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The Effect of Safety Training at the Ford Assembly Plant in Norfolk, Virginia

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SIGNATURE PAGE

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Approved By

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CHAPTER I

INTRODUCTION

There are several reasons to desire a safe workplace. Not only are there regulations to be adhered to and money to be saved, but the safety of employees, especially in industrial companies, is always a concern. Keeping safety violations and accidents reduced keeps workers' compensation costs down and the production line flowing and workers' attitudes in the right place. It also keeps federal government inspectors away from every day operations.

An effective way to keep the safety violations and accidents to a minimum is to provide a thorough safety program. The livelier the program, the more the employees will benefit from it (Lucas, 1996, p. 14). The employees cannot always be expected to be thrilled to attend safety training. They must be motivated to learn and practice safe workplace behaviors. Goals, incentives and feedback should be used to build intrinsic characteristics. Some of these characteristics are interest, responsibility, personal growth and development and knowledge of results (Hatcher, 1995, p. 11).

Once the employees have been motivated to learn and practice safe behavior in the workplace, recognition of this behavior is also worthwhile for the

company. The violators of the program should not be the only ones recognized. Bribery need not be used, but perhaps a bonus if a fiscal quarter is completed without injury. Even a company-wide competition and small rewards go a long way to ensure safe practices (Lucas, 1996, p. 14).

STATEMENT OF THE PROBLEM

The problem of this study was to determine if lost time due to work related accidents and safety violations at the Ford Assembly Plant in Norfolk, Virginia, was influenced after safety training was conducted.

RESEARCH GOALS

These research goals were established to answer the problem and provide guidelines to conduct the research:

1. Determine when, how often, and under what conditions safety training was given.
2. Determine what teaching method was used in the delivery of safety training.
3. Determine the amount of lost time due to safety violations before and after the safety training was given.

BACKGROUND AND SIGNIFICANCE

There have been many changes in the American workplace over the last few decades. They included workplace demographics, global competition and the focus from a manufacturing to a service economy. These changes brought with them the need to teach safe work behaviors on the job (Hatcher, 1996, p. 3).

The result of these changes has been an abrupt increase in workplace training with managers, professionals and technical workers being the main beneficiaries of this increase (Carnevale, 1994, p. S22). More employers have become willing to provide formal company training due to this increasing training need. The employees most trained were the ones with the most education. The reason for this being that those who sought a higher education were thought to be more committed to their careers (Carnevale, 1994, p. S22).

The six occupations that showed smaller-than-average percentages of workplace training were: nontechnical professionals, service workers, machine operators, laborers, craft workers and transportation employees. Some reasons for this trend were that it was expensive to take people off the job for training

due to lost wages and decreases in productivity (Carnevale, 1994, p. S23).

A company's response to new safety regulations was shown to depend on its existing safety atmosphere. Its willingness to provide comprehensive safety training depended on the importance the company attached to safety. Many companies did not have a choice but were required to meet government regulations. Other companies, however, were reluctant to invest in training because safe working conditions normally did not produce more business or reduce operating costs (Saari, 1993, p. 65).

In many safety-oriented manufacturing companies there were high levels of cooperation between employers, unions, employees, schools and other training institutions (Lynch, 1993, p. 1). The company and union provided the intrinsic motivation that the employees needed to practice safe workplace behaviors as discussed in the introduction of this chapter. It became just as important to train the nontechnical employees as the managers and professionals. Safety practices have been and will continue to be very important factors in measuring a company's success, not just its profit margin.

LIMITATIONS

The limitations were outlined to keep this study manageable. They were as follows:

1. The amount of lost time was tracked over a period of time due to the ongoing nature of the safety training.
2. The sample of employees was taken from the hourly production line and skilled trade workers in the Paint, Body and Final Assembly Departments at Ford Motor Company, Norfolk, Virginia.

ASSUMPTIONS

The following assumptions were made in this study:

1. The data were collected from the Training and Development Leader at the Ford Assembly Plant and assumed to be accurate.
2. The results found in the study could also have been influenced by employee education level, amount of new hires and number of repeat offenders.
3. The results of the effectiveness of the safety training depended on the method of teaching used, as well as the level of employee motivation and interest.

PROCEDURES

The data for this research was compiled from the training methods used and other relevant safety practice information that was collected by Neal Jefferis, the Training and Development Leader at the Ford Assem-

bly Plant. The lost time due to safety violations and accidents was documented and analyzed, seeking an after-training influence or fluctuation in the results. Training program information was documented and methods used were measured for effectiveness and impact on employees. Other variables such as employee education, motivation and seniority on the job were noted and a relationship between the variables and the outcome of training were investigated.

DEFINITIONS OF TERMS

The following definitions were important to understanding terms used in this research study.

1. BEW - Basic Equipment Wellness Training.
2. Extrinsic Motivation - interest resulting from promise of prizes or awards.
3. FTPM - Ford Total Productive Maintenance Program.
4. Intrinsic Motivation - behavior that comes from within oneself, not from promises of money or awards.
5. Safety Training - the training given to illustrate to employees the proper method of operating equipment and behaving in the workplace to prevent injury to themselves or others.
6. SPR - Safety Process Review Board
7. UAW - United Auto Workers Union.

SUMMARY

Chapter I has provided the problem of the study as well as why the problem arose and the importance of this study. Limitations and assumptions were listed to keep the problem manageable and easily understood by the reader. Procedures were outlined to explain how the data was collected and the significance of the results. Definitions were supplied to keep terms clear.

Chapter II reviewed corresponding literature to this study. Chapter III described the methods and procedures used for collecting data. Chapter IV presented the data collected and Chapter V included the summary, conclusions and recommendations that resulted from the study.

CHAPTER II

REVIEW OF LITERATURE

The purpose of this chapter was to outline the related literature to the problem statement and objectives. The topics included in this chapter were: 1) potential work related hazards in a manufacturing plant, 2) safety training objectives, 3) background and general information about the Ford Assembly Plant in Norfolk, Virginia, 4) potential work related hazards at the Norfolk Ford Assembly Plant and 5)the type of safety training and precautions in existence at the Norfolk Ford Assembly Plant. These topics laid a solid foundation prior to analyzing the data collected.

