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Effects of Employee Participation and Behavior-Based Safety Programs on OSHA Recordable incident Rates

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Effects of Employee Participative and Behavior-Based Safety Programs on OSHA
Recordable Incident Rates

A Research Paper Presented to the Graduate Faculty
of the Department of Occupational and Technical Studies
Old Dominion University

In Partial Fulfillment of the Requirements for the Degree of Master of Science in
Occupational and Technical Studies

By

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APPROVAL PAGE

This research paper was prepared by Andrew M. Nowicki under the direction of Dr. John Ritz, in OTED 636, Problems in Occupational and Technical Studies. It is submitted in partial fulfillment of the requirements for the Degree of Master of Science in Occupational and Technical Studies.

Dr. John M. Ritz
Advisor and Graduate Program Director

Date

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Chapter I

Introduction

Many companies state that employee safety is their top priority. There are many contributing factors that make a workplace safe or unsafe. Engineering controls, safe processes and equipment, protective equipment, adequate training, management commitment, good communication, and personal behaviors are some of these factors. All of these are important aspects to a safe workplace. However, in recent years more and more focus has been placed on individual behaviors. All sorts of industries and companies have realized that most workplace accidents are the result of poor personal behaviors.

Many things can be done to attempt to improve individual safety behaviors at work. Personal observations of how people work can take place. Training and discipline programs can be put into place. People can lead by example. All of these things are good and necessary. However, if the individuals performing the potentially unsafe job tasks are not involved in the various programs, then any improvement made may be only short-lived.

Statement of Problem

The purpose of this study was to determine the effect of employee participative and behavior-based safety programs on OSHA recordable incident rates so it could be determined which type of safety program should be adapted by all of Scholle Packaging's North American facilities.

Research Objectives

The objectives of this study were to answer three questions concerning safety programs and their applicability to Scholle Packaging.

1. Do behavior-based safety (BBS) programs promote safe work habits?
2. Do safety programs in which the production employees are actively involved lead to fewer safety incidents?
3. What type of safety program should be adopted by all Scholle Packaging North American facilities?

Background and Significance

Scholle Packaging's North American facilities all measure safety performance by tracking OSHA recordable incident rates. These rates have fluctuated for years at all the facilities. Some successes have been achieved from time to time at various plants. However, over time, these incident rates are averaging higher than the industry standard.

Various safety initiatives or programs have been used over the years, including behavior-based programs that encourage floor-level employee participation. Plant Managers and Safety Managers from the plants all know that these types of programs should lead to improved safety, but they have been frustrated as incident rates slowly rose up after initial improvements.

There has been a host of research that states the importance of behavior-based safety programs and the importance of employee input or participation. Groover (2007) claims that "even the best safety programs are as effective as the employee buy-in and support for the safety programs" (p. 20). Many more statements like this can be found. However, it is difficult to find studies that show how employee participation and input actually lead to lower incident rates. Employee driven behavior-based safety programs

typically do not take a large capital investment. However, they may demand a large investment in development time. Also, depending on the current workplace environment, implementing a behavior-based program may require a change in company culture.

Limitations

Workplace safety programs can be an expansive topic. For the purpose of this study, only safety programs with emphasis on unsafe behaviors and employee participation were considered. Other factors such as management commitment, engineering design, machine safeguarding, and job hazard analyses, incident investigation and more are known to help promote safety but were not analyzed in this study. There are many different ways to measure workplace safety: such as OSHA recordable incidents, near miss accidents, non-recordable incidents, employee exposures, and more. This study only focused on the effects of the safety programs on OSHA recordable incident rates.

Assumptions

For the purpose of this study it was assumed that a reduction in OSHA recordable incident rates reflected an overall improvement in the organization's safety. This assumption was based on the logic that recordable incident rates should be in line with other safety metrics. Also, it was assumed that a participative program involves participation from production level employees as well as managers.

Procedures

Data from Scholle Packaging facilities, the intended benefactor of this study, and Nibco, Inc., were used in this study. The organizations were provided with a questionnaire that asked them to supply information about their safety programs and a

history of their recordable rates. These data were only used as background information on behavior-based safety programs.

Definition of Terms

The following terms were defined to clarify this research:

OSHA (Occupation Safety and Health Administration) – Division of U.S. Department of Labor. OSHA sets federal regulations for workplace safety as well as providing support to employers and overseeing compliance to the regulations.

Recordable Incident – “A work-related injury or illness that results in one or more of the following: death, days away from work, restricted work or transfer to another job, medical treatment beyond first aid, loss of consciousness, or a significant injury or illness diagnosed by a physician or other licensed health care professional” (Code of Federal Regulations 29 CFR 1904.7).

Incident Rate (IR) - Number of recordable incidents per 100 employees per year (200,000 hours).

Overview

This study was based on the fact that most safety accidents are caused by employee behaviors and the idea that employee participation in safety programs will reduce the number of accidents. This study sought to find the types of safety programs or initiatives that encourage employee participation, show that participative safety programs lowered safety incidents, and determine which type of program would be best for Scholle Packaging. The study was limited to behavior-based programs that encouraged participation from all employees.

Chapter II will include a review of literature, which contains a summary of previous literature completed in the area of behavior-based safety. Chapter III will describe the methods and procedures used to conduct the study and analyze the data. Chapter IV will include the data and other findings of the study. Chapter V will provide a summary of the study and report on the research goals (conclusions).

