An Analysis of Supervisor Perceptions in Company XYZ.

by

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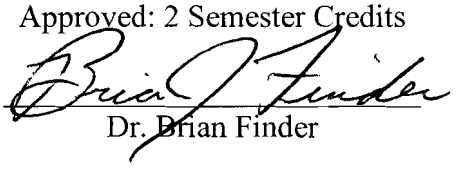

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ABSTRACT

This research examines supervisors' perceptions of safety/risk control at Company XYZ. Its purpose was to ascertain supervisors' perceptions of responsibilities regarding safety and the ownership taken for safety issues. Company XYZ's goal was to lower recordable incident rates and lost time incident rates. Changes were deemed necessary to reduce costs, protect against property damage, and ensure environmental safety. To accomplish these changes the supervisor's role was researched. The supervisors' roles as planner, decision maker, communicator, and leader were analyzed. Because Company XYZ's goal was to improve safety, change was implied. The research delineated types of change, models for organizational change, the process of individual change, and common errors and mistakes often encountered in implementing change.

The methodology used for the study included a questionnaire was created from the review of literature and the National Safety Council's Survey. Questions

were also based on recordable incident rates and lost workdays data at Company XYZ. Areas surveyed included safety ownership, supervisor and manager relations, safety training, and safety hazards. Also considered were the supervisors' lengths of employment, completed years of safety training, and years with the company.

The results of the study suggest the amount of training positively impacts supervisors' perceptions. Therefore, an ongoing or improved safety training program needs to be implemented. Secondly, job descriptions should be reviewed annually. Third, ergonomic safety should be a focus of training for all supervisors to reduce injuries in an aging workforce. Fourth, goal setting for daily safety should be established with supervisors as the change agents.

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Chapter 1: Introduction

During the 1980s and 1990s, gradual changes occurred in safety and health management. In the 1980s, hazard identification was most important, but the focus in the 1990s gradually changed to hazard prevention. Another major change was to view safety prevention proactively rather than reactively. The current trend is to integrate safety, health, and environmental management throughout a company. Every employee is now viewed as responsible for safety and accepting responsibility for the impact this will have on the company's profit margin (Laing, 1997).

In alignment with these historical changes, Company XYZ is concerned about proactively addressing safety and preventing hazards in the workplace. There are 800 employees and 100 supervisors in twelve divisions. The Company XYZ wants to lower the recordable incident rates and lost time incidents rates. The recordable rates include work related deaths, illness, and injuries. Company XYZ reports their incident rates and types of incidents along with lost workdays to Occupational Safety and Health Administration (OSHA) every year. Any occupational injury or illness, which results in an employee being unable to work a full assigned work shift, is known as a lost time incident. Based on the recordable incident rates from January 2003 to March 2006 and the lost time incident rates from January 2003 to March 2006, it is apparent that these rates have remained relatively constant for the last four years. Company XYZ wants to lower these rates by assessing the supervisor's safety perceptions and analyzing their responsibilities for promoting a safety culture in the workplace.

Company XYZ supervisors are members of the management team that are responsible for maintaining a safe and productive workplace. The supervisors

communicate and enforce rules and procedures. They train workers, gather data on safety, and represent both the Company XYZ and its employees. However, in light of the constant loss trends that currently exist, the safety department at the Company XYZ believes that there is an inadequate level of safety ownership within the supervisory ranks of the production and maintenance departments.

Purpose of the Study

The purpose of the study is to identify the supervisors' current perceptions of their safety/risk control responsibilities as compared to Company XYZ management's expectations.

Goals of the Study

The objectives of this study are to:

1. Identify the supervisors' perceptions of their safety-related ownership and responsibilities at Company XYZ.
2. Identify and analyze supervisors' perceptions on how change is managed at Company XYZ.
3. Identify and analyze supervisor's loss prevention strategies for Company XYZ.

Background Information

Continuously reducing the recordable incident rates and lost time incident rates is the goal of Company XYZ. The average total number of hours worked from January 2003 to March 2006 is 1.45 million and the recordable incident rate was 4.00medical treatment injuries per 200,000 hours worked. A failure to reduce these rates can directly impact medical, hospital, and rehabilitation expenses. In addition, worker compensation

payments and higher insurance premiums may follow. In addition, total loss of insurability as well as negative public image may also result.

The above-listed human insurance, as well as public-based repercussions are the most obvious direct cost losses, but there may also be other indirect costs. There is lost work time by employees, a loss of earning power, negative company morale, and the possibility of having to train new employees. Because of new, untrained employees, possible damage to equipment and the loss of production may result. According to Joshua Brandt in the article "Hitting the Injury Iceberg" indirect costs of workplace injuries can result in cost from two to 10 times the primary claim (Brandt, 1990). Costs may include the obvious and immediate, but also indirect and long range.

In addition to impacts on the workforce, property damage is another negative possibility. "Various studies have shown that the property damage, process interruption, downtime, and other loss due to accidents are from five to 50 times more than worker compensation costs" (Goldberg, 1997). These costs may not be documented because of a lack of a full-time accident investigator or a failure to determine root causes of the property losses. Therefore, it becomes imperative that all accidents, including minor property damage, incidents, and near misses, are reported so that the underlying causes can be investigated and eventually resolved.

Another area that could very well impact Company XYZ is related to the presence of environmental safety concerns. Because workforce safety and property damage is accounted for more readily, environmental safety concerns may become a secondary concern for the company. However, a company's reputation and long-range profit/loss may also be greatly impacted. Supervisors need to be cognizant of impacts not only on

the immediate workforce environment, but also the company's potential negative impact on the facility site and surrounding area. (Polakoff, 1992)

Limitation of the Study

The limitations of this study are:

1. The results of this study are limited to Company XYZ. Data collected and analyzed apply only to the Company XYZ and no other facilities of Company XYZ.
2. The response regarding workplace safety is limited to supervisors. Limiting interview questions to the supervisors reflects only part of the work force's safety perceptions. The scope of this study does not include employee reflections on the safety culture at this plant.
3. This study is limited to one site of the Company XYZ, which consists of 12 divisions, thus limiting the study to one site might not reflect the supervisors' perceptions in the whole company.

Definitions of Terms

Lost Time Incidence Rates- Any occupational injury or illness which results in an employee being unable to work a full assigned work shift. (www.rit.edu/~outreach/training/Module5/M5_IncidentRates.pdf) (Rochester Institute of Technology, 2007)

Organizational Culture- consists of its values, beliefs, legends, rituals, mission, goals, performance measures, and sense of responsibility to its employees, customers, and community, all of which are translated into a system of expected behavior (Manuele, 2003)(Swartz, 2000).

Recordable Incidence Rates- Recordable incidents include all work related deaths, illnesses, and injuries which result in a loss of consciousness, restriction of work or motion, permanent transfer to another job within the company, or that require some type of medical treatment or first-aid. (www.rit.edu/~outreach/training/Module5/M5_IncidentRates.pdf) (Rochester Institute of Technology, 2007)

Safety Culture- includes the success of a safety and health program which is reliant on a caring management, proper technology, a well-trained staff, and a desire to continually improve the process (Swartz, 2000).

Safety Practitioner- A person who develops suitable knowledge and skills for entry into or advancement in professional safety practices and this includes all safety-disciplined professions. (Graduate safety practitioner program, (nd.) Retrieved June 16, 2006 from http://www.bcsp.org)

Supervisor- A member of the company's management team who communicates and enforces rules and procedures, train workers, and represents the interests of both the organization and employees (Laing, 1997).

Chapter II: Literature Review

The purpose of this study was to analyze supervisors' current perceptions of their safety/risk control responsibilities as compared to Company XYZ management's expectations. This chapter will discuss a traditional supervisors' role as planner, decision maker, and communicator of safety. Leadership style and qualities that directly affect supervisors' training methods and attitudes toward safety and risk control, as well as the two major industrial hazards for Company XYZ, ergonomics and chemical hazards, will also be discussed. In addition, this chapter will discuss change management that is often facilitated by supervisors to improve safety, increase productivity and profit, or comply with ever-changing regulations.

Supervisors' Roles In Manufacturing

The traditional supervisory role was to manage productivity of the employees and to make sure product was being produce in a timely manner. Employee safety was not a major concern and practices, as well as formal procedures, did not focus on safety. Because of federal laws and policies, guidelines for employee safety have changed. Most influential were laws from the Occupational Safety and Health Administration (OSHA) in 1971, which were intended to enhance protection (Laing, 1997).

When the OSHA regulations were introduced in the work force, the supervisor was eventually delegated many safety-related responsibilities. The supervisors took on diverse roles in production, quality, and safety-related areas. Supervisors today are responsible for much more than these three areas. Today's supervisors are responsible for quality, job training, employee motivation, development of good safety attitudes, and detection of hazardous conditions and unsafe work practices (Laing, 1997).

The supervisors, as members of the company's management team, share responsibility for maintaining a safe, productive workplace. Communicating and enforcing rules and procedures, training workers, and representing the interests of both the organization and employees became traditional roles. The supervisors constantly watch over and inspect both the workplace and work procedures, keeping in mind the three E's of safety: engineering, education, and enforcement (Peterson, 2003). Supervisors' work with safety and health professionals, designers, engineers, maintenance, and personnel staff to engineer as many hazards out of the workplace as possible. They are also responsible for educating employees in safe work practices and procedures, and enforcing all safety rule and policies. The supervisors act as investigator, safety researcher, and advocate. (Peterson, 2003)

Ideally, supervisors are the persons to prevent hazards from occurring because their employees are closest to the working conditions. The supervisors instill that the employees can trust the supervisors with employee's issues. They help to find the answers to assist the employees to perform their job tasks. Supervisors are the first line of defense when safety situations arise on the production floor. Without good supervisors, the safety practitioner would have difficulty controlling all of the employee hazards in the workplace (Johnson, 2005).

Today's supervisors have the most impact on fostering the development and perpetuation of a safety culture. Understanding their role in the organization and performing for the organization is imperative. The supervisors rely on backing from management to perform to the best of their ability. The ability of the supervisor to

perform in the organization is crucial to the safety of every employee in the organization (Laing, 1997).

