the following:

I believe . . .

. . . That safety is everyone's personal responsibility. It begins with a strong and aggressive management involvement and commitment. I believe it takes daily suggestions and interactions with the workforce to remind, improve, enhance, and reinforce the company's commitment to protect employees.

. . . Safety is the result of behavior, modeled by top management and characterized by honesty; truthfulness; and patient, persistent, and purposeful concern over the well-being of every individual in our community. Safety must be developed into a social style.

The credos were content analyzed and sorted into themes or categories according to their subject matter. The categories developed were Individual Responsibility,

Safe Processes, Safety Thinking, Safety Management, Priority of Safety, and Safety Values.

A third technique was used to ensure comprehensiveness of the survey instrument. This technique involved querying other sources of information, such as previous interview data concerning a recent organizational climate survey, a literature review, and previous personnel opinion surveys, for possible norms. Possible safety norms suggested by these sources were selected for inclusion in the new survey instrument. Review of the literature concerning organizational climate, organizational norms, safety climate, and safety norms provides a conceptual framework into which items might be organized. Of particular importance in this sorting was the research of Litwin and Stringer.⁶ The categories of safety norms ultimately selected were very similar to their categories of social norms except that ours were particularly adapted to safety. The data gathered were sorted into the following categories: Safety Awareness, Teamwork, Pride and Commitment, Excellence, Honesty, Communications, Leadership and Supervision, Innovation, Training, Customer Relations, Procedure Compliance, Safety Effectiveness, and Facilities.

A total of 84 statements, divided among the categories, were included in the original survey. Statements on the survey instrument presented had both positive and negative wording. In general, positive wording was selected when interview data suggested a positive norm, such as "people work safely, even when the boss isn't looking." Negative wording was selected when interview data suggested a negative norm, such as "We hesitate to report minor injuries and incidents." An attempt was also made to have a reasonable balance between both positive and negative wordings. The completed survey instrument was then administered to 121 employees in 1989.

In December of 1990 the Department of Energy (DOE) decided to conduct a safety culture survey of the Idaho National Engineering Laboratory (INEL). The DOE selected the EG&G Idaho, Inc., survey instrument for this purpose. The survey was modified to include four additional statements. These statements were included to determine specific pieces of information desired by the INEL contractors. The survey was administered during the month of January 1991 to about 4000 employees of DOE-ID and its eight contractors (EG&G Idaho; Rockwell; MSE, Inc.; Chem-Nuclear Geotech; West Valley-Nuclear; Winco; PTI; and MK-Ferguson). A statistical sampling method was used that specified the number of employees needed to be surveyed to have a 95% level of confidence in the data. The results from the survey pointed out both the strengths and weaknesses in

the safety cultures of the organizations. The survey was recently modified by Cheryl Wilhelmsen and Jerry Harbour, Ph.D., for use in helping to assess the safety culture at the Rocky Flats DOE site.

The Cronbach's Coefficient Alpha test was performed on the data from the 1991 administration of the survey to determine the reliability of the survey. The statistic, Cronbach's Coefficient Alpha,⁷ has a range of zero to one. A low value indicates that the survey instrument-statement has little internal consistency and needs to be restructured. A high value indicates good internal consistency. A one indicates that the instrument-statement has perfect internal consistency and is currently perfectly structured. The analyses showed that the survey instrument had very good internal consistency with Alphas approaching 0.96.

Although it is difficult to determine whether the perfect balance of positively and negatively worded statements was made during the survey development process, the Pearson product-moment correlation coefficients⁸ for individual questions with the total survey, for all questions except number 21, ranged from $r = 0.40$ to 0.67 , which indicated reasonable correlations. The correlation coefficient for question 21 was $r = 0.15$, which indicated poor correlation. The range of Pearson correlation coefficients for individual questions within a group of questions (i.e., the safety awareness grouping) ranged from $r = 0.63$ to 0.83 , which indicated good correlations. These results indicated that overall questions fit well into the survey as a whole and within the individual groups of questions.

We feel the EG&G Idaho safety norm survey has merit for use by industry outside the DOE system. Therefore the instrument itself is included as an Appendix to this article. The following discussion describes how the survey should be administered and how the results can be used to improve safety culture.