Chapter II

Review of Literature

Behavior-based safety has been used in manufacturing and other labor-intensive industries since the late 1970's (Krause & Van Zee, 1995). Academic psychologists, physicians, and others worked with various manufacturers to apply behavioral psychology to safety performance. Since then, the use of behavior-based safety became widespread to a point where most companies recognized that significant and lasting reduction in injuries can only occur when behaviors were considered. The American Psychological Association (2003) stated that a 29% reduction in injuries occurred after behavior-based safety programs had been implemented for one year. This reduction in injuries increased to 72% after five years. This chapter will review literature regarding the importance of behavior-based safety, types of behavior-based safety programs, and the involvement of hourly personnel in behavior-based safety.

Behavior-Based Safety Defined

The premise of behavior-based safety was that individual actions or behaviors were what led to safety incidents. Behavior-based safety programs were built around identifying, measuring, and reducing at-risk behaviors that exposed employees to potential injuries. As stated by Krause (1995), a behavioral inventory must take place to determine the most common at-risk behaviors for a particular process, product, or workforce. From these inventories, operational definitions could be defined. These were the bases for data sheets or check sheets used by observers. Trained observers then observed the targeted area and recorded any at-risk behaviors. These data were then tabulated and used to implement improvements to reduce these at-risk behaviors. Krause

and Sloat (1995) stated that injuries would occur when these at-risk behaviors reached a critical mass.

The data that were collected through observations were analyzed and acted upon by methods typically used in Total Quality Management, such as statistical process control, problem-solving, and continuous improvement methods. As with any problem-solving or continuous improvement program, employee involvement were key. The Center for Behavioral Safety (2006) warned that programs that did not: “a) explicitly pinpoint and measure behaviors, b) base decisions on observed levels of safety behaviors, and c) involve the workforce in making formal behavioral observations in the field” should not be considered behavior-based safety programs.

Employee Participation

For any system, process, or behavior to improve, it must involve the individual performing the various tasks in a workplace. However, before that can happen, an organization’s management must be fully committed to the process, including a behavior-based safety program. Philson (1998) stated “management must fully envision the positive results” (p. 21) and “safety must be integrated into operations in such a way that it is brought up on a daily basis, not as a gimmick” (p. 24).

Management must engage their employees by helping them establish a connection to the organization and its leaders (Groover, 2007). At this point, floor-level (hourly) employees will feel comfortable giving input into the safety program. These employees can be involved by:

1. Providing information and feedback about the organization’s systems and efforts.

2. Helping to measure and manage exposure at the working interface.
3. Assisting in identifying solutions to safety problems (Groover, 2007, p. 20).

As Groover (2007) mentions, employees must be engaged. To stay engaged, employees need to receive consistent feedback that fits into Skinner's behavioral model. In addition to continual feedback, it has been suggested that employee rewards or recognition should be linked to safety activities and their results (Smith, 2007).

Behavior-Based Safety and Incident Rates

The traditional method for measuring safety performance has been to measure OSHA defined recordable incident rates. It was a standardized measure that an organization could track their safety record. OSHA used this data to measure if companies in the United States were providing safe work places for their workers. However, incident rates only measured the rate of injury that required treatment beyond first aid or led to lost time from work. It did not measure trips to the first aid station, near miss accidents, and exposures to hazards. Groover (2007) suggested that measuring potential injury exposures, physical hazards, or unsafe behaviors was a better measure of how safe a workplace was.

Krause (1995) also agreed that measuring injury rates may not be the most accurate method of determining the safety level of a facility. While he suggested other methods to measure safety performance, he also recommended ways in which the incident rate could be used in a way to see long-term trends. Krause (1995) and Zee (1995) detailed how to apply statistical process control (SPC), which was a common quality improvement tool, to the incident rate measure. They suggested that normal

variation in incident rates would occur from month to month. By setting statistically significant control limits, it could be easy to tell year by year if safety programs were having an effect on accidents.

Data from Nibco, Inc. Safety Program

In 2000, Nibco implemented a comprehensive safety program (Target Zero). This program was modeled after the requirements needed to obtain OSHA’s Voluntary Protection Program (VPP) certification. This program focused on safety leadership, safe equipment and processes, safety training, and employee behaviors. By 2003, their first site obtained VPP status. At that point, they had achieved a 21% reduction in their incident rate. By 2006, five sites had obtained VPP status and they had achieved a 41% reduction in incident rate since Target Zero implementation.