According to Deeprose (1995), the supervisors who claim, "That is not my job" have been misinformed about their duty, and the management has a responsibility to train the supervisors about how to deal with safety issues or situations. Supervisors can be trained in such areas as accident investigation, industrial hygiene, personal protective equipment, ergonomics, and machine safeguarding to lower costs. The cost of employee benefits and compensation claims can add overhead and expense for the company if injury or time losses occur. When supervisors understand the cost and consequently protect profits, the company is more successful in the future (1995).

The Supervisor as Planner/ Decision Maker

One of the key roles of any supervisor is being a decision maker. Everyday problems may have routine answers, and experiences on the job may suggest practical and effective solutions (Deeprose, 1995). However, when larger problems occur, it may be more difficult to choose the most effective solution. Supervisors may make decisions that affect many of their subordinates' lives. These decisions can have far-reaching consequences for workers' safety and profit margins for the respective company. Therefore, supervisors should employ a systematic, rational method for the identification and subsequent solving of problems (Deeprose, 1995).

Relying on experiences with a company's procedures, a supervisor's basic work experience in the safety field, as well as maturity may not ensure a rational method of decision making. A plan designed by Tagleaferri (1979) suggests a systematic method which is composed of a five step sequence for the decision-making process. The process

includes: 1) definition of the problem 2) analysis of the problem 3) development of alternative solutions 4) selection of solution and 5) execution and follow up. This process provides an organizational pattern to enhance decision making. For example, the problem might involve lack of alignment between the supervisors' safety perceptions in relation to their managers' safety perceptions. How this issue could exist might be related to the manner in which training is being conducted, and an identification of major safety hazards that may be present could be part of the analysis of the problem. In addition, job descriptions for the managers and supervisors may need to be revised. Training methods for supervisors and their reports should be monitored and updated to reflect growth and change. Most importantly, a knowledge of the major industrial hazards is imperative to a safe working environment. There is no assurance that one approach will result in a better decision than any other. However, it is generally agreed that involvement or ownership by subordinates results in a greater degree of acceptance when considering decision making (Deeprose, 1995).

There are four approaches that a supervisor might consider when it comes to making a major decision. First, a decision can be made without any input from subordinates. Second, the supervisor can ask subordinates for suggestions and consider them before making decisions. Third, a problem solving meeting with subordinates can be facilitated to reach consensus. Finally, subordinates can be empowered to make the decision. Each choice can be used depending on the problem to be addressed (Vroom & Yetton, 1975). It is therefore probable that a supervisor's role is to decide which choice fits the current decision to be made.

Research by Deeprose (1995) suggests the supervisor has a unique role in that as a team coach or facilitator, there is a balancing act between sharing information and sharing power. It may seem inefficient use of time to empower subordinates to solve a problem, but in the long run it may be more efficient as employees take on the role of problem solvers. In addition, the collective knowledge of all team members may result in better solutions and more ownership by the group (Deeprose, 1995). Because team members already have the information, team problem-solving may be more efficient.

Deeprose (1995) believes that the act of defining the problem may also present challenges for the supervisor in a team problem-solving approach. Surveying employees about the various perspectives of the problem can lead to clarification and a chance for all to contribute their ideas. The supervisors may have to encourage their subordinates to view problems in new ways. When identifying causes, the supervisor plans and organizes the collection of information from other teams, technical departments, vendors, customers or maintenance crews before solutions can be determined. Likewise, the supervisor's role in determining the criteria for the solution is critical to the final decision. Rank ordering or voting helps a team determine the criteria for the solution. Brainstorming options led by the supervisor generate options. The solutions often are judged by the team, but the supervisor can be critical in lining up the alternative solutions against the list of criteria or desired results. The supervisor facilitates to move a group to decision by consensus. Continuing to seek agreement, drawing out reservations, and re-evaluating the alternatives are imperative. Responsibilities for implementation are assigned and outputs, deliverables, and deadlines decided. A monitoring plan for progress may be required because new problems may arise during the implementation. In

addition to the fore-mentioned team building strategies, continued evaluation of the team problem-solving process is the responsibility of the supervisor (Deeprose, 1995).

The Supervisor as Communicator

Good communication on a supervisor's part is not accidental. Just as decision making must be planned and organized by the supervisor, so must communication. Everyone must receive a complete, consistent message. Communicating directly with team representatives at employee meetings is important. Such topics as the status of work, safety issues and policy changes are crucial to a supervisor's success. Follow up by the supervisor is also important because there may be miscommunications or information not conveyed to team members (Deeprose, 1995).

Communication is a key factor in dealing with employees, team meeting members, customers, vendors, and any personal contacts. Active listening techniques can be employed. Training in the possible meaning behind nonverbal communication enhances an understanding of the communication process. Open-ended questions illicit the core reasons behind an employees' concerns, and the outstanding issues or problems should be addressed and resolved. Sometimes a personal plan of action or goals needing implementation necessitates a focus. These steps could be organized into actions to be taken, the people who should be involved, dates that projects need to be completed, and results to be expected (Kirkpatrick, 2006).

There are also significant barriers to effective communication. First, all communication passes through a screen of an individual's personality and an environment. Consequently, the appropriate language must be used properly to understand the facts and draw correct assumptions (Tagliaferri, 1979). Second, the

manner in which the listener interprets the message may or may not be as the sender intended. A third barrier to communication is poor listening habits. A listener may begin to process information before the speaker is finished, or the listener's mind may wander, especially if strong emotions are also present. Poor listening habits are a major cause of communications breakdowns (Tagliaferri, 1979).

Misuse of communication channels can hamper communication. If supervisors and employees limit communication to operational matters only, communication channels are limited and poorly used. Listening to complaints, problems, and employee questions about safety, work rules, and policies will create empathy and respect (Kirkpatrick and Kirkpatrick, 2006). Finally, using these communication channels will also enhance trust, credibility and candor. A lack of honesty or frankness inhibits employee honesty in discussing feelings, problems, and complaints with supervisors. An employee who fears reprisal will not be willing to speak up (Deming, 1982).

Encoding messages carefully, getting feedback on how messages are decoded, and listening, are factors related to being an effective communicator. When considering channels of communication, nonverbal methods such as memos, emails, text messaging or bulletins boards may be useful, but personal communication is much more effective. One-on-one or team meetings communicate, clarify, and allow for employees to voice their concerns, hear other ideas, and build rapport (Tagliaferri, 1979).

Supervisors must be timely, consistent, and accurate in communications. The information communicated must be accurately obtained from their upper management, regulatory agencies or other teams. Honesty and a candid approach are essential to communication (Laing, 1997). If supervisors can not readily answer a question or share a

policy, it is imperative for them to find answers and follow-up in a timely manner. When communicating, it is important to get feedback, so therefore, it may be effective to ask employees if they understand the message or request. Also, it is imperative to keep current on employees' attitudes and opinions. Complaints or grievances, which employees do not readily share, tend to arise as crisis issues at inopportune times if communication channels are not kept open (Tagliaferri, 1979).

The Supervisor as Leader

Supervisors accept the role of leadership or inspire others to take on responsibilities. Leadership is a form of social influence which initiates and guides, thus resulting in a new direction that otherwise would not have been (Northouse, 2000). In self-directed work teams, anyone can be a leader, given training and self confidence. These leadership duties are shared on a rotating basis among all team members for a specific time period. All team members have a chance to develop their leadership abilities and gain experience in interaction with others (Deeprose, 1995).

Job management is not supervision, but rather it is a trait of leadership. A leader is not one who issues orders, but rather provides guidance, information, encouragement, and inspiration. Others are invited to share the organization's vision and the process of achieving it. Leaders become role models, in that they show employees what to value and how to behave. Role models live up to the company's values, goals and objectives. They are responsible for coaching and teaching their people practical skills and the corporate culture (Laing, 1997). Leadership is changing from an autocratic, hierarchical model towards an empowerment, participatory model. The challenge and responsibility of every individual is to take on a leadership role (Laing, 1997).

The trait theory of leadership assumes that certain physical and psychological characteristics account for leadership skills. One of the foremost studies of leadership traits was conducted by Gheselli (1971). Three hundred managers and 90 businesses were evaluated in the United States. Gheselli identified six traits important for effective leadership:

Need for achievement

Intelligence

Decisiveness

Self confidence

Initiative

Supervisory ability

Leaders achieve by seeking responsibility. Using good judgment and having good reasoning and thinking skills are imperative to decisiveness. Self confidence is defined by having a positive self-image as a capable, effective person. The ability to get jobs done with minimal supervision characterizes a leader with initiative. Getting a job done through others or by delegating tasks demonstrates supervisory ability (Ghiselli, 1963).

During the 1930s, behavioral psychologists focused on studying leadership behavior, not traits. Lewin, Lippit and White, (1939) conducted research by training graduate assistants in three types of leadership styles: autocratic, democratic, and laissez-faire. The autocratic leaders made the decisions and controlled group activities. Group participation and majority rule characterized the democratic leadership style. The laissez-faire leaders demonstrated low levels of any kind of activity. The results concluded that the democratic leadership style impacted group performance most positively.

Conceptions of leadership characteristics are culturally determined. Leadership is a social phenomenon, not an individual trait. This explains why some leaders are successful in one situation (for example, building a house) but may not be successful in another (for example, conducting an orchestra). Leadership results from the interaction of personal qualities and environmental or cultural factors (Manning and Curtis, 2003).

The U.S. Chamber of Commerce conducted an extensive study on leadership and sought to answer the question: "What do people want in a leader?" They found that desired qualities change across cultures and time. However, what people in the American society valued most in their leaders were integrity, job knowledge, and people- building skills (Manning and Curtis, 2003).

Employees want a leader they can trust. First, a leader's ability to build a reputation for integrity is crucial. Second, the next most important quality was job knowledge. It might include knowledge of the direction or goals to be set to knowing how to solve problems or use practical ability. A person with a purpose, plan and the skills to carry it out is observed as a leader. There is a desire to continually improve and be more effective as a leader. The third most cited quality wanted in a leader was people-building skills. The ability to form and develop a winning team involves a number of important skills. Performance planning, coaching, correction, proper delegation, effective discipline and the ability to motivate all determine people-building skills. It is easier to follow a leader who mentors and develops others (Manning and Curtis, 2003).