POTENTIAL WORK RELATED HAZARDS IN A MANUFACTURING PLANT

The many reasons that companies were concerned about safety training were listed in the introduction of this paper. They were: keeping 1) accidents and violations reduced, 2) costs down on workers' compensation and time lost, 3) the production line flowing, 4) the workers' attitudes in the right place and 5) the federal government inspectors away from every day operations. Money was not only lost through production down time, but through medical costs of injuries and the lost input of the knowledgeable,

skilled employees. To prevent such losses, identifying the potential work related hazards was the first step in determining what type of safety training was needed. One canned training session just would not apply across the board to all companies. Food service companies, for example, had different needs than a heavy equipment manufacturing company such as Ford. One common injury that most companies as well as corporate offices had, however, was the back injury. According to OSHA (Occupational Safety and Health Administration), back injuries were the most common workplace injury and the nation's top workplace safety problem (How to Cut Workers' Compensation Costs, 1996, p. 32B). They accounted for one of every five workplace injuries or illnesses according to the Bureau of Labor Statistics (How to Cut Workers' Compensation Costs, 1996, p. 32B). Something as common as the back injury required lifting technique training and/or physical conditioning to reduce muscle strain. Lifting was found to be the cause of three-fourths of the lower back injuries, so this training was a definite necessity (How to Cut Workers' Compensation Costs, 1996, 32B).

The back injury has affected many of the reasons that were listed in favor of safety training. Back injuries have caused companies to sustain a slow in

production, increase in workplace accidents, possible workers' compensation costs and a chance of closer scrutiny from a federal organization. One-fourth of all compensation claims involved back injuries (How to Cut Workers' Compensation Costs, 1996, 32B).

Other types of safety precautions that have been implemented at most manufacturing companies were the requirement to wear protective clothing. This clothing included hard hats, face masks, goggles, ear protection, steel-toed boots, and arm and face protection. Training was not the only tool used to encourage the use of such items. Monitoring and company rules and regulations made the wearing of such items a must. Only a small percentage was found of injuries to those wearing the protective equipment (How to Cut Workers' Compensation Costs, 1996, p. 32B). Effective safety training and follow-up reduced such injuries.

SAFETY TRAINING OBJECTIVES

Safety training should have been given to all employees, but there were three groups of people to especially concentrate on: new hires, young workers and repeat offenders. New employees were a high risk because they often did not receive the information they needed to conduct their job, even involving dangerous equipment. According to the Bureau of Labor Statis-

tics, nearly half of the workers injured in 1979, for example, had been on the job less than a year (How to Cut Workers' Compensation Costs, 1996, 32B). Young workers were also a high risk because they thought that they were immortal and they did not receive health and safety information in high school (Sulski, 1996, p. 60).

Repeat offenders, according to many companies, were a small percentage of employees accounting for a large percentage of lost-time injuries (Hager, 1996, p. 68). The repeat offenders did not necessarily get injured on purpose. Some were in high risk jobs and some may have had a recurring injury. Whatever the reason, they could not just be dismissed to hire new employees. This left companies open to problems with union contracts, the Americans With Disabilities Act or with lawsuits for wrongful termination or discrimination (Hager, 1996, p. 68). Without the option of dismissing these offenders, the companies had to turn to a strong safety program which included practical methods of attitude control, balanced body mechanics, stress management and a strategic understanding of the multiple contributing factors in accidents (Hager, 1996, p. 68).

To provide this training several methods have been used effectively. Most companies have used the classroom as the main method of training. There are companies that have produced custom-made videos that helped employees recognize, avoid and eliminate unsafe conditions on the job (Safer Operating, Safer Jobsites, 1996, p. 14).

No matter what procedure was used, most research in this area stressed that motivating the employee was crucial to effective training. A highly motivated employee was more successful in applying the learned material than those that were not motivated (Hatcher, 1995, p. 2)

The method of instruction was not the only factor to effective training. Some items that should have been taken care of prior to training were: determine training needs, conduct a workplace environmental assessment, review potential training programs, develop effective instructors, carefully select who will attend training, win support from supervisors, prepare trainees in advance and distribute pre-course material (Minter, 1996, pp. 33-34).

The following were steps taken during training to ensure maximum commitment to training: provide adequate training facilities, provide adequate resources for the

trainer, insist on documentation and offer recognition to attending employees (Minter, 1996, p. 34).

The delivery of safety training was not where safety awareness stopped. Follow-up was vital to reinforcing learned material. The following steps were completed to ensure application of the classroom or video material: meet with trainees, provide opportunities to apply training, provide feedback and support, provide expert coaching, provide resource material, provide job aids, evaluate performance and provide periodic refresher training (Minter, 1996, p. 34). Implementing these steps before, during and after training improved the employee's retention of the material.

GENERAL INFORMATION ON THE NORFOLK FORD ASSEMBLY PLANT

The information contained in the following three segments of this chapter was obtained from Neal Jefferis, the Training and Development Leader of the Norfolk Ford Assembly Plant. The Ford Assembly Plant has been in the same location in Norfolk, Virginia, since 1925. There were approximately 2300 hourly and 200 salaried employees at the plant at the time of this study. The plant produced roughly 470 trucks per shift or about 940 trucks per day. There were 3900 parts per vehicle. Fifty to fifty-five train cars and 130

tractor-trailers full of these parts arrived at the plant per day and usually lasted a twenty-four hour period. If the production line went down for any reason, production would stop and would cost the plant around $5,000 to $7,000 a minute. The importance of keeping the production line moving at this plant was apparent. There was no time for accidents and injuries.

POTENTIAL WORK RELATED HAZARDS AT THE NORFOLK FORD ASSEMBLY PLANT

Some of the potential injuries that occurred at the Norfolk Assembly Plant were back injury, lacerations, twisted ankles and a possible injury to a pedestrian from a power material handling vehicle (i.e., forklift). Safety precautions were put into place to prevent such injuries. Safety glasses were mandatory for all employees and visitors who enter the production area. Those that worked in the Body Department were required to wear long sleeves to minimize lacerations from the sheet metal.

Whenever there were a series of injuries, the ergonomics of the process were reviewed and investigated. For example, a battery was placed in each truck by hand. Because this caused back strain, a machine was developed to put the battery in each truck. An-

other example involved the 168 robots on the Body Shop assembly line which were kept in cages. They were designed to electrically disconnect when the cage was opened to avoid electrical injury. Along with these safety precautions and devices, safety training was vital to keeping accidents and occurrences down at the plant.

TYPES OF SAFETY TRAINING AND PRECAUTIONS AT THE NORFOLK FORD ASSEMBLY PLANT

There were three main types of safety training at the plant: 1) Initial Training, 2) Job Specific Training and 3) Recurring/Refresher Training. The Initial Training was given to the new hires. It was classroom training which included four hours of general responsibilities and safety practices, four hours of hazard communications (recognition and reaction to hazardous situations) and one hour of pedestrian safety.

Job Specific Training was given to those in the skilled trades, those in special circumstances (such as high climbing) and anyone that handled specialized equipment. For example, for Equipment Power Lockout Training, the skilled trade workers, their supervisors and the cleaning people attended. The Job Specific Training consisted of classroom information, a

practical demonstration by the instructor and application by the student under the supervision of the instructor.