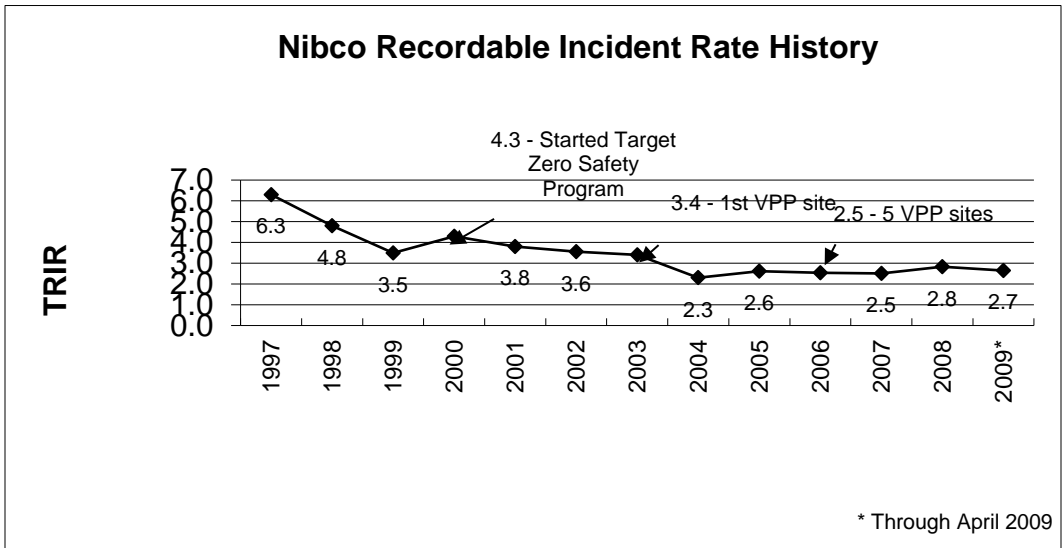


Figure 1. Nibco, Inc. Safety Data

Alternative Comments on Behavior-Based Safety

All of the resources thus far have encouraged the use of monitoring safe or unsafe behaviors as a way to improve safety in the workplace. However, there were some alternative points of view to be considered. Howe, of the United Auto Workers (as cited

by the Southeast Michigan Coalition for Health and Safety, 1998) claimed that focusing on workers' behaviors would take attention away from existing hazardous conditions. The United Steel Workers of America (year unavailable) have published their views that behavior-based safety proponents have exaggerated the influence of unsafe acts or behaviors on actual cause of injuries. They supported the use of a comprehensive health and safety program, which minimized the effect of individual behaviors.

Summary

This chapter reviewed various literature regarding the importance of behavior-based safety programs. The research defined what a good behavior-based safety program should include. The research also discussed the importance of employee participation in having a successful safety program. This chapter also details the use of incident rates as a safety measurement tool. A brief section on alternatives to behavior-based safety was also included. Methods and procedures for gathering and analyzing data will be discussed in Chapter III.

Chapter III

Methods and Procedures

This chapter discusses the methods and procedures used to collect and analyze data as it pertains to safety programs at Scholle Packaging. The discussion will include a description of the population studied as well as the research variables, instruments used to record data, a description of the data collected, and how the data were analyzed.

Population

This study was focused on the four manufacturing facilities of Scholle Packaging – North America, which were located in Northlake (Chicago), Illinois, Merced, California, Chilhowie, Virginia, and Baie d’Urfe (Montreal), Quebec. There are approximately 700 salary and hourly employees at the four facilities. The facilities have many similarities and differences in the work done and workforce employed.

The Northlake facility has approximately 300 employees, including Scholle’s technical and research staff. It is a non-union facility in a heavily unionized region. This facility has utilized behavior-based observations in the past. The program, which had stopped, utilized hourly and salary personnel in performing the observations. Their safety incident rates have a history of going up and down as programs are utilized then forgotten.

The Merced facility has approximately 200 employees, consisting of only manufacturing and manufacturing support personnel. It is also a non-union facility. Merced has a very good history of low incident rates. They have utilized various programs to achieve this.

Baie d'Urfe has approximately 80 manufacturing and manufacturing support employees. It is a union facility that has a very good working relationship between union and management personnel. Their incident rate history runs from good to average. They have also used various safety programs.

The Chilhowie facility has about 120 employees, which also consist of manufacturing and support personnel. This is a non-union facility. The safety history in Chilhowie has shown incident rates to be average to higher than average as compared to industry standards.

Research Variables

The main variables that were measured in this study were safety incident rates, employee perception of safety programs, and the type of program used. The safety programs implemented at the various facilities were the independent variables. Incident rates and employee perception are the dependent variables. The incident rates were tracked at each facility and compared to the implementation dates of each facilities safety programs. Each facility has recently implemented various types of safety programs that include behavioral safety as part of the programs. Attitudes toward the safety programs were also measured.

Instrument Design

Each facility reported recordable incident data on their OSHA 300 logs that are required to be kept. Each facility also reported total estimated hours worked by hourly and salary personnel each month. Together, these were used to calculate each facility's recordable incident rates. The safety coordinator at each facility provided recordable incident data. The manufacturing director for Scholle Packaging – North America

approved the use of this and other safety data for the study. The safety coordinators (or similar function) were interviewed to determine when specific elements of their safety programs were implemented.

Methods of Data Collection

Management and safety committee perception of each facility's safety program were gathered by the use of a short survey that utilized a Likert scale for determining levels of agreement to a given statement. Managers and supervisors at each facility received an e-mail request to complete the attached survey and describing the purpose of the survey. The safety coordinators at each facility took the survey to their respective safety committee members, then sent back the results electronically. See Appendix A for the survey and Appendix B for the cover letter. Also, each safety management representative was interviewed by phone or e-mail for safety program details.

Data Analysis

The relationship between safety incident rates and implementation of safety programs was compared using historical data. This was done by utilizing annual incident rates from before and after the new program was implemented.

The data from the safety program survey for each facility was tabulated to show overall perception of the safety programs. Similar characteristics were used to analyze this data.