The contingency theory of leadership purports that there is not one best leadership style for all situations (Pfeffer, 1992). Rather, it depends on the leader, the followers, and situational variables. For example, a teacher and a farmer will have different interests,

values and skills. Experienced followers and new followers have different needs. Some factors that might impact leadership performance are the culture of the workplace and the urgency of the task. The leader, the followers and the situation must match for leadership to be effective (Pfeffer, 1992). Some people have the ability to inspire others. The leader arouses confidence in the followers. They then feel better able to accomplish the shared goals. Transformational leadership is a term used to describe the leadership of individuals. These leaders use optimism, charm, intelligence, and personal qualities to raise aspirations and change individuals and organizations to achieve high performance (Manning and Curtis, 2003).

Leadership Qualities

Leaders have the following qualities to an exceptional degree: vision, ability, enthusiasm, stability, concern for others, self-confidence, persistence, vitality, charisma, and integrity. First, a leader ascertains what needs to be done and does it. This vision inspires others and provides a common cause. Second, the leader must know the job. Employees lose faith if a leader does not gain an understanding of the job and stay current. Knowledge includes understanding information, formulating strategies, and making correct decisions. Another quality of leadership is enthusiasm and stability. Enthusiasm by a leader elicits enthusiasm in followers. A leader must have a passion for his work. Any display of emotional instability places a leader in a poor position, and the leader's objectivity and judgment may be questioned (Manning and Curtis, 2003).

At the heart of servant leadership is concern for others and self-confidence (Bolman and Deal, 2001). Leaders are truly concerned about people. Caring leaders do not belittle people, but rather they possess humility and selflessness. Patience and good

listening skills results in trust and loyalty. Self-confidence results in loyalty. Remaining calm and confident during intense situations displays self-confidence, which can be bolstered by hard work, preparation and dedication (Manning and Curtis, 2003).

Persistence and vitality are also qualities of a good leader. Having the ability to persevere, meet obstacles, and overcome problems is paramount. At all ages leaders require tremendous energy and stamina to achieve success. Two special qualities are charisma and integrity. Charismatic leaders, or optimists, generate others' interest and encourages others to follow. They commit to a cause, unleash potential in others, and use their own energy. The result is admiration, enthusiasm and loyalty of followers. Integral to leadership is integrity, which leads to trust, respect, and action (Manning and Curtis, 2003).

Areas of Concern- Ergonomic

Ergonomic stressors may be present in many work places. Ergonomics is the laws of work or the customs and habits that have developed in the completion of the work. If a supervisor has leadership skills to implement change in the physical work environment, then it will most likely benefit the company. The International Labor Office defines ergonomics as applying human biological science with engineering science to achieve the most ideal relationship of man to his work. Human efficiency and well-being in conjunction with productivity, health, and safety impacts the physiological and psychological demands of the work (Laing, 1997).

Although the human body can perform awkward or unnatural movement, it can only take place for a limited time before the worker's physiological limitations become exceeded. The workplace has to be designed to human limitations and capacities. Once

this concept is considered, the need for biomechanics becomes obvious. Biomechanics is a part of engineering that attempts to improve worker-machine-task relationship or reduce worker fatigue or discomfort (Laing, 1997). The science of anatomy, physiology, psychology, anthropometry, and kinesiology all must be considered in biotechnology. Biotechnology takes biomechanics, human factors engineering, and engineering psychology into account. Based on the National Safety Council (NSC 1997) guidelines, four areas to consider include: 1) biomechanical aspects like stress on muscles, bones, nerves, and joint; 2) sensory aspects like eye fatigue, odor, audio signals, tactile surface; 3) external environmental aspects such as lighting, glare, temperature, humidity, noise, and atmospheric contaminants; and 4) psychological and social aspects of the work environment. Biomechanics enhance the safety and efficiency in the workplace.

When facing ergonomic problems, an organization brings together specialists from anatomy and physiology; anthropometrics or the study of different size body parts; biomechanics or a study of the way work activities produce forces on the human body; psychology or how people respond to signals in the environment; and industrial design and engineering or the design of workplace, tools, and places. Many specialists collaborate to solve ergonomic problems. Safety professionals, industrial hygienists and occupational industrial hygienists and occupational physicians and nurses have expertise. Management and employees can provide first-hand information, evaluation and suggestions for improvements (Laing, 1997).

Supervisors play a key role in documenting workplace ergonomic problems. They need to record trends in injuries, illness, and accidents. The excessive use of sick days or high turnover rate may indicate ergonomic-based issues and therefore necessitate

analysis. If performed, workplace modifications are noted and evaluated. Also, if poor product quality is a result, then the potential ergonomics problems need to be addressed. A supervisor might want to assess the rate of work expectations. High overtime or increased work rates might also signal a problem. Manual material handling and the presence of repetitive tasks can negatively affect employee performance and consequently require ongoing assessment. If the work requires awkward postures or a high amount of hand force, injuries may frequently occur. Mechanical stressors like sharp table edges or raised elbows, hands position, or bent wrists should also be considered. Grouping or pinching objects might add to stress. Exposure to temperature extremes or vibrating tools affect working conditions, which often result in ergonomic stress (Laing, 1997).

Areas of Concern- Chemical Hazards.

In addition to ergonomic stressors, chemical hazards can significantly affect the level of workplace productivity. Chemical compounds in the form of solids, liquids, and gases may cause health problems, usually by inhalation, skin absorption or contact. Inhalation of airborne contaminants may put workers at risk. These contaminants can be inhaled in the form of gases, vapors, and solids or particulate matter. Particulate matters include dust, mists, fumes, fibers, smoke or aerosols (Laing, 1997).

Punctured or abraded skin allows for quick absorption of chemicals. Liquid or gaseous compounds can be absorbed through intact skin. Chemical absorption points include hair follicles or absorption by dissolving into the fats and oils of the skin. Some chemical compounds that can be hazardous via skin absorption include alkaloids,

phenols, lead acetate, salts of lead, arsine, mercury. Toluene and xylene, good solvents for fat, can be absorbed through the skin (Laing, 1997).

Physical Classification of Airborne Materials

The inhalation of airborne compounds or materials is a common problem. Knowledge of the classification of these substances is important to the supervisor. Dust is created by handling, crushing, grinding, rapid impact, detonation, and decryption, which is the breaking apart by heating of organic and inorganic materials. Dust, according to industry standards, is solid particles that range from 0.1 to 25 micrometers or microns in diameter. Dust particles at 50 microns can be detected with normal eyesight while whole particles below 10 microns in diameter can not be seen without a microscope (Laing, 1997). High concentrations of small, suspended particles present as haze or smoke. Gravity causes dust to settle with the heavier microns filtering down more quickly, while those under 10 microns remain suspended in the air. Particles less than 5 microns are called *respirable dust* and are capable of penetrating the inner recesses of the lungs. The larger particles become trapped in the nose, throat, trachea, or bronchi. From here, they are usually expectorated or swallowed. Particles 18-25 microns in diameter, like ragweed pollen, cause allergic reactions. Respiratory tract infections and allergic reactions trigger when particles enter the airways when workers are exposed to dust (Laing, 1997). The sources of dispersal for dust include dusty material handling or when solids are reduced in size in processes like grinding or crushing. Dusty material handling or transporting the dust may disperses it to other facilities or sites (Laing, 1997).

Fumes and smoke also pose potential health problems. When volatized solids such as metals condense in cool air, fumes form. Solid particles of fumes are very fine

and usually less than 1.0 microns in diameter. Usually hot materials react with air to form oxides. Fumes form when a material like magnesium metal is burned or when welding and gas cutting is performed on galvanized metal (Laing, 1997). Smoke, another potential problem, is made up of partly carbon or soot particles of less than .1 micron in size. These particles result from incomplete combustion, which contains liquid droplets and dry particles. For example, tobacco produces a wet smoke of tiny tarry droplets and particles about 0.25 microns in diameter (Laing, 1997).

Aerosols also have liquid and solid particles fine enough to be dispersed and remain airborne for extended periods of time. If inhaled, some aerosols irritate workers' mucus membranes, noses, eyes, lungs, and throats. Likewise, mist contains suspended liquid droplets. Mist, a finely divided liquid, suspends in the atmosphere. During cutting and grinding, acid mists from electroplating and spray-paint may result in mists. These droplets form when chemicals condense from the gas to liquid state. Sometimes the liquid breaks into a dispersed state by splashing, foaming, or atomizing. (Laing, 1997)

Another physical classification of substances is gases and vapors. Gases are formless fluids that occupy space or form in confined enclosures. The combined effect of increased pressure and decreased temperature results in gas changing to the liquid or solid state. Gas exhaust can diffuse into the atmosphere from welding or combustion engines. Vapors, on the other hand, are gaseous forms of substances normally in liquid or solid state. These vapors can be reverted to solid or liquid state by increasing the pressure or by decreasing the temperature. Evaporation causes a liquid to change into a vapor state and mix with the atmosphere. Solvents with low boiling points, like acetone, will volatilize (evaporate) easily at room temperature (Laing,1997).

Hazards Associated with Airborne Substances

The hazards associated with gas, vapor, or mist depend on the solubility of the substance. If a compound like ammonia, sulfuric acid, or hydrochloric acid is very soluble, it is rapidly absorbed by inhalation in the upper respiratory tract and therefore do not penetrate deeply into the lungs. The worker's nose and throat will become so irritated: they will typically be forced to leave the exposed area before toxicity takes place. Dangerous health effects from even brief exposures for brief time periods can occur if concentrations are high. Compounds not soluble in body fluids are still able to penetrate the lungs deeply. A worker may not even sense exposure. Hazards, like nitrogen dioxide, can be present but not detected. Some dangers from this compound might be edema, pneumonia or circulatory problems (Laing, 1997).

Change Management

A quality workplace is constantly changing; it can only remain viable and keep up with the competition if it is willing to change. The volume, speed, and complexity of change are increasing in modern times. Society at large, government, education, and other institutions are impetus for change (Laing, 1997). Manning and Curtis (2003) point out the cost of change in terms of cost to the company with the following example: "If 100 employees with an average annual salary of $24,000 go through a six month change or transition resulting in two hours of distraction per day, the cost is $276,000." Besides being expensive, people tend to resist change and crave stability or the known. Even change for the better can be more daunting than the comfortable known. Upper management may resist change logically, emotionally, and via group influence. Management may come up with rationale reasons why change is a mistake. When

employees contend that the proposed change will not work, the management or team leaders need to listen, consider potential problems, and plan how to handle change. Reassurance and a good outline of how change will benefit workers or the company ensure a smoother change (Laing, 1997).