ADMINISTERING THE SURVEY

The context of survey administration is crucial. Research has shown that constructive changes only come about when feedback, analysis, and action planning are integral parts of the data collection and reporting process. The first step in the administration process is to decide who should be surveyed. Three questions can be asked to help make this decision. They are: (1) What level of statistical confidence is desired in the data? (2) Will employees feel neglected or become angered if they are not included in the sample population and the survey is

not administered company-wide? (3) Are the people expected to take action on the results included in the survey sample?

A statistician should be consulted to help answer the first question, and an informal survey of employees can be conducted to help answer the second. Those individuals who will have to take action on the results of the survey should always be included in the survey sample in the same ratio as the rest of the working population. If any problems with administering the survey to a sample of the work population are detected, then the survey should be administered company-wide.

The employees who will be given the survey should be informed approximately a week before the actual survey administration. At this time they should be told the purpose of the survey and the survey process. The facility for completing the survey should be near the employees' actual place of work with adequate space for writing, bathroom facilities, and quality lighting. Also, there should be special provisions for employees who are physically handicapped and/or reading impaired. The survey should be given in groups of employees large enough so that employees feel anonymous but not so large that an employee who needs help is overlooked.

In conducting any type of research it is desirable to find out how each group of subjects responded to the lowest subdivision of the organization as possible. In this type of survey, however, individuals might bias their responses more positively if they felt a manager could determine what their personal responses were. If, for instance, the survey asked for job title, supervisory level, years in service, department, and educational level, it would be possible to pick out who that individual was. Employees know this and might answer their survey differently. To get good data, it is better to ask the fewest possible demographic questions and to restrict those to broad categories, such as department and supervisory level. The employees will feel more comfortable taking the survey. The company will benefit by getting better, more honest data.

The directions on the survey should again state clearly the purpose for the survey and how to complete it. The directions should also ask respondents to answer each statement for the company-organization as a whole or the part of the company-organization with which they are most familiar. They are specifically asked not to evaluate their own manager or work group. The purpose of this broader focus is to ensure the objectivity and reduce the defensiveness. It is also assumed that employee perception of norms in these broader settings would have significant impact on local settings.

Each statement in the survey instrument should be followed by a scale. The five-point scale allows respondents to indicate the extent to which they agree or disagree with each statement. An example of a scale is shown in Table 1.

Table 1 Example of Scale

Strongly disagree	Disagree	Neither disagree nor agree	Agree	Strongly agree
1	2	3	4	5

Responses 1, 2, 4, and 5 in Table 1 are self-explanatory; however, the third, neither disagree nor agree response, is not as obvious. If an employee responds with a 3, they are saying they are neutral in their response to the statement. This does not mean the item does not pertain to them; they are saying they do not have an opinion either positive or negative concerning an item. This is a legitimate response for an employee to have. The instructions should say that if a statement does not pertain to you then do not answer it. The data generated from individuals not responding to statements are also of significant value. The percent nonrespondents for a statement can give an indication of the employees' assessment of those questions which pertain to them. Sutton⁹ says that nonparticipant data are important because they can give an indication that individuals (1) have never been asked to participate in the process being investigated or (2) cannot or are not willing to participate in the survey process. Therefore the reasons why individuals did not respond to statements should be investigated further.

USES OF THE SURVEY DATA

All available forms of data should be collected and analyzed before making judgments about the safety culture of an organization. In addition to the questionnaire itself, data gathered should include accident statistics, safety performance data, records of employee and management concerns, and other measures of product quality and organizational performance.

Other important sources of input to the analysis process are the explanations and interpretations given by those surveyed. Ideally, each group surveyed should be given an opportunity to review and interpret their own

results and to provide input to those trying to draw inferences across many groups and organizations.

The following describes how the data can be used alone or in conjunction with other information to get as complete an understanding of the safety culture of an organization as possible.

Descriptive statistics is a collection of methods for classifying and summarizing numerical data.⁸ Descriptive statistics include mean, median, percent nonrespondents, and frequencies of response. These can be displayed both in numeric form and using graphics, such as bar graphs. For the results of a survey such as this, graphical presentation of the data is the most logical. Someone looking at the results can rapidly scan the data and determine what topical categories and departments—organizations need attention. The following discussion pertains to the graphical portrayal of the data. Please note in these examples that the results of the negative statements have been reversed, so the desired response is now 5. Please note that these examples are based on real data but do not reflect the results of any one company.