Summary

This chapter covered the methods and procedures utilized in this study. It began by describing the population affected by the study. It then described the research variables, which included safety incident rates and employee attitudes toward the safety programs. The safety programs (instruments), used by the various facilities to affect the variables, were then discussed. The chapter concluded by discussing how the data were collected and analyzed. Chapter IV will contain the findings of the information collected.

Chapter IV

Findings

The purpose of this study was to determine the effect of employee participative behavior-based safety programs on OSHA recordable incident rates so it could be determined which type of safety program should be adapted by all of Scholle Packaging's North American facilities. This chapter will show the findings. Findings will be presented by a descriptive analysis then in figure format.

Facility Data

Merced

Exact data were not available for years prior to 2003. Several things occurred during 2004; Merced teamed up with a consulting company to develop a comprehensive written safety program. Managers and supervisors were assigned the responsibility to conduct the monthly safety training sessions. They initiated weekly toolbox topics for team discussions. A plant safety audit program was initiated that allowed employees from all departments to participate. Also, employees were held more accountable for their own safety as they moved forward. See Figure 2.

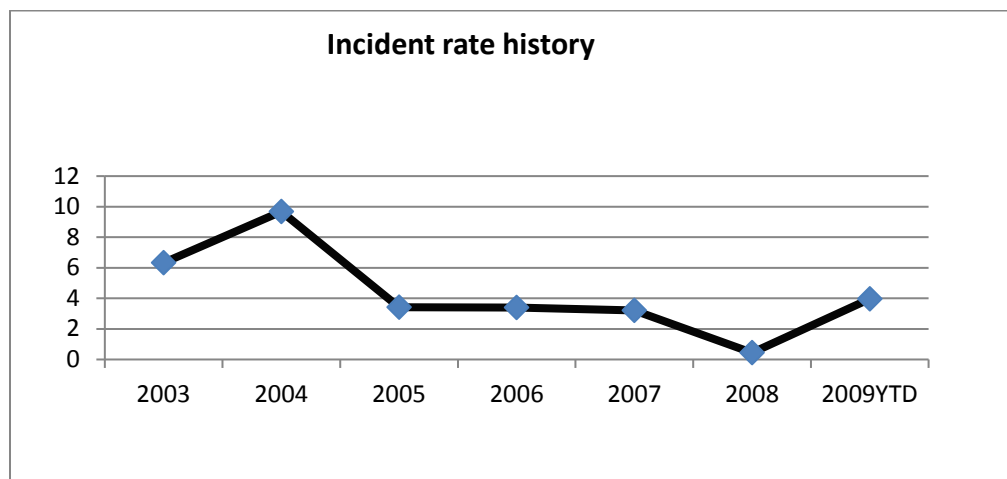


Figure 2. Merced Incident Rate History

Findings of Merced Safety Survey

The following is a summary of the Safety Survey for Merced. See Table 1 for an explanation of survey scores and Table 2 for the results. All personnel who received a survey returned a completed survey. Nine hourly members of the Safety Committee, three supervisor level, two department managers, and the plant manager all responded. Appendix B has a complete list of responses by position.

1. Almost all the responses from Merced management were agree or strongly agree.
2. All responses for use of behavioral observations were positive.
3. Four members of the safety team did not feel that all employees can be open about unsafe conditions.
4. Three members of the safety team and one supervisor did not agree that “our processes and equipment are safe.”
5. Five members of the safety team believed that employees do not understand all the hazards associated with their jobs.

Table 1. Explanation of Likert Survey Scores

Likert Response	Score Level
Strongly Agree	4
Agree	3
No Opinion	2
Disagree	1
Strongly Disagree	0

Table 2. Merced Safety Survey Results

Statement	Average Score– Hourly Safety Committee Members	Average Score – Supervisors	Average Score Managers	Plant Manager Score
1. Performing observations helps employees think about their personal safety.	3.6	3.7	3	4
2. Performing behavior-based observations has improved safety at our facility.	3.3	3.7	3.5	4
3. Employees appreciate getting feedback on safe or unsafe behaviors.	3.4	3.3	3.5	4
4. Our company’s primary focus is safety above all else.	3.4	3.0	3.5	4
5. A focus on potential unsafe conditions is as important as focusing on unsafe behaviors.	3.7	4.0	3.5	1
6. Our training program is the reason safety has improved in this facility.	3.3	3.3	3.5	4
7. Our leadership is committed to safety.	3.4	3.7	3.5	4
8. Our first-line supervisors are committed to safety.	3.2	3.3	3.0	4
9. Employees feel that co-workers are committed to safety.	3.1	3.3	3.0	4
10. I feel that all employees can be open and honest about safe or unsafe conditions.	2.9	3.3	3.5	4
11. Our focus on safe conditions (machines and processes) is the reason our safety has improved.	3.2	3.0	3.0	4
12. We need more focus on safety.	2.1	3.3	3.5	4
13. We need less focus on safety.	0.4	0.3	0.5	0
14. Our processes and equipment are safe.	2.8	2.3	3.0	4
15. Our employees understand all the hazards associated with their jobs.	2.2	3.0	2.5	4
16. Employees are expected to act safely and follow all safety procedures and policies.	3.6	4.0	3.5	4
17. Employees are recognized for good safety performance.	2.9	2.7	3.0	4
18. Employees are held accountable for poor safety performance.	3.2	3.3	4.0	4

Northlake

Northlake commenced using a behavior-based observation program in 1998. It was based on DuPont’s STOP® (Safety Training Observation Program). Supervisors and managers as well as hourly employees participated in on-floor observations of daily work activities. They reported all safe and unsafe behaviors as well as any unsafe conditions. Observers were encouraged to “report” to the person being observed what safe or unsafe acts they saw. By mid-1999, the facility had fully implemented this program. The

incident rate dropped 35 % after year one and another 38 % after year two. Refer to Figure 3 for the incident rate history. It was reported that after the several years, the participation in the STOP® program had waned. It was re-implemented in late 2007. At the same time, a program was started where employees were responsible to schedule and complete their own required safety training.