Often only a few people will be strongly against change, but they can convince whole groups to resist change. Key resistors need to be identified; and people's ideas and reasons for resisting need to be listened to carefully. If changes are the resistor's ideas, they are less likely to be anti-change. After workers have had an opportunity to experience the changes, some can then embrace the new. Old habits, both individual and institutional, require replacement with new habits. Incentives may inspire people to make a concerted effort. Otherwise, people will go through the motions without making a genuine attempt. One area of an organization or one individual can change slowly. It then affects other areas and more people. Change reaches critical mass slowly then speeds up (Laing, 1997).

Types of change

The four major types of change in the workplace are structure, tasks, technology, and people. Structure changes like mergers, acquisitions, right-sizing, and re-engineering are often severely resisted by people. Changes in tasks occur when there is change in environment and products and processes. Some of the driving forces for these changes are customer needs, productivity improvement, and quality initiatives. Innovation drives technological change. Any of the above changes in structure, task or technology will impact relationships. Managers, employees, co-workers, customers and changes within a given person's knowledge, attitude and skills evolve (Manning and Curtis, 2003).

Models for Organizational Change

An eight-stage process suggested by Kotter (1966) of Harvard University summarizes the steps necessary to produce successful change. The first four steps involve energizing the organization to move away from the status quo. The last four steps move the organization to the desired change, ensures new practices, and reinforces the changes in the organizational culture.

The first of four steps required to energize the organization to a new vision includes a sense of urgency for the change. This might be in the form of examining markets or looking at competitive realities. The company might look at identifying safety crises or tapping into major opportunities. Second, a guiding force must be put together with enough power to lead change. It is ideal to get the group to work as a team to develop a vision and strategy. The third step helps the team direct the change effort and have a precise strategy for achieving that vision. Once the vision and strategy are in place, it must be communicated using every means possible. The guiding team functions as a role model and demonstrates the behavior expected of employees (Kotter, 1966).

Once the status quo is changed and a new vision is presented, there must be steps to move the organization to implement new practices and reinforce the changes. First, any obstacles to change must be removed. Any systems or structures that undermine the vision should be eliminated. Risk taking, non-traditional ideas, activities and positive actions are welcomed. Second, some short-term improvements must be noticed, praised and rewarded. Rewarding and recognizing individuals who make improvements enhance the change process. Third, it is necessary to alter all systems, structures and policies that do not enhance the change vision. This can be performed by hiring, promoting, and

developing people who can implement the change vision. New projects and change agents speed the process. Finally, it is recommended to outline new approaches in the culture. This might include better performance through productivity, improve leadership, or led to more effective management. Leadership development and good management will enhance this process (Kotter, 1996).

Individual Change

There are many stakeholders in the process of individual change. Top management may underestimate the impact of change and blame middle management for not accomplishing change if people resist or complain. In some cases, top management may not know the results of their decisions and programs. Middle management may feel pressure between top leadership direction and resistant withdrawn subordinates. Frontline employees may feel threatened by changes announced by managers. A lacking of willingness, protective behavior, and not being accountable may be the prevailing attitude (Manning & Curtis, 2003).

When change is for the right reasons, such as enhancing customer focus, improving quality-consciousness, empowering the workforce or enhancing profit, change should be addressed with the individual. However, meetings to encourage individual change should be well-planned. According to Scott and Jaffe (1989), the following seven rules should guide leaders in change efforts:

1. Changes should be made for good reasons. Consider the organization's goals, purpose, principles and core values.

2. Personalize change. The importance of the change needs to be understood and what is to be gained or lost without it.

3. Implement change thoughtfully. It is suggested that the process should be slow and time must be provided for adjustment.

4. A respected person should coordinate the change. The constructive power of the group is used by the team to plan, coordinate, and communicate. New training, knowledge, and skills may be needed to support the change.

5. Tell the truth. Facts, rationale and trust need to be shared.

6. Wait patiently for results. It takes time to see benefits.

7. Acknowledge and reward people. The struggles, sacrifice and contributions need to be recognized. (Manning and Curtis, 2003)

Planning and knowing people are important to implementing change. Recognizing other's leadership style and their stand on issues helps bring about change. It is best to be able to convey the benefits of the change and begin with the supportive individuals. Influencing meetings positively and gaining support is key. Trust established will help to encourage future change. Ideas for change laid out and explained well will gain acceptance. Other's concerns, addressed respectfully, diffuse opposition. Mutual problem solving minimizes disagreement and builds ownership for the change. Once criteria and priorities are set, solutions that address the priorities can be agreed on during the meetings. In some cases there may still be resistance to the change. If this is the case, an assent to just try the change briefly may move the process forward. When this can not be accomplished, a commitment to think about the proposed change may be a reasonable compromise (Manning and Curtis, 1997).

Lewin (1935), a social psychologist, identifies a three-step process for helping people through change. These include changing the status quo, moving to the desired

state and then living by the conditions of the change. Changing the status quo involves reducing unfreezing resistance to change and letting go of it. Only after dealing with ending the status quo can people move to make a transition. Considerable two-way communication and group discussion moves the change process. The leader suggests and encourages brainstorming, benchmarking, field study, and research. A follow up to this change procedure points out the successes of change, rewards those implementing the changes, and recognize the contributions of other. If this is the norm, people readily embrace future change (Lewin, 1935).

Mistakes and Common Errors in Implementing Change

A common error to avoid when implementing change is complacency. Underestimating the power of the vision and not being able to communicate it well stalls the change effort. Communication is the key to change. If input is sought and ignored, trust erodes. Remembering how change might be a threat conveys understanding. To reiterate and explain how the stakeholders can benefit from the change encourages participation. It should be noted that under communicating the change vision poses road blocks. Change is hampered by management actively displaying impatience with people or the slowness of the process (Kotter, 1996).

Short-term wins or small, incremental changes which are recognized and rewarded promote the change process. Obstacles to block the new vision need to be dealt with honestly and resolved. Reinforcement and time for the change culture to be firmly established assures that change will be anchored firmly in the corporate culture of the company. Even after well-established change, ongoing assessment is recommended. Negative consequences could result from changes, and strategies might not be

implemented well enough. Changes or acquisitions might not achieve expected results. Some may find that changes like reengineering take too long or are too costly, and occasionally, quality programs do not deliver the hoped-for results (Kotter, 1996).

Advocates of change must also understand the psychological reactions to change. Satisfaction with the status quo usually dominates. There may be denial, resistance, and negative attitudes but there are others willing to explore and take on personal responsibility and commitment. During denial, ignoring unpleasant facts might prevail and resistance might reign. When security and other needs are threatened, defensive attitudes of resentment, anger, and worry accompany the change resistance. However, when positive reactions to change are the norm, people usually believe change is acceptable. The person championing the change expects personal gain or believes the time is right. Usually these people will explore multiple possibilities. They recognize something must be done. Those in favor of change accept responsibility, help make decisions, and take actions to move toward the changes. Advocates are dedicated to the change process until the change occurs and is grounded in the company culture (Scott and Jaffe, 1989).

There are strategies that can be employed at each stage to augment effective change. An individual in a state of denial would benefit from additional information. Communication such as answering questions, acknowledging concerns, and accepting resistance require acknowledgement. Feelings which are understood and consequently respected will strengthen the change process. Listening, another key communication attribute, reinforces the process. At the attitude stage, reinforcement of positive actions is essential. Modeling change and being patient has a positive impact. For those who are at

the exploration stage, brainstorming ideas and alternatives allows this group to be a part of the change process. Training and setting short-term goals aid the group in moving to focus on priorities. At the responsibility stage, people plan and set goals to move the change process along. When decisions are made, support should be shown. During the commitment stage, acknowledgement of accomplishments ensures good will for future challenges involving changes (Scott and Jaffe, 1989).

In conclusion, all change requires these commitments. First, a clear compelling vision communicated to employees. Second, the structures for change must be aligned with a compatible vision, objectives or goals. Third, training requirements should be identified and implemented. Fourth, an information and personnel system needs to be aligned to the vision or goals. Fifth, supervisors must confront people who undercut the change. (Scott and Jaffe, 1989)

Summary

In the past, the traditional role of supervisors was twofold: employee productivity and timely production of product. With the introduction of OSHA regulations in 1971, the supervisors' responsibilities expanded to focus on not only production, but also quality and safety. The key roles of supervision developed into that of decision maker and problem solver. The supervisor took on the role of facilitating problems. Effective communication skills and being able to recognize barriers to communication became imperative to the role of facilitator. This rational method of decision making suggests a systematic process that can be employed by supervisors to affect other's perceptions regarding safety.

Supervisors were expected to accept leadership roles, which developed and evolved into self-directed work teams. With the emphasis on leadership, companies can turn to research and experts on various leadership styles. Some supervisors functioned as leaders as part of self-directed work teams. The trait theory of leadership studied by Ghiselli proposed six traits important for leadership roles. The common mistakes and errors identified when implementing change will increase supervisor awareness of the pitfalls of implementing change. This in turn should lead to an understanding of how safety perceptions are impacted. These leadership theories and other studies provide a plethora of theories and processes for strengthening the leadership role of all supervisors. During the 1930s, behavior psychologists focused on leadership behaviors, rather than an identification of individual leadership traits. The contingency theory of leadership contends that leadership depends on a number of variables, not traits. These variables include the leader, the followers, and situational variables. In addition, leadership of individuals is often referred to as transformational leadership. As a part of this theory, the leader has a number of qualities to change individuals and organizations to achieve high performance.

Competent supervisors are aware of their role and need to develop effective leadership styles. These leadership skills must be implemented to change the physical work environment to benefit the company. The knowledge of ergonomics, or applying human biological science with engineering science to create an ideal relationship of man to his work, must be achieved. National Safety Council guidelines on biotechnology guide the supervisor when facing ergonomic problems. The supervisor not only needs to organize specialists in these fields, but also document workplace ergonomic problems.

Another significant area of concern for supervisors, beside ergonomic stressors, is the knowledge of chemical hazards that affect workplace productivity. These might include airborne compounds, fumes, smoke, aerosols, gases or vapors.