Figure 1 shows the type of bar charts that can be developed. This chart shows the means for the statements within the Safety Awareness Section. The following are the statements that make up this section:

1. In our company, the employees are aware of their part in safety.
2. In our company, people think safety concerns do not relate to office workers.

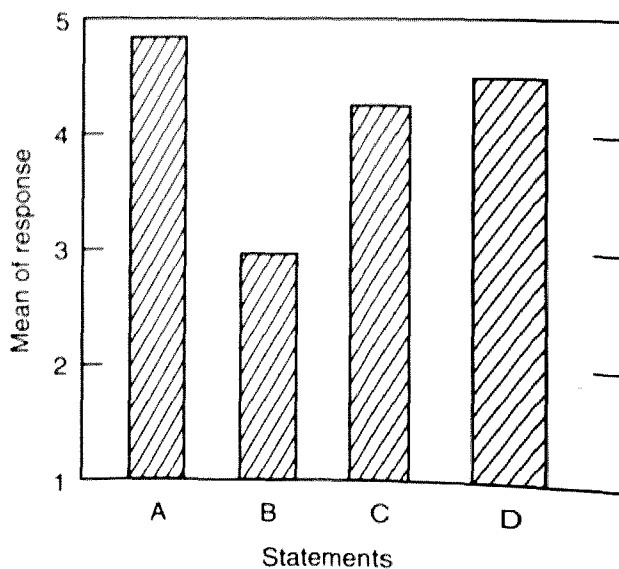


Fig. 1 Responses for the safety awareness section.

3. People are well aware of the safety hazards in their area and are careful to minimize and avoid them.

4. Around here, people don't think much about safety.

It is evident, looking at the responses to statements 1, 3, and 4, that employees are aware of their part in safety. Therefore an intervention designed to increase safety awareness may not be indicated. Statement 2, however, indicates that employees generally feel that safety concerns do not relate to office workers. If, in this setting, many office workers were injured each year, then this area would need attention.

Figure 2 shows how a group of departments responded to Statement 9, "Safety personnel are unavailable when we need help." Results from Departments B and E appear less positive than those from the other three departments. This may be a flag indicating that the perceptions about the safety personnel in Departments B and E are negative. Figure 3 shows the corresponding normalized accident statistics for those departments. Comparing these two figures, it appears that Department E may have a problem with its safety personnel, and this problem could be having an impact on employee safety. When we look at the results for Statement 5, "Safety professionals in this company tend to be bright and capable people" (Fig. 4), we again see that the results from Department E appear different from those from the other departments.

Can we then conclude that Department E has a problem with its safety personnel? To answer this question, the involvement of the people in Department E and the safety personnel that support them is required. Other

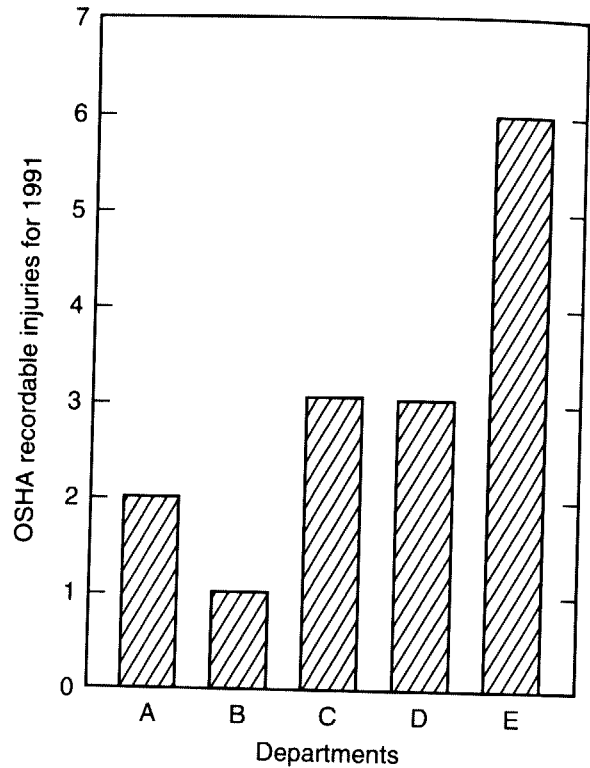


Fig. 3 Accident statistics by department.