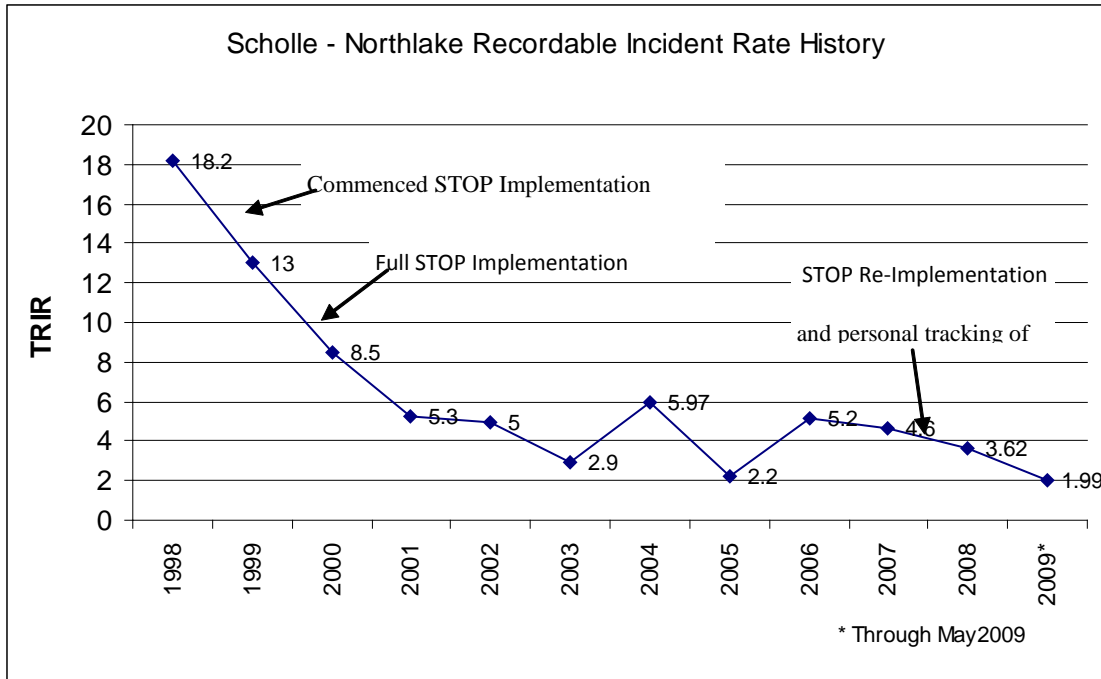


Figure 3. Northlake Incident Rate History

Chilhowie

At the end of 2007, an employee participation program was instituted that required hourly employees to perform a designated amount of safety activities that included: behavioral observations, equipment/work area inspections, or safety suggestions. An 80% reduction in the incident rate was obtained. At the beginning of 2009, a weekly safety talk program was implemented. Refer to Figure 4 for Chilhowie's incident rate history.

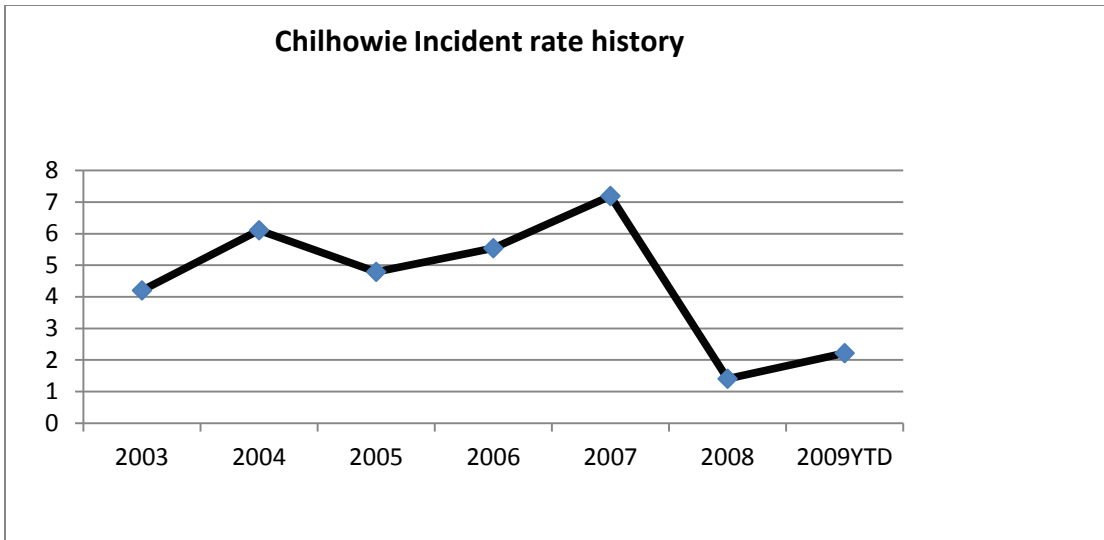


Figure 4. Chilhowie Incident Rate History

Baie d’Urfe

Starting in 2007, Baie d’Urfe commenced a re-focus on safety leadership from their management team. A focus was placed on being proactive and acting on the common “safety first” motto. Hourly and management members formed a six person safety team, where all members have equal input and participate in safety inspections and incident investigations. See Figure 5 for Baie d’Urfe’s incident rate history.