According to Laing (1997) the quality of the workplace is constantly changing. The supervisor becomes the agent of change management. Four types of change in the workplace were structure, task, technology, and people. Kotter (1966) of Harvard University identified an eight-step process to produce successful change. Individual change becomes imperative to enhance customer focus, improve quality, empower the workforce or enhance profit. Seven rules to guide leaders in their change efforts are outlined by Scott and Jaffe (1989) and Lewin (1935), a social psychologist, identifies a three-step process in helping people through change. At Company XYZ change is imperative to train the workforce to take responsibility for all aspects of safety. A result of improved safety will result in enhanced profits for the company and an improved end product, which leads to customer satisfaction. The common mistakes and errors in implementing change are addressed by Kotter (1996). Supervisors are better able to lead change with a knowledge of common mistakes and errors that occur when instituting a change process. Clarifying the vision to be implemented, stakeholder participation, obstacles identified, and psychological reaction to change are all identified as possible areas of concern when implementing change. Scott and Jaffe (1989) designate strategies to augment effective change. As new regulations, guidelines, products, and equipment are adapted at Company XYZ, effective change will be imperative. The supervisors will be the leaders to guide these change efforts. Therefore, an understanding of leadership

theory, communication, and change processes will augment supervisor's understanding and impact their perceptions.

Chapter III: Methodology

The purpose of the study was to analyze supervisors' current perceptions of their safety/risk control responsibilities as compared to Company XYZ's management expectations. The goals of the study were to:

1. Identify the supervisors' perceptions of their safety-related ownership and responsibilities at Company XYZ.
2. Identify and analyze supervisor's perceptions on how change is managed at Company XYZ.
3. Identify and analyze supervisor's loss prevention strategies for Company XYZ.

This chapter will include an explanation of the subject selection and description, the instrumentation that was used to collect data, the data collection procedures, the data analysis process, and the limitations of the study.

Subject Selection and Description

The researcher has professional contact with the Safety Department of Company XYZ. Individuals selected for this study include all the supervisors at the site. Data collection was conducted by a questionnaire, which was distributed by the researcher. The questionnaire was given to 100 supervisors at the company to gather the most current safety perceptions of the supervisors. After being informed of the purpose of the study, each subject was verbally asked to answer the questions. A consent form was presented with the questionnaire to indicate that participation in the survey was completely voluntary. Volunteer supervisors were asked not to include their names on the questionnaire. The surveys were not marked in any way to indicate who completed the questionnaire. The researcher collected the surveys and locked all surveys in a drawer

when not being used for analysis. The individual questionnaires will not be shared with Company XYZ, although an analysis of the responses will be shared with the supervisors and the management upon completion of the research project.

Instrumentation

Three instruments were designed to gather the data analyzing supervisors' perceptions. A questionnaire was created from the literature review and the National Safety Council's Survey "The Safety Barometer" was used by permission of Terry Miller of the Research & Statistical Services Group shown in Appendix C. Questions on the survey were also formulated based on recordable incident rates and lost workdays data at Company XYZ. The questions were eventually approved by Company XYZ's safety practitioner staff, consisting of 12 managers and 10 safety professionals. The 30-question perception questionnaire as shown in Appendix D focuses on supervisor ownership, manager relations, safety training, and safety hazards. Within the 30-question survey, there are ten questions on ownership, five on manager and supervisor relations, five on safety training and ten on safety hazards. The questionnaire asks supervisors to strongly agree, agree, respond neutrally, disagree, or strongly disagree with the questions.

Another part of the questionnaire focused on pertinent background data of the supervisors completing the questionnaire. Supervisors were asked length of employment, number of safety training years completed, and years with the company. This data may impact the safety or change perceptions of the supervisors.

Data Collection Procedures

The initial data was collected from the managers in the form of company records. This data included recordable incident rates, lost workday incidents and safety training

records. This data was taken into account as the safety questionnaire was designed and it was also studied for trend analysis in the company's safety performance. The questionnaire and personal data information was given to supervisors during working hours. The researcher collected the questionnaires and a trend analysis was completed. A bins and matrix study was performed on the responses provided by the supervisors. Supervisor responses were analyzed as either positive or negative. After the data was analyzed and tentative conclusions were drawn by the researcher, a sampling of supervisors and managers were asked to either read the tentative conclusions or to complete a three-question, open-ended document to ascertain if the conclusions could be corroborated, refuted, or additional explanations and insights could be provided about the researcher's conclusions.

Data Analysis

To analyze the current supervisors' perceptions at Company XYZ, the first step was to review the recordable incidents and lost workdays documents. Company XYZ's recordable incidents are displayed in Appendix A and Appendix B respectively. A trend analysis was performed as it is assumed the longer the supervisors are engaged in Company XYZ's safety culture, the greater will be their ownership and willingness to take responsibility for safety. An analysis of the data may help supervisors document growth and further increase safety responsibilities and ownership. Analyzing trends helped to trace any and all changes in performance in an effort to reach priority achievements in safety. There also may be pertinent factors or circumstances contributing to changes in supervisors' perceptions. Some of these may include frequency and types of training programs, safety signage in the work environment, goal setting regarding safety,

awareness of job descriptions, safety reporting procedures, the age and experience of the workforce, and the number and training of new workforce members.

There may be significant influences that change supervisors' perceptions. The goal of the research is to understand these events. The researcher will focus on these three areas of concern in an attempt to understand what contributed to or otherwise influenced the perceptions:

1. Why are these perceptions prevalent?
2. Why at Company XYZ and not other divisions of the Company?
3. Why during this time period (January 2003- March 2006) and not at some other time?

After analyzing recordable incident rates from January 2003 to March 2006 and lost time rates from January 2003 to March 2006, it was found that these rates have remained relatively constant for the last four years. Company XYZ's goal was to lower these rates by assessing the supervisor's perceptions. Therefore, the analysis will also include speculation as to why the recordable incidents and lost workdays have not decreased with additional safety training.

Another portion of the research will address disaggregation, which is accomplished by subdividing performance data by any categories that could be relevant in impacting the safety or change perceptions. Some categories that could possibly influence supervisors' perceptions are number of years they work in this position, their length of employment, and the number of years of safety training that they received. Averages for each relevant subgroup will be computed and graphed. The performance of

the groups will be compared and contrasted to ascertain if there are significant patterns. Perceptions will be analyzed as either positive or negative.

The questionnaire results will be analyzed by responses to the categories of perceptions of supervisor ownership, manager relations, safety training, and safety hazards. It will be determined if responses are negative or positive and the aforementioned disaggregate factors will also be considered. After the researcher sorts the data, brief statements should be apparent that can be supported by the data. Quantity and percentages will be determined form the data analysis. Tentative assertions and meaningful patterns and tendencies will be analyzed.

In conclusion, the participants will be analyzed by time on the job as a supervisor, amount of safety training and years employed at the company. The type of data included will be questionnaire responses, interviews to accomplish membership checking, work incident and time loss records, and safety training data. The source of the data will be the supervisors and the managers who will provide the aforementioned documentation: work incident rates, time loss records and safety training data records.

Limitations of the Study

One existing limitation of this study is that the findings only apply to the current supervisors' safety perceptions at Company XYZ. The questionnaire is basically a representation of the current managers' expectations of their safety supervisors at the same company. Questions are based on the most current recordable incident rates and lost time incidents rates. The questions are formatted based on the safety policies and industrial hazards most prevalent at Company XYZ. This study of supervisors'

perceptions was only assessed at Company XYZ; therefore, its validity for other organizations would be difficult to determine.

Chapter IV: Results

The purpose of the study was to identify the supervisor's current perceptions of safety/risk control responsibilities as compared to Company XYZ management's expectations. The goals of the study were to:

1. Identify the supervisor's perceptions of their safety-related ownership and responsibilities at Company XYZ.
2. Identify and analyze supervisor's perceptions on how change is managed at Company XYZ.
3. Identify and analyze supervisor's loss prevention strategies for Company XYZ.

The methodology used to collect the data included a three part questionnaire. The first part was designed to gather data on supervisors' perceptions about their role and responsibility in the area of safety. These questions were studied and approved by Company XYZ's safety practitioners and safety professionals. A second part of the questionnaire gathered pertinent background data which may impact safety perceptions and training. A third instrument was addressed to supervisors and managers regarding their views of supervisor's perceptions. This instrument was designed to either corroborate or challenge research findings while ascertaining if significant credibility could be given to the researcher's tentative assumptions.

Presentation of Collected Data

The first goal was to identify a supervisor's perception of their safety-related ownership and responsibilities. The perceptions were grouped into four areas of concern. First, the supervisor's perceptions of his or her responsibilities for safety were addressed. Second, the supervisor's perceptions of his or her relationships with management were

surveyed. Third, the amount of safety training completed by the supervisor was noted. Finally, the supervisor's perceptions of how specific safety hazards are addressed by Company XYZ were surveyed. The questions on the Supervisor Safety Ownership Survey (Appendix A) were divided into the four areas of perception. Ten questions gathered perceptions about *Safety Ownership*. Five questions on the survey focused on *Manager Relations* and five focused on *Safety Training*. The fourth set of questions surveyed perceptions regarding *Safety Hazards*. The Supervisor Safety Ownership document indicates these four areas of perception and which questions on the survey completed by the supervisors address these categories. (Appendix B).

The respondents to the survey included 89 supervisors from Company XYZ. To understand the demographics of these supervisors, 55.1% had greater than 20 years of employment with the company and 29.2% had 10 to 20 years of employment with Company XYZ. Of this group, 55.7% had one to two years of experience as supervisors and 14.8% had three to four years of experience. Seventy-one of the 88 (or 80.7%) of the supervisors indicated they had completed four to six years of safety training. It should be noted that 14.8% of the supervisors had completed only two years or less of safety training. The data collected indicates a relatively experienced group of supervisors with Company XYZ, and a little over half of such individuals have held their positions for more than six years.