The Recurring/Refresher Training was given when specified by the UAW/Ford contract agreement. The course included an hour and a half of general responsibilities and safe practices. This training usually occurred when there were updates or changes in equipment and procedure.

There were also several safety programs in effect at the plant. Ford Total Productive Maintenance (FTPM) Program consisted of small group activities around small equipment. When an equipment or safety issue came up, this group convened to discuss and find a solution to the problem. A "single point lesson" was then developed and issued to those who used the equipment. These different training programs were developed to meet the many safety needs of a highly productive manufacturing plant.

Weekly safety walks were conducted through each area to provide a fresh look from "outside eyes" to look, document and track safety programs. If a problem was found, a safety work order was put in which had priority over the other work orders. Figure 1 shows an

example of a safety walk/ECTA data collection flow chart.

Lastly, the Safety Process Review Board (SPR) meets every other week. Figure 2 and 3 illustrate the organizational chart of SPR attendees and their roles and responsibilities. They discussed progress on safety work orders. If the orders were still open, the status was reported at these meetings. The board also kept track of lost time accidents, number of cases and which process of assembly was involved.

SUMMARY

This chapter, the Review of Literature, has discussed potential work related hazards in manufacturing plants, safety training objectives, general information on the Norfolk Ford Assembly Plant, potential work related hazards at the Norfolk Ford Assembly Plant and a description of the safety training and precautions that the Norfolk Ford Assembly Plant implemented. The next chapter, Methods and Procedures, will cover the methods and procedures used to collect data.