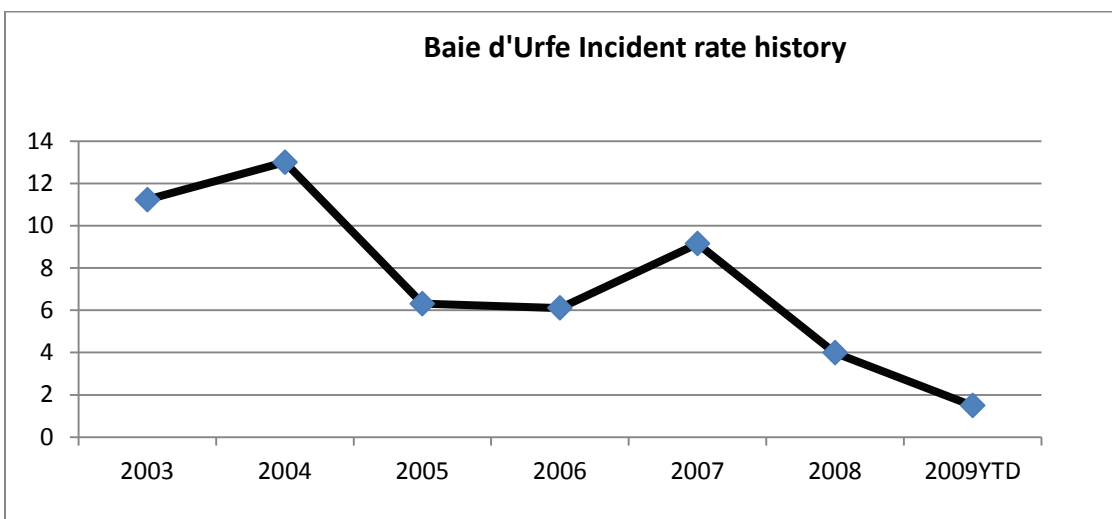


Figure 5. Baie d’Urfe Incident Rate History

Scholle Packaging – North America

The North American leadership for Scholle Packaging did not push for any specific program. The one change made in 2007 was that the OSHA recordable incident rate was made a key performance metric across all the manufacturing facilities. This was supported by allocating dollars to each facility's annual budget. See Figure 5 for Scholle Packaging – North America's aggregate incident rate history.

Survey results for all North American facilities were not received, only for the Merced facility.

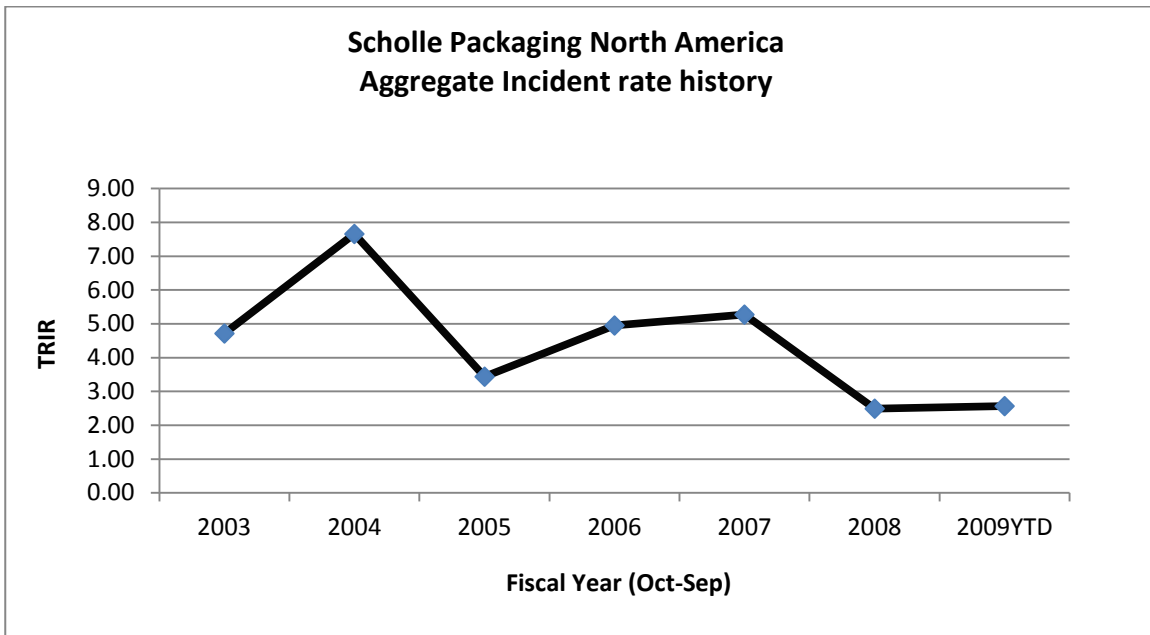


Figure 6. Scholle-Packaging North America Aggregate Incident Rate History

Summary

This chapter presented historical incident rate data, safety program highlights, and results from a safety attitude for each Scholle Packaging manufacturing facility. All of the facilities have shown a decrease in incident rate, resulting in an overall reduction in incident rates for Scholle Packaging North America. Each facility implemented different