people in the company who have been in a position to have observed Department E over time could also make a significant contribution to answering this question. Getting all these people involved, especially those who would be needed to design and implement a successful solution, might be a logical next step. By getting them all into one room to talk together about the issues might be the

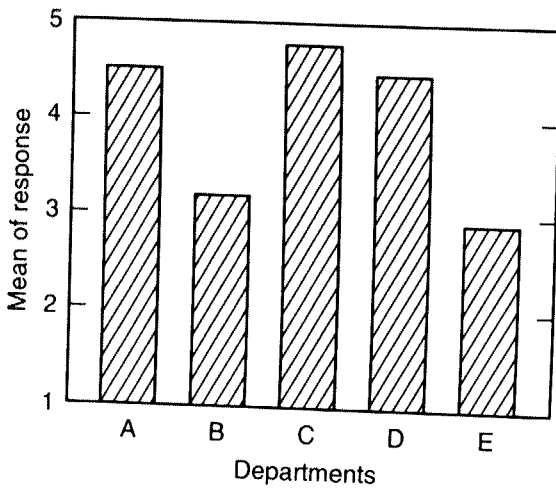


Fig. 2 Responses for statement 9 by department.

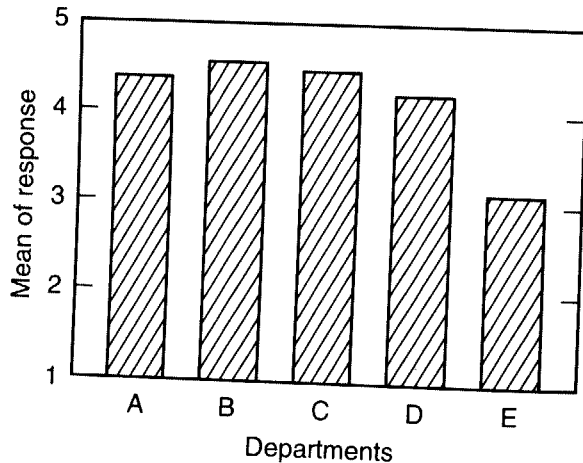


Fig. 4 Responses to statement 5 by department.

strongest move the safety professional can make to help understand and improve this situation.

Further diagnosis with the parties involved may show, for example, that it is not a problem with the safety personnel but with the number of personnel or a lack of pertinent experience or with the degree of hazard associated with the tasks in Department E. When making these comparisons it is important to compare only departments that perform similar types of work. A department that does only office work should not be compared with a warehouse operation.

Figure 5 shows a bar chart with the data broken down by percent negative (respondents who answered negatively), positive (respondents who answered positively), and neutral response and percent nonrespondents for statements 1, 32, and 42. It is evident that the overwhelming number of respondents answered Statement 1, "In our company, the employees are aware of their part in safety," in a positive manner. For Statement 32, "Timely feedback is seldom provided when a safety hazard is reported," however, there is a higher percentage of negative responses. This indicates that employees feel safety problems should be attended to in a more expeditious manner. The results from Statement 42, "In our company, employees who will implement plans are seldom involved in reviewing their safety implications," indicates that people may not know whether safety implications are always considered thoroughly. Also, the high percentage of nonrespondents may indicate that employees are not "on-board" in regard to considering safety.

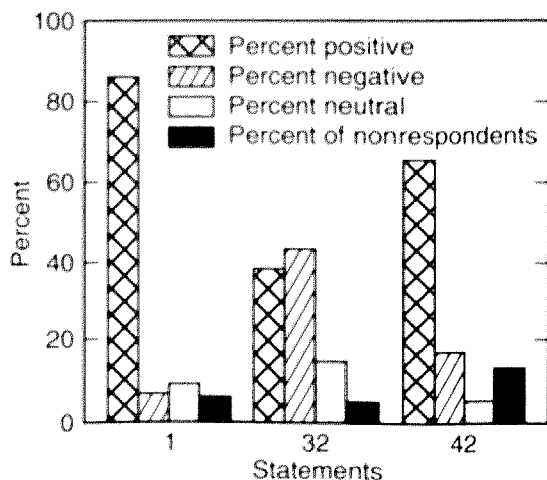


Fig. 5 Responses broken down by percent positive, percent negative, percent neutral, and percent of nonrespondents.