Supervisors' Perceptions on Ownership

Supervisors were asked for their perceptions of their roles and responsibilities with regard to safety. When asked if supervisors saw themselves as the key person for safety, 81.8% responded neutral or disagreed. Seventy-nine of 89 supervisors felt that

safety did not take a backseat to production. However, when asked about specific safety-related actions, the supervisors' responses were more varied. Supervisors were asked if their crew meetings included a safety topic or safety discussion. Of the 86 supervisors responding, 35 individuals responded with either disagree or neutral. Fifty-two of the 86 supervisors agreed and 22.1% strongly agreed. When a general safety statement was proposed, such as "Safety is not my job," or "Everything dealing with safety should be the Safety Engineer Coordinator's job," supervisors strongly disagreed with 95.5% (or 89 respondents) either disagreeing or strongly disagreeing with the first question and 91.7% (or 84 respondents) disagreeing or strongly disagreeing with the latter question. Philosophically, the supervisors indicated a belief that the role of safety leadership is the responsibility of the supervisors at Company XYZ. Likewise, supervisors had high standards of expectations for their direct reports with 84 of 88 supervisors agreeing or strongly agreeing that their expectations for their direct reports were high. In contrast again, there is much more diversity of response when asked a question about actually putting safety philosophy into practice. Posed with the statement, "On a routine basis, I discuss something about safety with one of my reports," the supervisor's perceptions were more diverse. Of the 87 supervisors responding 27.6% (24); strongly agreed; 52.9% (46) agreed; 14.9% (13) replied neutrally; and 4.6% (4) disagreed or strongly disagreed. Although philosophically supervisors believe safety is everyone's job and purport to take leadership roles, when questions about putting safety into practice are proposed, answers are more diverse.

Most supervisors believe they kept their safety procedures current and accurate and believed their job was to support the area's safety committee. Of 85 supervisors

responding or 68.2% (58) agreed or strongly agreed that their area's safety procedures were current and accurate. Of these same 85 supervisors, 27 indicated neutral or disagreement-based views. Thirty-one percent disagreed or responded neutral regarding how current safety procedures were in their areas. In contrast, 79 of the 87 supervisors, or 90.8% of respondents, felt supporting the area's safety committee was a part of their job.

Perceptions Concerning Management Relations

Supervisors' perceptions regarding management and their role as safety leaders are very positive. When supervisors were asked if they were told by managers that they were the key people for safety 59 of 88 supervisors agreed or strongly agreed. They also felt that managers fully supported their safety efforts in their area with 95.5% of 88 supervisors agreeing or strongly agreeing. When asked if managers did no more with safety than was minimally required 79 of 89 (79.8%) of supervisors disagreed or strongly disagreed. When considering specific actions by the managers, like writing down safety expectations on performance appraisals or communicating to continuously reinforce safety, supervisors' perceptions agreed that this was being accomplished. Supervisors were asked about written safety expectations, and eighty-six percent (74 of 86) of such individuals agreed or strongly agreed that this was being done. Also, 78 of 86 of supervisors responding (90.7%) believed that good communication continuously reinforce safety.

Perceptions Concerning Safety Training

The second goal was to identify and analyze supervisors' perceptions on how change is managed at Company XYZ. Safety concerns were traditionally addressed by a Safety Coordinator in a managerial role overseeing and taking major responsibility for

safety. The shift in safety has been for supervisors to take more ownership by completing safety training programs and taking on leadership roles. When supervisors' perceptions were solicited in this area on the questionnaire, the responses were positive. Supervisors found their own training to be positive and indicated they took an active role in training others. Supervisors were asked to agree or disagree to the statement: "My own training on the safety expectations for a supervisor at this site is weak." Sixty-eight of 89 (76.4%) of supervisors either disagreed or strongly disagreed. However, 24.4% (21) of supervisors felt neutral or agreed that their own training was weak. Supervisors were asked about specific actions they take to assure safety training for their reports. Attendance at, as well as completing all compliance training by reports, were observed as the supervisors' responsibility. Eighty-four of 86 (96.7%) supervisors agreed. Supervisors also felt providing and documenting general and specific orientation to all new and direct reports were their responsibility with 72 of 87 supervisors agreeing or strongly agreeing that this responsibility was theirs and only 2.3% supervisors disagreeing that this was not a supervisor's responsibility. Not only did most supervisors see this as their responsibility, but also 68 of 87 (78.1%) agreed it was their responsibility to keep track of the status of each direct report's regulatory and compliance training. Twenty of 87 respondents replied either neutral or disagree with this question. When asked specifically about training reports on their annual Hazard/Compliance/Right to Know (chemical) training, 38 of 86 (44.2%) supervisors disagreed that they personally trained or co-trained their reports on this safety issue annually. Twenty-six of the 86 supervisors (30.2%) agreed that they personally trained, and 22 of 86 supervisors (25.6%) answered neutral on this question.

Perceptions on Safety Hazards

The third objective was to identify and analyze employee-based losses that are occurring for supervisors in the production and maintenance departments of Company XYZ. These losses may be directly related to safety hazards present and in the supervisors' direct control. Supervisors strongly agreed on the philosophy of ensuring safety and effective communication needed to maintain a safe work place. It was strongly perceived that as a supervisor, it was expected that the employees would bring safety hazards to the attention of their supervisors. Eighty-seven of 88 (97.8%) supervisors either agreed or strongly agreed with this assertion. Likewise, 78 of 87 (89.6%) supervisors agreed that their responsibilities were to ensure that the employees understood the hazards associated with tasks they were assigned before performing them while 9 of 87 (10.3%) supervisors either disagreed or were neutral. The supervisors also perceived themselves as capable of pointing out most safety hazards their reports might be exposed to on a given task. Of 87 total supervisors, 78 (89.6%) agreed that they were capable of identifying most hazards. When asked about the specific tasks that supervisors might engage in to identify losses occurring, supervisors also responded positively. A general question regarding housekeeping was posed. Eighty-four of 89 (94.4%) of the supervisors agreed that good housekeeping was essential to reducing hazards. When supervisors were asked if they insisted on proper ventilation, lighting, and noise control, 76 of 86 (88.4%) agreed, and when asked if keeping their emergency exits and evacuation routes functional and clear was a part of their responsibilities, 76 of 89 (85.4%) supervisors felt such was the case. When supervisors were asked if they ensured that machine guards were installed and kept in place, 76 of 88 (86.4%) agreed that this

was their responsibility and only 12 (13.6%) supervisors responded either as neutral or disagree. Supervisors were more positive when asked about required PPE for the employees, with 82 of 86 supervisors agreeing with such and 59 of 86 supervisors strongly agreeing. Supervisors were asked if they took co-ownership with other supervisors to make sure emergency eye-wash and shower stations were flow-checked and cleaned on a weekly basis. Only 61 of 87 supervisors (70.1%) felt that this was their responsibility. Twenty-six of 87 (29.8%) supervisors either disagreed or answered neutral to the statement of co-owning the responsibility of cleaning as well as flow-checking emergency eye-wash and shower stations. The last question was an administrative safety question where respondents were asked their role (or the degree of ownership) in accurately completing and administering permits for hazardous work being performed. These permits might include hot work, lock-out, line opening, and confined space entries. Of the 87 supervisors responding to this survey method, 76 (87.3%) agreed that this was their responsibility.

Discussion

Positive-Negative Schema Regarding Supervisor's Perceptions

A positive-negative schema was determined to ascertain if the number of years with the company, the number of years as a supervisor, or number of years of training impacted supervisors' perceptions. When asked if supervisors saw themselves as the key individuals for safety, those who had been with the company for 20 or more years had the most positive responses with 73.5% supervisors responding in an agree manner. Also, the greater number of years as a supervisor tended to elicit more positive responses. Supervisors completing four to six years of safety training also showed more positive

responses (85.9%) when asked if they see themselves as the key person in the area of safety. When asked if crew meetings included a safety discussion or a safety topic, those with fewer years with the company (less than five years or five to ten years) seemed to respond most positively (87.5% and 83.3%). Those supervisors with more years with the company responded less positively with 43.8% positive responses. For those supervisors who had been with the company ten to fifteen years, there were 53.2% positive responses. The number of years as a supervisor did not seem to impact how the supervisors perceived safety discussions or safety topics in crew meetings. Supervisors who had been trained with the company less than a year only responded positively 20.0% of the time, while those supervisors with six years of training responded positively 59.6% of the time. Supervisors who were with the company longer were less likely to see themselves as discussing something about safety with the employees at least once a shift. Those who had been with the company less than five years showed positive response of 100.0% regarding shift-based safety discussions while those who worked five to ten years and longer than twenty years responded positively 33.3% of the time. The number of years as supervisor did not seem to impact sharing of employees, but the number of years of training completed made a difference in supervisors' perceptions about how often they shared safety instructions with the employees. None of the supervisors with less than a year of training reported sharing safety instructions with employees while those with four to six years of training responded 52.9% positive in sharing safety procedures. How routinely a supervisor recognizes the good safety performance of an employee varies depending on years of safety training completed. Forty percent of the supervisors, who completed less than a year of training, reported that they recognized good safety

performance. In contrast, this increased to 84.5% positive for those who recognized good safety performance after completing four to six years of training. Likewise, expecting high standards of safety from reports increased from 60.0% positive for supervisors who had less than a year of safety training to 98.6% positive for supervisors who had four to six years of safety training.

Positive-Negative Schema Regarding Managerial Relations

Five statements were designed to determine the supervisor's perception of management's role in promoting safety. The following statements focused on managerial relations:

1. I have been told by my boss that when running my shift I am the "key person" for safety in my area.
2. I have specific safety expectations written down on my performance appraisal.
3. My manager fully supports the safety effort in my area.
4. Communications from my manager continuously reinforces safety.
5. My management does no more with safety than that which is minimally required.

Based on their responses to the above statements, the supervisors typically perceive themselves as the key person for safety seemed to decrease with the number of years spent with the company and with the number of years as supervisor. In contrast, as the number of years of safety training increased, so did the supervisors' perceptions of management telling them they were the key persons for safety. An analysis of responses to the above statements indicate that if there was less than a year of safety training, then there were 20.0% positive responses, while supervisors with four to six years of training resulted in 71.8% positive responses. Supervisors responded to a statement asking if

specific safety expectations were written down. The number of years with the company as well as years as supervisor did not seem to significantly impact responses positively, but once again the number of years of training did positively impact the responses with 60.0% positive responses for supervisors with less than a year of training and 89.7% positive responses for those supervisors with four to six years of training. Responses to the statement "my manager fully supports the safety efforts in my area" did not seem to be impacted by various factors including the number of years with the company, years as supervisor, or years of safety training. In contrast, the response to the statements regarding communication from managers (addressing and reinforcing safety and the management going above that which is minimally required) shows that supervisors were not positively impacted by numbers of years with the company or number of years as supervisor, but both were impacted by years of safety training. The communication statement showed supervisors with less than a year training showed 60.0% positive responses, while those supervisors with four to six years of training showed 94.1% positive response. Similarly, when asked about managers doing more than what is considered minimal, if supervisors had less than a year of training, the percentage was 60.0% positive, while those supervisors with four to six years of training responded positively with a percentage of 81.7%.