programs, all of which encouraged employee participation. The Merced facility was the only facility that had a significant response to the safety survey. Their survey results showed that all employees may not understand all of the safety hazards and may not feel that their equipment is safe. All employees did feel that the facility focuses well on safety from a management and hourly perspective. Chapter V will summarize the report and will draw conclusions based on the data collected in Chapter IV.

Chapter V

Summary, Conclusions and Recommendations

This chapter will contain a summary of the research report, followed by conclusions made from the data collected, and recommendations to utilize the findings.

Summary

The purpose of this study was to determine the effect of employee participative and behavior-based safety programs on OSHA recordable incident rates so it could be determined which type of safety program should be adapted by all of Scholle Packaging's North American facilities.

The research goals of this study were to answer three questions concerning safety programs and their applicability to Scholle Packaging.

1. Do behavior-based safety (BBS) programs promote safe work habits?
2. Do safety programs in which the production employees are actively involved lead to fewer safety incidents?
3. What type of safety program should be adopted by all Scholle Packaging North American facilities?

Scholle Packaging's North American facilities all measure safety performance by tracking OSHA recordable incident rates. These rates have fluctuated for years at all the facilities. In the past, these incident rates are averaging higher than the industry standard. Over the last three years, these rates are averaging lower than the industry standard.

Also, there has been much research that states the benefits of behavior-based safety programs and the importance of employee participation. However, it is difficult to find studies that show how employee participation and input actually result in a lower OSHA recordable incident rate.

There are many ways to track an organizations safety record: incident rate, worker's compensation costs, lost workdays, and more. This study was limited in that it only utilizes the OSHA recordable incident rate, which tracks injuries beyond basic first aid.

Two key points were gathered from a review of literature on safety programs. First, a program cannot be considered behavior-based if it does not measure specific behaviors, make decisions based on safety behavior observations and involve a workforce that participates in making behavioral observations (Center for Behavioral Safety, 2006). Second, employees must be engaged in the safety process by providing feedback, helping measure and manage exposures, and by assisting in the solution process (Groover, 2007).

OSHA recordable incident rate histories were collected from each Scholle Packaging North American manufacturing facility: Baie d'Urfe, Quebec; Chilhowie, Virginia; Merced, California; and Northlake, Illinois. Each of these facilities also provided safety program information via e-mail or direct interviews. Each of these facilities also participated in a safety attitude survey.

Also, Nibco, Inc. provided similar information that was provided by the Scholle facilities. This information was collected via a telephone interview with the company's corporate safety director. The information given about the various safety programs was compared on a timeline basis with the incident rates.

Conclusions

To answer the research problem, the following conclusions were made.

1. Do behavior-based safety (BBS) programs promote safe work habits?

The data provided by Northlake and Chilhowie showed that behavior-based programs, specifically behavioral observations, do promote safe work habits and lead to a reduced incident rate. Northlake had an incident rate (18.2 and 13) that was significantly higher than the industry standard during the two years, 1998 and 1999; they implemented DuPont's STOP® (Safety Training Observation Program) program. Then their recordable incident rate dropped by over 50% over 2000 and 2001. It should be noted that Northlake's incident rate fluctuated over the next several years before they re-implemented STOP® in 2008.

Chilhowie also showed a decreased recordable incident rate after implementing a behavioral observation program starting in 2008. From 2007 to 2008, Chilhowie's incident rate dropped by 80%.

2. Do safety programs in which the production employees are actively involved lead to fewer safety incidents?

All four Scholle Packaging North American facilities had an increase in production employee participation in their safety programs along with a decrease in incident rate. It is believed that employee participation in various programs has helped maintain continual safety awareness at all levels of the facilities.

In 2008, Northlake started a process where each employee was required to sign up for and attend OSHA required safety training. They were responsible to have it completed by years end. This was implemented at the same time the observation program was re-instituted. Over this time, their incident rate dropped from 5.2 in 2006 to 3.6 in 2008.

Merced had a decrease in incident rate from 2003/2004 to the present, from averaging around an 8 to less than 4. A comprehensive written program was developed in 2004. Part of this program was an inspection program in which all personnel were required to participate. The sustained decrease in incident rate may not be fully attributed to the participation, but it is evidence that it has had an effect.

In addition to implementing an observation program, Chilhowie's employee program included work area inspections and safety suggestions. As stated previously, Chilhowie had an 80% drop in incident rate (7.1 to 1.5).

Baie d'Urfe has had a greater than 50% reduction in their recordable incident rate from 2007 and before to 2008 and 2009. Their safety committee consists of plant management and hourly personnel. No hierarchy distinctions are made on this team and all have equal input when investigating injuries and generating ideas for improved safety.