Inferential statistics, such as Student's t-test, chi-square goodness of fit test, and correlation analysis, can also be used to analyze the results of the survey. Although these are powerful tests and help to further elucidate the results of the survey, they are also much more difficult to interpret and, in this context, provide management with little more useful data than do the descriptive statistics alone.

As with all other aspects of a business, employees need to be involved with helping to interpret the data. Survey responses, at best, provide only an indication of what employees views might be. Properly presented, the responses can stimulate a focused discussion and exploration among employees and between employees, their management, and interfacing organizations. Survey responses can help the parties involved to identify for themselves some of their most important safety questions and can be used to stimulate productive inquiry into how to bring about improvements. A first step in this direction is to ensure that the results of the survey are communicated to the employees as soon as possible.

SUMMARY

By assessing its safety culture, an organization can determine where efforts need to be focused. Optimally, every employee should be involved in determining and addressing safety concerns. This, however, is not always possible. A properly structured survey instrument has been shown to be a very effective tool for assessing safety culture in organizations.⁵

Safety professionals should play a lead role in administration and analysis of the survey data. To achieve results, however, an organization needs to find ways to get the people who were surveyed to engage in reflection on what the data mean and what actions they can take to address the problems identified.

The EG&G Idaho Safety Norm Survey has been found to be an effective survey instrument with good internal consistency and has been used to assess the safety culture at several DOE facilities.

REFERENCES

1. N. F. Pidgeon, Safety Culture and Risk Management in Organizations, *J. Cross-Cultural Psychology*, 22: 129-140 (March 1991).
2. H. W. Heinrich, D. Petersen, and N. Roos, *Industrial Accident Prevention*, McGraw-Hill, New York, 1980.
3. *The American Heritage Dictionary*, Houghton Mifflin Co., Boston, 1986.
4. S. G. Minter, Creating the Safety Culture, *Occup. Hazards*, 53: 17-21 (August 1991).

5. C. W. Bailey and D. Petersen, Using Perception Surveys to Assess Safety System Effectiveness, *Prof. Saf.*, 34: 22-26 (February 1989).
6. G. H. Litwin and R. A. Stringer, Jr., *Motivation and Organizational Climate*, Harvard University Press, Cambridge, Mass., 1968.
7. J. C. Nunnally, *Psychometric Theory*, Second Edition, McGraw-Hill, New York, 1978.
8. D. E. Hinkle, W. Wiersma, and S. G. Jurs, *Applied Statistics for the Behavioral Sciences*, Houghton Mifflin Co., Boston, 1988.
9. R. I. Sutton, Reactions of Nonparticipants as Additional Rather than Missing Data: Opportunities for Organizational Research, *Hum. Relations*, 42(5): 423-439 (1989).

APPENDIX

EG&G Idaho Safety Norm Survey

Safety Awareness

1. In our company, the employees are aware of their part in safety.
2. In our company, people think safety concerns do not relate to office workers.
3. People are well aware of the safety hazards in their area and are careful to minimize and avoid them.
4. Around here, people don't think much about safety.

Teamwork

5. Safety professionals in this company tend to be bright and capable people.
6. In this company, people ask for help with safety when they need it.
7. Around here, you'll be better off if you hide your problems and avoid your supervisor.
8. People do go out of their way to help each other work safely.
9. Safety personnel are unavailable when we need help.
10. Around here, employees who have to follow safety and health procedures are seldom asked for input when the procedures are developed or changed.

Pride and Commitment

11. Around here, people take pride in how safely we operate.
12. In this company, people stand up for the safety of their operations when others criticize it unfairly.
13. Around here, people look at the company safety record as their own safety record and take pride in it.
14. In this company, I cannot significantly impact the company's safety record.

15. In this company, people think safety isn't their concern—it's all up to their manager and others.
16. Around here, people see safety as the responsibility of each individual.
17. This company cares about the safety of its employees.

Excellence

18. In this company, we have the highest standards for safety performance.
19. Around here, people are always trying to improve on safety performance, even when they are doing well.
20. People are often satisfied with routine and mediocre consideration for safety.
21. Around here, the way we work now is safe enough.
22. In this company, there is no point in trying harder to be safe; no one else is.

Honesty

23. In this company, people work safely, even when the boss isn't looking.
24. Around here, people wear safety equipment even when they know they aren't being watched.
25. Around here, people are willing to comply with safety measures and regulations.
26. In this company, people try to get around safety requirements whenever they get a chance.