NORFOLK ASSEMBLY PLANT

SAFETY WALK / ECTA DATA COLECTION

FLOW CHART

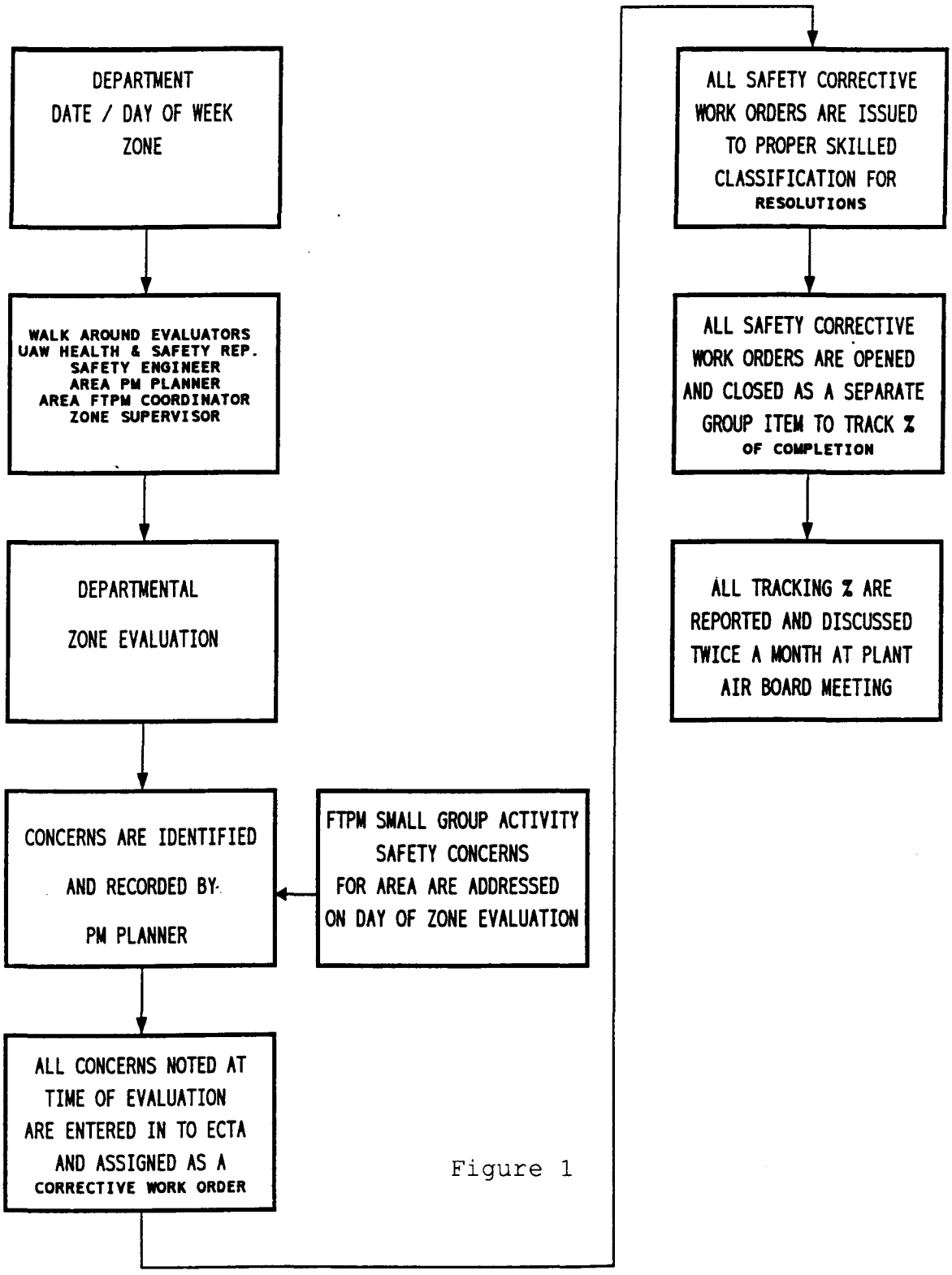


Figure 1

NORFOLK ASSEMBLY PLANT
S.P.R.BOARD
ORGANIZATION

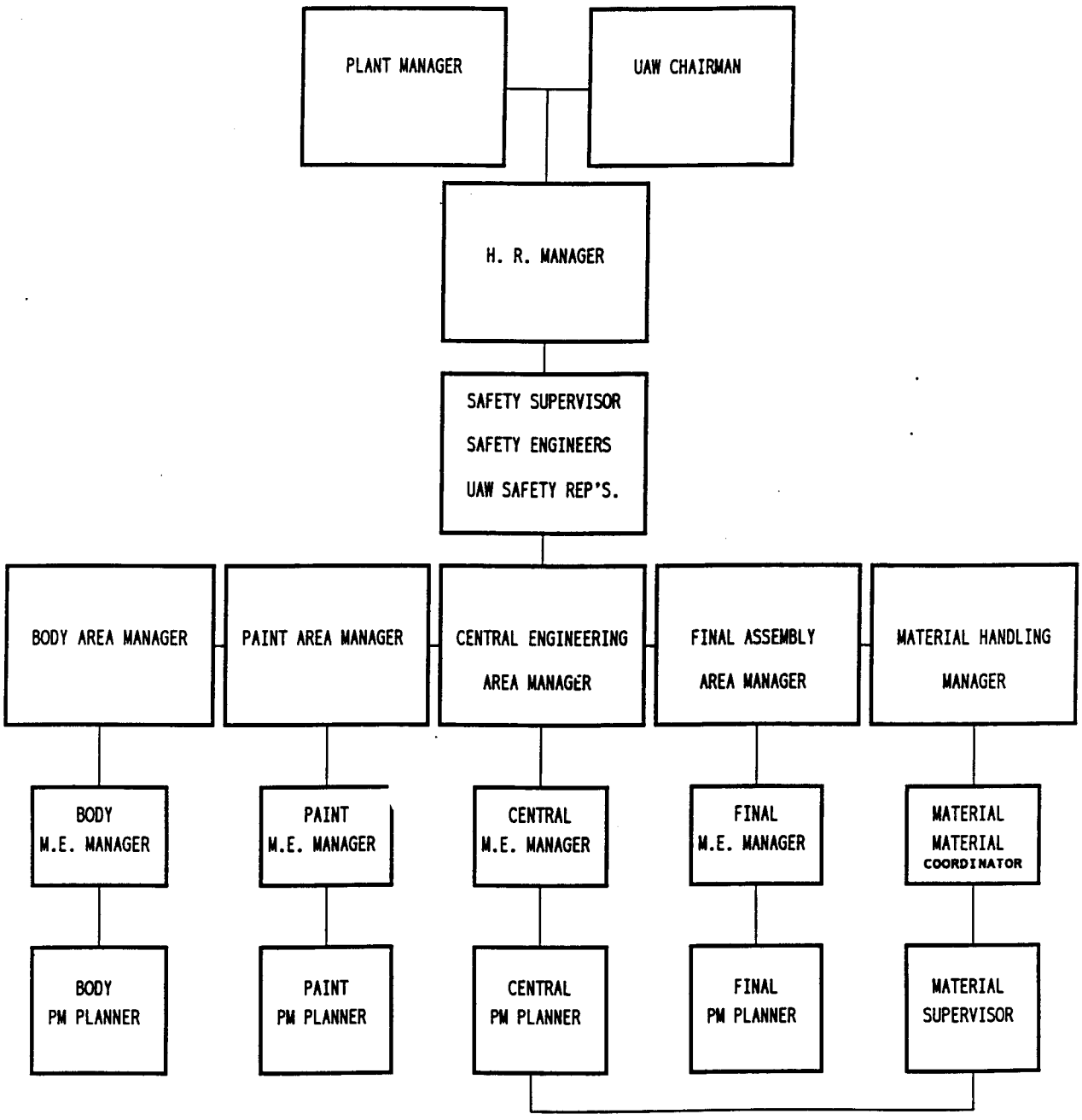


Figure 2

NORFOLK ASSEMBLY PLANT

SPR BOARD ROLES AND RESPONSIBILITY

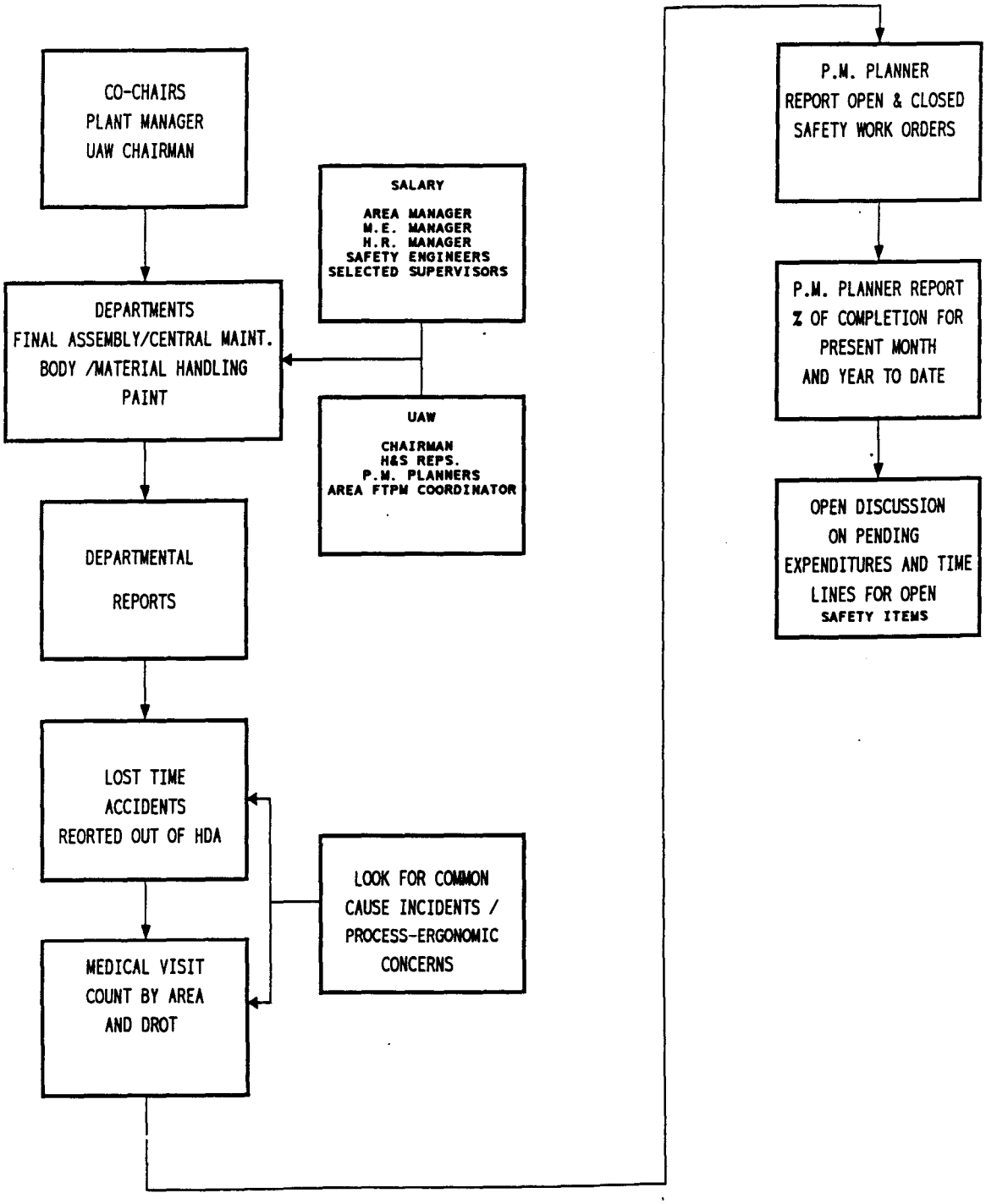


Figure 3

CHAPTER III

METHODS AND PROCEDURES

In order to effectively carry out this study, the researcher used the historical research design. The Norfolk Ford Assembly Plant gave a continuous program called Basic Equipment Wellness (BEW) to several groups of employees and this training was used as the independent variable in the study. The FTPM program at Ford aimed to integrate safety into production and maintenance. The BEW training gathered small groups around their respective equipment and empowered those employees to take part in contributing ideas to the ergonomics and safety involved in each process. This chapter discussed the population, instrument design, methods of data collection and method of analyzing the data.