3. What type of safety program should be adopted by all Scholle Packaging North American facilities?

Each Scholle Packaging facility in North America has achieved a decrease in recordable incident rate over the last few years. However, this has only been for a short period of time and Scholle's history shows that incident rates tend to fluctuate. When combining aspects of each facility's safety programs, a comprehensive program emerges that focuses on leadership, behaviors, participation, training, equipment, incident investigations, and more.

Data collected from Nibco, Inc. proves that a comprehensive program works for individual facilities and an organization over time. Their incident rate has been less than four for nine years and between two and three for the last six years. Their program, titled

Target Zero (as in zero incidents), is based on achieving and maintaining OSHA VPP (Voluntary Protection Program) status. A review of the Voluntary Protection Program shows a comprehensive list of requirements, with a focus on leadership.

Recommendations

In order for Scholle Packaging – North America to achieve and maintain a low rate of safety incidents, it is recommended that the division adopt a comprehensive program similar to Nibco’s Target Zero. The program would gear up each facility to achieve OSHA VPP status. This program would focus on safety leadership from management personnel and participation from hourly personnel. Behavioral safety should be an integral part of the program. Division leadership should lead the effort.

The following are details of how the findings may be implemented. First, Scholle Packaging’s division leadership should establish a goal for each facility to achieve OSHA VPP status within three years. A VPP coordinator should be appointed at the division level or higher to guide and assist each facility as they strive for VPP status. This coordinator should be a qualified VPP program auditor. Also, a comprehensive review of Nibco Inc’s Target Zero program should be conducted to learn best practices in achieving and maintaining VPP status.

Second, employee participation and leadership are integrated into the VPP program. Special care should be taken to involve all employees in plant and individual safety. Hourly employee participation in safety committees, equipment inspections, review of job task hazards, and submission of safety suggestions should all be part of the program. Safety program participation should be a major factor in periodic performance evaluations.

Third, a strong behavior-based observation program should be implemented, or continued, at each facility. Unsafe actions or behaviors directly cause injuries or lead to unsafe conditions that could cause injuries. This program should involve both hourly and salary personnel. It is recommended that DuPont's STOP® (Safety Training Observation Program) be utilized for this purpose.

Additional tracking of behavioral safety should be conducted to include details of the types of unsafe behaviors that were occurring and the corrective actions taken to eliminate those behaviors. This information, as well as program best practices, incident investigation findings, and equipment improvements, should be shared among the facilities.

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Appendix A

Employee Safety Program Survey

Company/Facility:

Position:

Date:

Directions: Please carefully read each statement and check the box under the item that best fits your agreement or disagreement to the statement.

Statement	Strongly Agree	Agree	No Opinion	Disagree	Strongly Disagree
1. Performing observations helps employees think about their personal safety.					
2. Performing behavior-based observations has improved safety at our facility.					
3. Employees appreciate getting feedback on safe or unsafe behaviors.					
4. Our company's primary focus is safety above all else.					
5. A focus on potential unsafe conditions is as important as focusing on unsafe behaviors.					
6. Our training program is the reason safety has improved in this facility.					
7. Our leadership is committed to safety.					
8. Our first-line supervisors are committed to safety.					
9. Employees feel that co-workers are committed to safety.					
10. I feel that all employees can be open and honest about safe or unsafe conditions.					
11. Our focus on safe conditions (machines and processes) is the reason our safety has improved.					
12. We need more focus on safety.					
13. We need less focus on safety.					
14. Our processes and equipment are safe.					
15. Our employees understand all the hazards associated with their jobs.					
16. Employees are expected to act safely and follow all safety procedures and policies.					
17. Employees are recognized for good safety performance.					
18. Employees are held accountable for poor safety performance.					

Note: no personal information will be used in reporting the data, only the survey results.

Appendix B. Merced Survey Results

Position	Question #																	
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18
Plt Mgr	4	4	4	4	4	1	4	4	4	4	4	4	0	4	4	4	4	4
Production Mgr	3	3	4	3	3	4	3	3	3	3	3	4	0	3	3	3	3	4
Film Mgr	3	4	3	4	4	3	4	3	3	4	3	3	1	3	2	4	3	4
Quality Technician	4	4	4	4	4	4	3	3	3	3	3	4	0	3	3	4	3	4
Supervisor	4	4	3	2	4	3	4	3	4	3	3	2	1	2	3	4	2	4
Supervisor	3	3	3	3	4	3	4	4	3	4	3	4	0	2	3	4	3	2
Safety Team	3	3	3	4	3	3	3	3	2	3	3	3	1	3	1	3	1	3
Safety Team	4	3	3	3	4	3	4	3	3	4	4	3	0	3	3	4	3	3
Safety Team	4	4	4	4	3	4	4	3	3	2	3	4	0	3	3	4	1	3
Safety Team	3	3	3	2	4	2	2	2	3	2	2	2	2	1	0	3	3	4
Safety Team	4	3	3	4	3	3	3	3	3	2	3	4	1	2	1	3	2	3
Safety Team	3	3	4	3	4	3	3	3	3	2	2	3	0	2	1	3	4	2
Safety Team	3	3	3	3	4	4	4	4	3	3	4	0	0	3	3	4	4	3
Safety Team	4	4	4	4	4	4	4	4	4	4	4	0	0	4	4	4	4	4
Safety Team	4	4	4	4	4	4	4	4	4	4	4	0	0	4	4	4	4	4