Communications

27. In this company, we hesitate to report minor injuries and incidents.
28. We don't get adequate information about what is going on with safety in the company.
29. Around here, there's lots of confusion about who to contact for safety concerns.
30. Around here, safety statistics are seldom studied and discussed.
31. In our company, safety hazards are seldom discussed openly.
32. Timely feedback is seldom provided when a safety hazard is reported.
33. In this company, you cannot raise a safety concern without fear of retribution.
34. In this company, we have very few safety signs or posters.
35. Around here, employee ideas and opinions on safety are solicited and used.
36. People who raise safety concerns are seen as trouble makers.

Leadership and Supervision

37. It's a tradition; safety matters are given a low priority in meetings.
38. In our company, managers don't show much concern for safety until there is an accident.
39. In this company, the people who make safety decisions don't know what is going on at the workers' level.
40. Around here, work is organized so that you can do the job safely.
41. Around here, managers seldom work with their groups to identify and correct safety concerns or problems.
42. In our company, employees who will implement plans are seldom involved in reviewing their safety implications.
43. Managers/supervisors are often not available to answer health and safety questions.
44. My manager/supervisor discussed safety and health issues in my last employee evaluation.
45. Supervisors are receptive to learning about safety concerns.
46. In this company, people who work safely get no real rewards.
47. Little special recognition is given to safe employees.

Innovation

48. Around here, people are constantly on the lookout for ways of doing things more safely.
49. People tend to hang on to the old ways of doing things without regard to their safety implications.
50. In this company, people are encouraged to express new safety ideas and suggestions.
51. Around here, you get little recognition for new safety ideas.
52. It's a tradition; you don't raise safety ideas that your boss doesn't have first.

Training

53. People mostly give lip service to safety training; they do little to actively support it.
54. In this company, safety training is compromised in favor of more pressing demands.
55. Around here, managers are not very well trained to identify and address safety concerns.
56. In this company, safety training doesn't address subjects of real concern.
57. It's a tradition; safety training is done on a regular basis.

58. People in this company are well prepared for emergencies, and everyone knows just how to respond.
59. I know who to talk to when I see a hazard or have health and safety concerns.

Customer Relations

60. Employees here are always looking for ways to satisfy the customers' needs and requirements.
61. Customers here count on our company to do its work safely.

Procedure Compliance

62. In this company, we have a long way to go in improving our compliance.
63. In this company, people are often uncertain about what the safety procedures are for the work they do.
64. In general, people are well acquainted with the safety procedures for their job.
65. In this company, the safety procedures are relevant to employees' particular circumstances.
66. Around here, there are lots of safety procedures that don't really apply to the particular areas or circumstances in which they are supposed to be used.
67. There are so many procedures they interfere with doing a job safely.
68. In this company, area requirements for protective clothing and equipment may not reflect the actual hazards.
69. In this company, employees use their heads and raise lots of questions about why things are being done the way they are.
70. In this company, procedures are too detailed, making compliance a mindless activity.
71. It's a tradition; people carefully follow the written procedures.
72. In this company, people can be confident they are safe when they are following the rules.
73. Around here, you can't expect praise and recognition for complying with procedures.
74. In this company, following safety procedures is consistently expected.
75. Safety procedures tend to be too vague and general to apply in specific situations.

Safety Effectiveness

76. When it comes down to it, people in this company would rather take a chance with safety than miss a schedule or budget commitment.
77. In this company, people are willing to expend a great deal of effort to get a job done safely.

78. In this company, work is not done that jeopardizes other workers or the public.
79. Employees rarely take the initiative to get safety problems taken care of.
80. Around here, people can report a safety problem several times, yet the problems may remain and not get corrected.
81. Our daily routines don't show that safety is an important value.
83. In this company, facilities are designed with safety in mind.
84. Concern and attention is being given to maintaining good safety conditions in our facilities.
85. People tend to keep their facility neat and orderly.
86. Around here, good housekeeping isn't just the janitor's job—people clean up their own areas.
87. In this company, fire and electrical hazards are accepted in some of our facilities.

Facilities

82. In this company, the physical conditions of work locations inhibit safe work.
88. Around here, we really keep on top of the snow and ice problems and prevent them from getting out of hand.