Positive-Negative Schema Regarding Safety Training

Not all statements related to safety training seemed to be impacted by years with the company, years as supervisor, or years of training but rather, the supervisors' perceptions regarding documenting and providing general and specific safety orientation to all newly hired employees was most positively impacted by safety training. If

supervisors had less than a year of training, the percentage of supervisors who provided safety orientation to new employees was 50.0% positive and this increased to 87.3% positive for those supervisors trained four to six years. Another response by supervisors that seemed impacted by these three factors (years with the company, years as supervisor, and years of training) was the statement on personally training or co-training the employees on their annual Hazard/Compliance/Right-to-Know (chemical) training. The responses for this statement varied more in relation to the supervisor's years with the company. Supervisors who are with the company less than five years/showed 62.5% positive responses and those at the company fifteen to twenty years showed 20.0% positive responses. The years as supervisor showed a similar pattern with those as supervisor less than a year to five years at 75.0% positive while those as supervisor four to six years showed 50.0% positive responses. Supervisors' perceptions of their training on safety expectations were positively impacted by all three factors: years with the company, years as supervisor, and years of training. Supervisors with less than a year to five years with the company reported the more positive percentage regarding supervisor training on safety of 62.5%. Supervisors with the more time with the company responded more positively at 80.0% when asked about their perceptions of their training on safety expectations. According to the survey, the supervisors perceived themselves as being adequately trained in safety. The years as supervisor also affected the perceptions of supervisor training on safety. If there was less than a year of training, 75.0% responded positively, but if the supervisor had been at this position four to six years, this percentage increased to 100.0% positive response. This percentage fell again to 77.6% positive responses for those who were supervisors for more than six years. The greatest positive

differences in percentage were again connected to the amount of training received. If supervisors were trained less than a year, they perceived their training as weaker at only 20.0% positive responses. In contrast, for those trained four to six years, supervisors' positive response percentage increased to 83.1%.

Positive-Negative Schema Regarding Safety Hazards

Three philosophical statements were surveyed regarding specific safety hazards. They are as follows:

1. I can point out most of the safety hazards that my direct reports are exposed to.
2. I ensure that my direct reports understand the hazards associated with the tasks that I assign them prior to them performing the task.
3. My direct reports are expected to bring safety hazards to my attention.

None of the statements seem impacted by the number of years supervisors were with the company, but the statement regarding employees understanding the hazards associated with the task seemed to be positively impacted by the number of years a supervisor spent employed with the company. Individuals with less than a year as supervisor responded with a percentage of 100.0% positive, but this dropped to 64.3% positive responses for those with the company one to two years, and then increased to 95.8% positive responses by those supervisors with more than six years experience. Supervisors' perceptions were strongly impacted by years of training as it relates to knowing safety hazards and making sure reports knew of these hazards. The ability of supervisors to point out hazards increased from 60.0% positive responses when supervisors had less than a year of training to 92.9% positive responses for supervisors with four to six years of training. Likewise, explaining hazards increased from 25.0% positive responses for supervisors

with less than a year of training to 93.0% positive responses for supervisors with four to six years of training. The general statement about need for good housekeeping to reduce hazards did not seem significantly impacted by the number of years with the company or years spent as supervisor, but the number of years of safety training showed some positive impact. Supervisors with less than a year of training showed 80.0% positive responses, while those supervisors with four to six years of training showed 94.4% positive responses.

Putting safety into practice was reflected in a statement regarding housekeeping tasks like proper ventilation, lighting, noise control, and clearing exits and evacuation routes. When asked about ventilation, lighting, and noise control, supervisors with less than a year of experience showed 95.7% positive responses, while those supervisors with four to six years of experience with the company only showed 75% positive responses. However, the number of years of supervisor training made a significant difference in positive responses. Supervisors with less than a year with the company showed positive responses 60.0% of the time, while those supervisors with four to six years of training showed 94.2% positive responses.

When considering emergency exits and evacuation routes, years with the company, years as supervisor, and years of training made a positive difference on supervisor's perceptions. Supervisors with the following years of experience showed the following positive responses:

- Years with the company
  - Less than a year to five years 75.0% positive responses
  - Fifteen to twenty years 90.0% positive responses

- Years as supervisor
  - Less than a year — 50.0% positive responses
  - More than six years — 87.9% positive responses
- Years of training
  - Less than a year — 60.6% positive responses
  - Four to six years — 85.9% positive responses

Supervisors' perceptions about their role in ensuring that machine guards are in place and that maintenance is performed were most positively impacted by the amount of training, which they received. In response to supervisors' perceptions regarding eyewashes and showers, machine guards, and PPE, all were positively impacted by years of training as indicated in the following table:

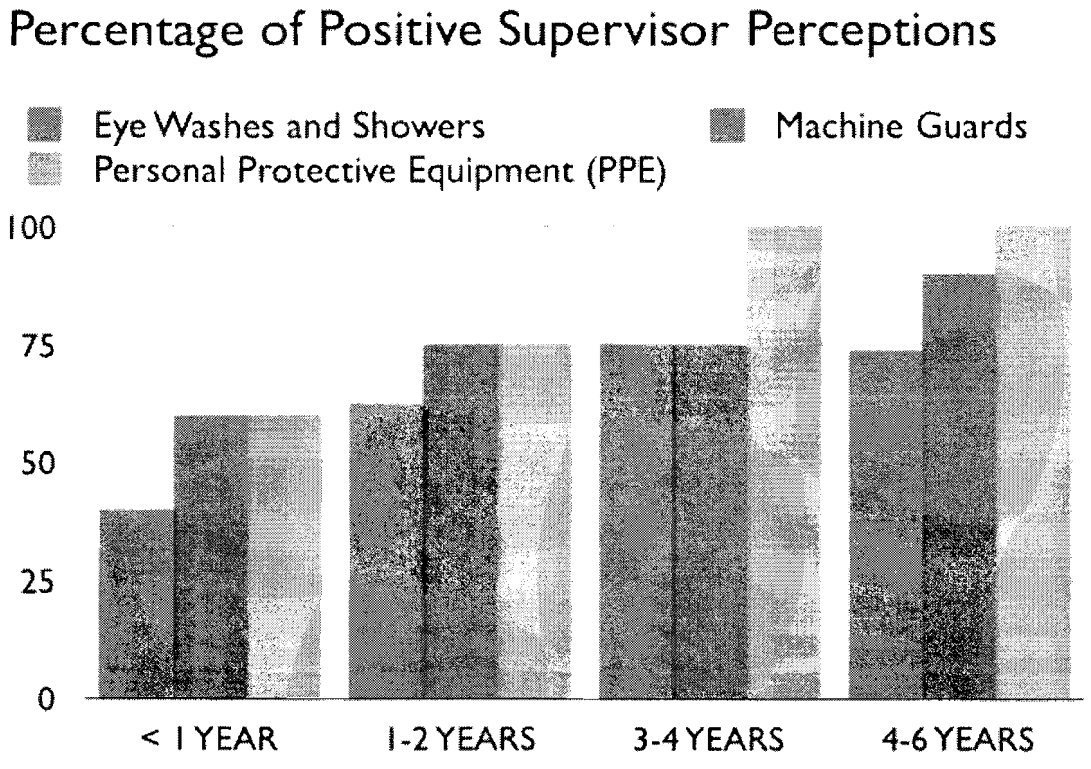

Figure 1- Machine Safety Perceptions

The question addressing co-ownership of having emergency eye washes and showers flow-checked and cleaned on a weekly basis seemed to decrease for supervisors as the number of years with the company increased. For example, supervisors with less than a year to five years with the company showed a positive percentage of 87.5%, while supervisors with more than twenty years with the company showed only a 66.0% positive response. Also, the number of years as supervisor seemed to show a decrease in positive percentage from 100.0% positive responses for supervisors with the company less than a year to 68.1% positive responses for those supervisors with the company more than six years. The enforcement of the use of PPE for employees seemed most significantly impacted by their years of training. If supervisors had less than a year of training, the percentage of positive perceptions was 60.0%, while those supervisors with four to six years of training responded 100.0% positively. Those supervisors with the company a shorter amount of time and with fewer years of experience saw completion and proper administration of permits for hazardous work (hot-work, lockout-line opening, confined space entries) as positive with 100.0%. For those supervisors with the company less than a year to five years and as supervisors for less than a year responses were 100.0% positive. Supervisors with more than twenty years with the company perceived themselves as enforcers of the use of PPE equipment as 80.9% positive. The years as supervisor also affected these percentages. Supervisors with less than a year experience reported 100.0% positive responses, while supervisors with more than six years of supervisory experience indicated an 89.4% positive response rate. Again, years of training had the most positive impact with supervisors with less than a year of training at

20.0% positive response for enforcing use of PPE while supervisors with four to six years of training responded 94.2% positive.

Chapter V: Conclusions and Recommendations

The study's purpose was to identify supervisors' current perceptions of their safety/risk control responsibilities as compared to Company XYZ management's expectations. The goals of the study were to:

1. Identify the supervisors' perceptions of their safety-related ownership and responsibilities at Company XYZ.
2. Identify and analyze supervisors' perceptions on how change is managed at Company XYZ.
3. Identify and analyze supervisor's loss prevention strategies for Company XYZ.

The methodology used to collect data included a questionnaire created from the literature review, a National Safety Council Survey, "The Safety Barometer," and company recordable incident rates and lost workdays data. The thirty question survey focused on the four areas of safety ownership, supervisor-managerial relationships, safety training, and safety hazard prevention. The questionnaire also focused on pertinent data, which might impact the four aforementioned categories. These included the supervisors' length of employment, years of safety training, and the number of years employed at Company XYZ.