POPULATION

The population used for this study were the hourly employees that actually spend their whole shift on the assembly line and the hourly skilled trade workers. This included the employees in the Paint, Body and Final Departments. A total of 1000 employees had attended the BEW training at the time of this study.

INSTRUMENT DESIGN

The instrument used was that of the Ford Motor Company in Detroit, Michigan. Each assembly plant had a strict and thorough method of keeping track of safety incidents and accidents. Hours worked for each employee from each plant were sent to Detroit including time lost. A representative from the Norfolk Plant took the hours worked and the hours lost from the last three years and documented them to analyze the increase or decrease in hours lost in order to improve the numbers.

DATA COLLECTION

The data were collected by the researcher from Neal Jefferis, the Training and Development Leader at the Norfolk Assembly Plant. He had gathered and documented the data to indicate time lost due to accidents and injuries prior to and after the training. As this was a historical study, it was assumed that the data was accurate.

STATISTICAL ANALYSIS

After the data was collected, the researcher compared and analyzed the raw before and after training numbers to see if there was any affect from the training.

SUMMARY

This chapter covered the methods and procedures of the study including the population, instrument design, data collection and statistical analysis. Chapter IV discussed the findings from the data collected.

CHAPTER IV

FINDINGS

The problem of this study was to determine if lost time due to work related accidents and safety violations at the Ford Assembly Plant in Norfolk, Virginia, was influenced after safety training was conducted. Topics included in this chapter were the safety commitment of the Norfolk Assembly Plant, the outline of lost hours over the last three years and the safety incident and tracking process.

SAFETY COMMITMENT

As discussed earlier in this paper, poor safety conditions could create a very steep price in a large manufacturing plant such as the Ford Assembly Plant in Norfolk. The company has made it everyone's business at the plant to be responsible for safety. One walk around the plant showed employees and visitors alike that Ford stressed safety with bulletins such as that in Figure 4. A Health and Safety Mission Statement (Appendix A) and a Loss Control Policy (Appendix B) were given to each employee to illustrate the employee and management commitment to safety.

LOST HOURS

Appendix C illustrates that over the last three years, though the number of hours worked has increased

NORFOLK ASSEMBLY PLANT

HEALTH AND SAFETY

IT'S EVERYONE'S JOB

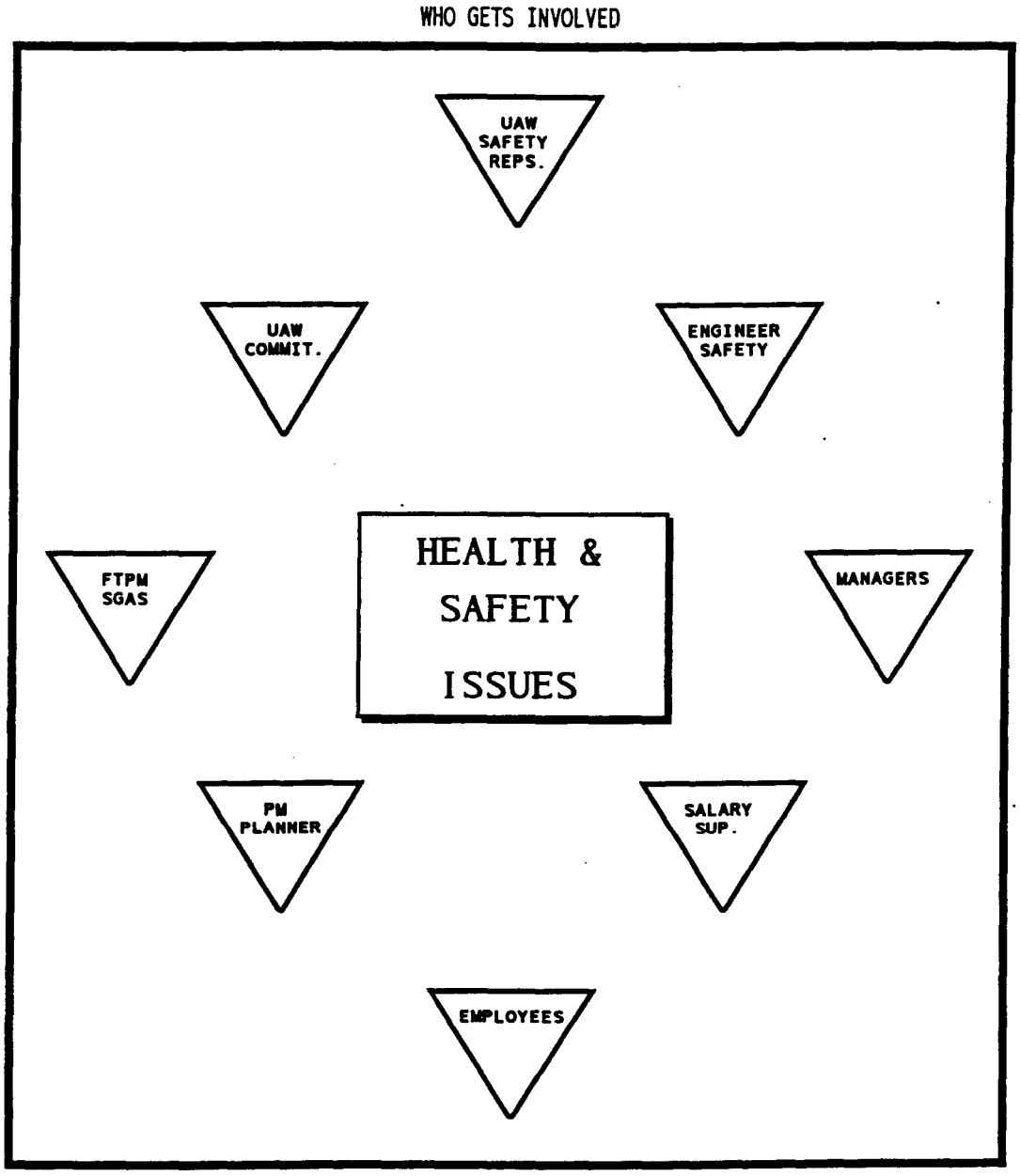


Figure 4

sharply, the hours lost does not. So the lost hours to hours worked ratio has gone down over the last three years. Ford attributed this decrease to the FTPM program in effect since December, 1994. The integration of safety to production maintenance kept safety from being a separate and less important issue. The training was conducted in small groups around the appropriate piece of equipment. This empowered the employees to provide input on ergonomics and safety precautions involved in each process.

SAFETY INCIDENT AND LOST HOUR TRACKING

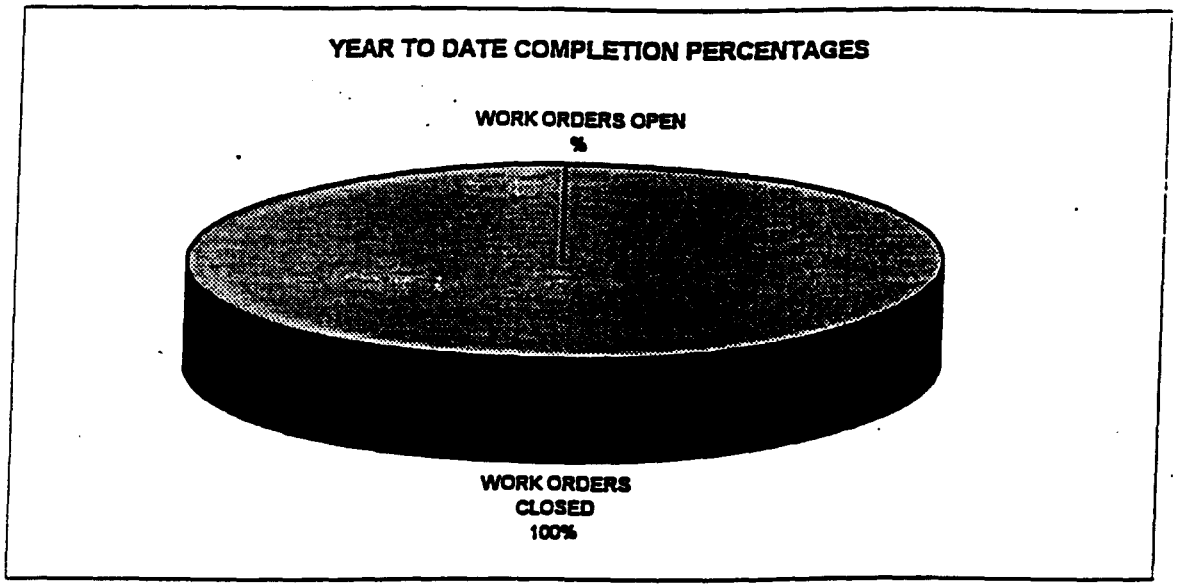
As stated briefly in the Review and Literature section of this paper, the SPR Board met every other week to track progress on safety work orders and safety incidents. Safety work orders got priority over other work orders. Each department reported at these meetings the status of each work order. The examples in Tables 1 and 2 were from January, 1997, for the Body and Final Departments. The numbers showed that safety discrepancies did not take long to be fixed.

Each injury or incident was documented, tracked and investigated. As shown in the Health Data Analysis in Table 3, each process of production has documented each visit to the medical facility. As seen by the example in Appendix D, some incidents were a reinjury

1/27/97

SAFETY WORK ORDER COMPLETION PERCENTAGES
BODY - 1997

	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	YTD
WORK ORDERS CLOSED	20												20
WORK ORDERS OPEN	0												0
TOTAL # WORK ORDERS	20	0	0	0	0	0	0	0	0	0	0	0	20
PERCENT COMPLETED	100%	#####	#####	######	#####	#####	#####	#####	#####	######	#####	###	100.00%