Conclusions

Based on the data which was collected from 100 supervisors at Company XYZ through the use of approved survey questions which were developed by the management of Company XYZ, the following conclusions can be made about supervisors' perceptions:

- Supervisors perceived themselves as the key people for safety and included safety topics or safety discussions in crew meetings. Supervisors also viewed themselves as decision makers who communicated important safety topics.
- Philosophically, supervisors at Company XYZ purport to have high safety-based expectations for their employees. Communication is apparent between supervisors and their direct reports.
- Supervisors see themselves as taking leadership roles and believe safety is everyone's job.
- Perceptions are that managers communicate well and fully support safety efforts and follow up with written safety expectations and communications that reinforce safety.
- Safety training initiatives showed more diversity in responses with some twenty-four percent believing their safety training was weak. Change on the individual or organizational level may not be happening at the rate expected by management.
- Perceptions were that new employees were provided specific safety orientation and most supervisors felt it was their responsibility to keep track of new employees' safety status.
- When asked specifically about Hazard/Compliance/Right-to-Know chemical training, less than half of the supervisors perceived this as their responsibility. Ergonomics and chemical/hazard topics are a part of their safety responsibilities.

- Supervisors' perceptions indicate strong agreement on the need to monitor a safe work place and the employees' responsibility to bring safety hazards to their supervisor's attention.
- Supervisors' perceptions were positive in regard to their ability to make sure employees understood hazards associated with assigned work tasks. They also perceived themselves as capable of pointing out these hazards. Leadership and communication roles continue to be important to the safety/risk management program.
- To maintain a safe environment, supervisors perceived themselves as responsible for promoting good housekeeping, maintenance of equipment, and the diligent use of PPE. Planning and leadership skills are needed to accomplish the implementation of these safety measures.
- Many supervisors did not perceive themselves as responsible for the flow-checking and maintenance of emergency eye washes and showers.
- In the area of accurately completing and administering permits for hazardous work, supervisors perceived themselves as responsible for this task.
- The positive-negative schema regarding supervisor ownership and managerial relations indicates that the number of years of safety-based training most positively impacts supervisors' perceptions regarding safety more than years working at Company XYZ or years as a supervisor.
- The positive-negative schema regarding safety hazards and safety training indicates positive perceptions from supervisors who have received more

years of training rather than the number of years with the company or years in a supervisory role.

Recommendations

Based on supervisors' perceptions and the above conclusions, these are the following recommendations to enhance safety-related ownership and responsibility:

- Continuous Management- based training should be emphasized as supervisors perceive that safety ownership, managerial relations and hazard abatement is positively impacted by the amount of training received.
- Supervisors perceive themselves as key people for safety, yet the day-to-day tasks of safety housekeeping, equipment maintenance, and use of PPE shows more diversified perceptions about the supervisors' roles and responsibilities. Therefore, job descriptions should be reviewed and annual evaluations should be completed to demonstrate supervisors' strengths and weaknesses in communicating and carrying out safety procedures.
- The management of Company XYZ should continue to maintain leadership training to enhance safety ownership for all supervisors.
- Specific goals for daily safety measures should be delineated with supervisors taking the roles of planners, decision makers, and change agents.
- Ergonomic safety should be a training priority for all supervisors to enhance recognition of hazards and reduce injuries in an aging workforce.

Areas of Further Research

In order to determine the reasons for supervisors' perceptions regarding enhancing safety-related ownership and responsibility, the following areas should also be analyzed or investigated:

- Managers and supervisors should review the research on change in the areas of structure, tasks, technology, and people, and then research a change process like the one suggested by Kotter. The goal would be to establish a vision for improvement in the areas of loss time incident rates, recordable incident rates, and lost workday rates.
- A study on the type of training currently being provided should be reviewed for its effectiveness and practical application to daily safety procedures in Company XYZ.
- A review of communication procedures for reporting incidents should be studied with an analysis on the follow-up procedures used by managers and supervisors when incidents are reported. The leadership taken regarding follow up and consequent communication may lead to greater employee satisfaction.

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Appendix A: Supervisor Safety Ownership Survey

SUPERVISOR SAFETY OWNERSHIP SURVEY

Part 1- Demographics of Supervisors

How many years with the company?
0 to 5 years 5 to 10 years 10 to 15 years 15 to 20 years 20+ years

How many years as a supervisor?
Less than a year 1 to 2 years 3 to 4 years 4 to 6 years more than 6 years

How much training has been completed as a supervisor?
Less than a year 1 to 2 years 3 to 4 years 4 to 6 years more than 6 years

Part 2 Please put an X in the box of the response that best describes how you feel. If an item does not apply to you, fill in the box below N/A.		Strongly Agree	Agree	Neutral	Disagree	Strongly Disagree
1.	When working my shift, I feel I am the "Key Person" for safety in my area?	☐	☐	☐	☐	☐
2.	I fell that within my work area, safety takes a backseat to production?	☐	☐	☐	☐	☐
3.	I have been told by my boss that when running my shift, I am the "Key Person" for safety in my area?	☐	☐	☐	☐	☐
4.	I can point out most of the safety hazards that my direct reports are exposed to?	☐	☐	☐	☐	☐
5.	I ensure that my direct reports understand the hazards associated with the tasks that I assign to them, prior to them performing the task?	☐	☐	☐	☐	☐
6.	I provide and document general and specific safety orientations to all of my new, direct reports?	☐	☐	☐	☐	☐
7.	I start out each of my crew meetings with a safety discussion or a safety topic?	☐	☐	☐	☐	☐
8.	Safety is not my job?	☐	☐	☐	☐	☐
9.	I have specific safety expectations written down on my performance appraisal?	☐	☐	☐	☐	☐
10.	My direct reports are expected to bring safety hazards to my attention?	☐	☐	☐	☐	☐
11.	I insist on proper ventilation, lighting and noise control for my reports?	☐	☐	☐	☐	☐
12.	Assuring that my direct reports attend/complete all compliance training is a required part of my job?	☐	☐	☐	☐	☐
13.	Everything dealing with safety should be the Safety Engineer's/Coordinator's job?	☐	☐	☐	☐	☐

14.	At least once each shift, I discuss something about safety with one of my reports?	☐	☐	☐	☐	☐
15.	My manager fully supports the safety efforts in my area?	☐	☐	☐	☐	☐
16.	I enforce the use of required PPE for my direct reports?	☐	☐	☐	☐	☐
17.	Keeping my area's emergency exits and evacuation routes functional and clear is under my oversight?	☐	☐	☐	☐	☐
18.	I am responsible to keep track of the status of each of my direct report's regulatory and compliance training?	☐	☐	☐	☐	☐
19.	On a routine basis, I outwardly recognize the good safety performance of my reports?	☐	☐	☐	☐	☐
20.	I expect high standards in safety of my direct reports?	☐	☐	☐	☐	☐
21.	Communications received from my manager continuously reinforce safety?	☐	☐	☐	☐	☐
22.	Along with the other supervisors in my area, I take co-ownership for our area's system to have our emergency eyewashes and showers flow-checked and cleaned on a weekly basis?	☐	☐	☐	☐	☐
23.	I understand I have a high degree of safety responsibility and ownership concerning the accurate completion and proper administration of permits for hazardous work being performed in my area, such as my authoring of permits (hot-work, lockout-lineopening, confined space entries?	☐	☐	☐	☐	☐
24.	I personally train or co-train my reports on their annual, HazCom/Right-to-Know (chemical) training?	☐	☐	☐	☐	☐
25.	I keep my area's safety procedures current and accurate?	☐	☐	☐	☐	☐
26.	Actively supporting my area's safety committee is part of my job?	☐	☐	☐	☐	☐
27.	My management does no more with safety than that which is minimally required?	☐	☐	☐	☐	☐
28.	I believe that good housekeeping is a very important part of reducing hazards?	☐	☐	☐	☐	☐
29.	Ensuring that machine guarding is installed and kept in place is an important part of my job?	☐	☐	☐	☐	☐
30.	My own training on the safety expectations for a supervisor at this site is weak?	☐	☐	☐	☐	☐

PLEASE RETURN THE COMPLETED SUMMARY TO THE SAFETY DEPARTMENT.

Appendix B: Supervisor Safety Ownership Categories

Perception Survey (30 questions)

Supervisor Safety Ownership

Insert Scale: Strongly Agree Agree Neutral Disagree Strongly Disagree

Question Set # 1: **Supervisor Ownership**

1. When working my shift, I feel I am the 'key person' for safety in my area? 1
2. I feel that within my work area, safety takes a backseat to production? 2
3. I start out each of my crew meetings with a safety discussion or a safety topic? 7
4. Safety is not my job? 8
5. Everything dealing with safety should be the Safety Engineer's/Coordinator's job? 13
6. At least once each shift, I discuss something about safety with one of my reports? 14
7. On a routine basis, I outwardly recognize the good safety performance of my reports? 19
8. I expect high standards in safety of my direct reports? 20
9. I keep my area's safety procedures current and accurate? 25
10. Actively supporting my area's safety committee is part of my job? 26

Question Set # 2: **Manager Relations**

1. I have been told by my boss that when running my shift, I am the 'key person' for safety in my area? 3
2. I have specific safety expectations written down on my performance appraisal? 9
3. My manager fully supports the safety efforts in my area? 15

4. Communications received from my manager continuously reinforce safety? 21

5. My management does no more with safety than that which is minimally required? 27

Question Set # 3: **Safety Training**

1. I provide and document general and specific safety orientations to all of my new, direct reports? 6

2. Assuring that my direct reports attend/complete all compliance training is a required part of my job? 12

3. Concerning the status of each of my direct report's regulatory and compliance training, I am responsible to keep track of this? 18

4. I personally train or co-train my reports on their annual, HazCom/Right-to-Know (chemical) training? 24

5. My own training on the safety expectations for a supervisor at this site is weak? 30

Question Set # 4: **Safety Hazards**

1. I can point out most of the safety hazards that my direct reports are exposed to? 4

2. I ensure that my direct reports understand the hazards associated with the tasks that I assign to them, prior to them performing the task? 5

3. My direct reports are expected to bring safety hazards to my attention? 10

4. I insist on proper ventilation, lighting and noise control for my reports? 11

5. Concerning my direct reports, I enforce their use of required PPE? 16

6. Keeping my area's emergency exits and evacuation routes functional and clear is under my oversight? 17

7. Along with the other supervisors in my area, I take co-ownership for our area's system to have our emergency eyewashes and showers flow-checked and cleaned on a weekly basis? 22

8. Concerning the accurate completion and proper administration of permits for hazardous work being performed in my area, such as my authoring of permits (hot-work, lockout-line opening, confined space entries), I understand I have a high degree of safety responsibility and ownership? 23

9. I believe that good housekeeping is a very important part of reducing hazards? 28

10. Ensuring that machine guarding is installed and kept in place is an important part of my job? 29