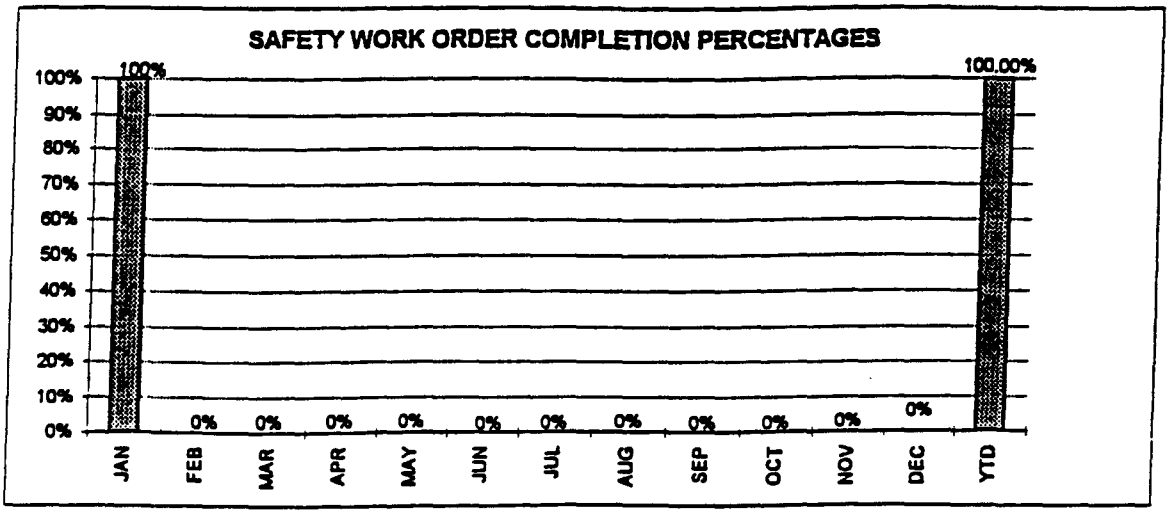


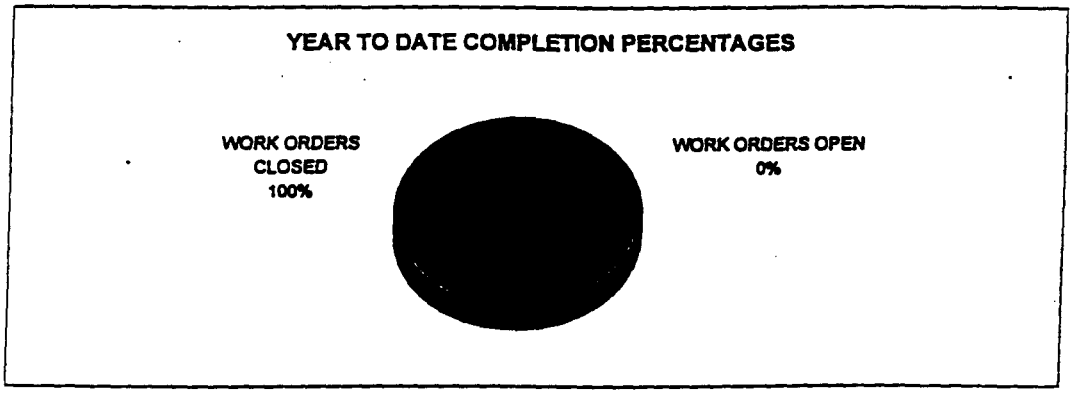
Table 1

1/27/97

SAFETY WORK ORDER COMPLETION PERCENTAGES

FINAL

	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	YTD
WORK ORDERS CLOSED	49	0	0	0	0	0	0	0	0	0	0	0	49
WORK ORDERS OPEN	0	0	0	0	0	0	0	0	0	0	0	0	0
TOTAL # WORK ORDERS	49	0	0	0	0	0	0	0	0	0	0	0	49
PERCENT COMPLETED	100%	#####	#####	#####	#####	#####	#####	#####	#####	#####	#####	#####	100%



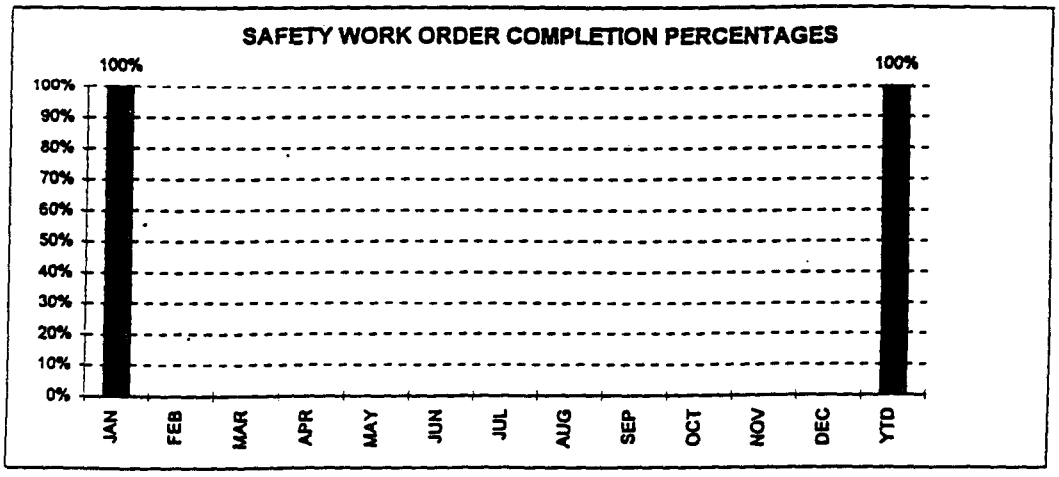


Table 2

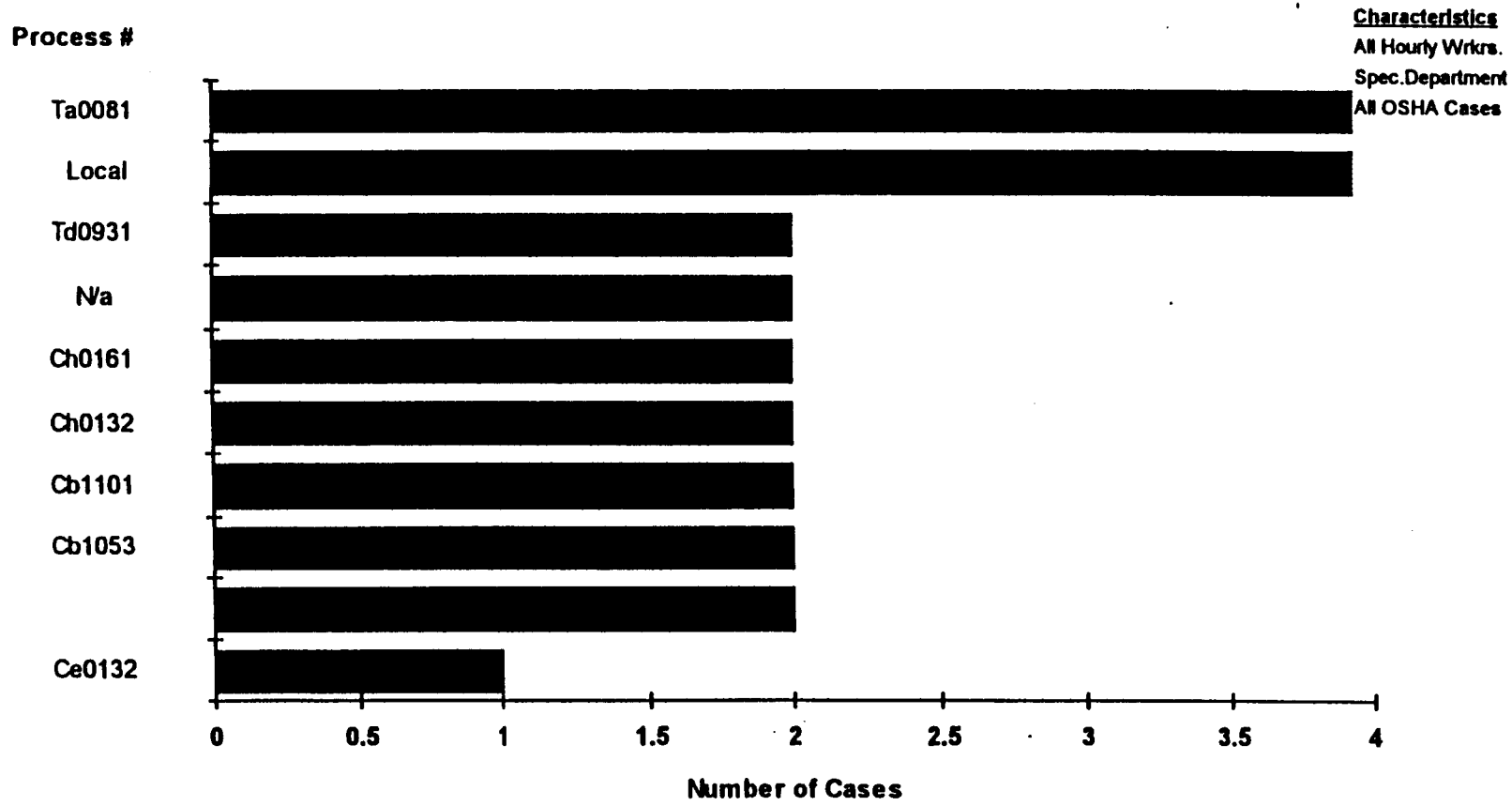
CARCNT01 / WTROGDON
Version: 1.3

Health Data Analysis
Visit Count by Process

01/22/1997
3:57:06 PM

Total Visits found: 80 plotted: 23
Process #'s found: 67 plotted: 10

Plant Location: NORFOLK ASMBY
Reporting Period: from 12/1/96 to 12/29/96



to the same employee. Appendix E was an individual incident showing the injury, cause and solution. The investigations and solutions to each incident have prevented similar injuries to other employees thus keeping the lost hours to a minimum and production and profit to a maximum.

SUMMARY

This chapter covered the safety commitment, lost hour findings and safety incident and lost hour tracking information. Chapter V was the final chapter of the paper and covered the summary conclusions and recommendations of this research.

CHAPTER V

SUMMARY, CONCLUSIONS AND RECOMMENDATIONS

The purpose of this chapter was to provide the summary, conclusions and recommendations of this research topic. The results were used to show that training that was applicable, effective, interesting and necessary would have positive results on employee performance.

SUMMARY

The problem of this study was to determine if lost time due to work related accidents and safety violations at the Ford Assembly Plant in Norfolk, Virginia, was influenced after safety training was conducted.

A study concerning safety training was necessary and important for many reasons. Most companies' success was measured by the bottom line and amount produced. When this was the case, safety incidents and violations caused lost time, worker's compensation costs and the chance of federal inspection and intervention. These were not the problems of successful companies, so integration of a quality and effective safety training program was a must.

The researcher chose the Ford Assembly Plant because of the high volume production, high profit

margin and the need for many safety programs and precautions.

The population used was the hourly line and skilled trade workers. Approximately 1000 employees had gone through the applicable safety training at the time of this study.

The data was collected through a number of channels. Each incident was well documented and investigated. The three departments tracked their own numbers as well as the Safety Review Board and the Medical Department. The hours worked and lost were sent to Detroit, Michigan for payment. The Norfolk Assembly Plant then gathered the numbers for the last few years from Detroit and noticed the decline in lost hours.

CONCLUSIONS

This decline in lost hours was attributed to the FTPM Program. This program successfully integrated safety with production maintenance to keep safety as important as production. The research goals established at the beginning of this study were important to find the solution.

1. Determine when, how often and under what conditions safety training was given. Safety training was given upon hiring at the plant as part of

orientation, for specific jobs and as refresher training. The hourly and line and skilled trade workers received 8.5 hours of BEW training upon which this study was focused. One hour of refresher training was required yearly for each of these employees. The 8.5 hours of BEW training was given as overtime.

2. Determine what teaching method was used in the delivery of safety training. The safety training was given both as classroom instruction, then application on the appropriate equipment.

3. Determine the amount of lost time due to safety violations before and after the safety training was given. The amount of lost time decreased after the employees attended the BEW training. The training was delivered to small groups on appropriate equipment which proved to be very effective. This prevented each employee from having to sit through training which did not apply to them. The employees were also given the opportunity to input their feelings and ideas on processes and safety concerning the equipment which put the employees in a more participatory position. In many instances, employee happiness has led to company success.

RECOMMENDATIONS

Manufacturing companies are the ones most likely to have high incident rates. This makes it very important for employees' safety and the bottom line to have effective training programs. Ford Motor Company is a good model for safety. If they continue to involve employees, make training interesting and necessary and track and solve each safety incident, they are sure to continue the trend toward lowering lost hours.

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APPENDIX A

NORFOLK ASSEMBLY PLANT HEALTH AND SAFETY MISSION STATEMENT

NORFOLK ASSEMBLY PLANT

HEALTH AND SAFETY MISSION STATEMENT

The Norfolk Assembly Plant is committed in its efforts to provide a safe working environment using an interactive process based on communication, documentation and results. This floor level driven and management supported safety process will be built upon training and employee awareness as the proactive tool for eliminating injury and loss through compliance. Through team work the Norfolk facility will continue to achieve our goals of a safe, clean and ergonomically correct work place.

APPENDIX B

LOSS CONTROL POLICY

LOSS CONTROL POLICY

Ford Motor Company's Norfolk Assembly Plant is committed to providing a safe working environment free of accidental loss to its employees and property.

We are committed as a facility to comply with all regulatory agencies and company standards in providing a healthful work environment. We are dedicated to eliminating any foreseeable hazards which may result in personal injury/illness, fires, security losses, damage to property, or losses to the environment.

Loss control is the shared responsibility of all levels of employment both salary and hourly. It requires active management and employee participation through practice coupled with motivation to control accidental losses.

All management functions, will comply with the Norfolk Assembly Plant loss prevention requirement as they apply to the design, operation and maintenance or facility and equipment. All employees will perform their jobs properly in accordance with established procedures and operating philosophy.

Through joint efforts and team work we will build the foundations for a proactive process based on prevention and loss control.

APPENDIX C

LOST HOURS OVER THE LAST THREE YEARS

NORFOLK ASSEMBLY PLANT

PER YEAR	HOURS WORKED (MILLION)	DAYS LOST	HOURS WORKED ONE LOST DAY
1994	3.6	4300	835
1995	4.4	5000	869
1996	5.7	5200	1102

APPENDIX D

HEALTH DATA ANALYSIS (FINAL DEPT.)

FINAL AREA
HEALTH DATA ANALYSIS
TOP 10 CASE DETAIL REPORT MATRIX
December-96

DATE	VISIT #	PROCESS #	INJURY/ILLNESS	DESCRIPTION	STATUS
12/4/96	96-02000	TA0081	Tendonitis	Wire harness job - right wrist sore	Referred to Ergonomics - eliminated center locator
12/5/96	96-02004	TA0081	Sprain/Strain	Wire harness job - new on job - back & wrist sore	Referred to Ergonomics - eliminated center locator
12/11/96	96-02041	TA0081	Tendonitis	wire harness job - hand sore - same employee as above	Referred to Ergonomics - eliminated center locator
12/13/96	96-02064	TA0081	Costochondritis	Wire harness job - pain in side seating harness locator - same employee as above	Referred to Ergonomics - eliminated center locator
12/5/96	96-02007	TD0931	Sprain/Strain	L/H B-pillar operation - Back sore - new on operation	Referred to Ergonomics
12/14/96	96-02069	TD0931	Sprain/Strain	L/H B-pillar operation - left knee sore - new on operation	Referred to Ergonomics
12/3/96	96-01987	N/A	Laceration	Painter - Struck forehead on steel	Painted safety stripes to make beam more visible - not a normal work area
12/12/96	96-02053	N/A	Sprain/Strain	Unloading tires for Mat'l Handling- lost footing & strained shoulder	No unsafe condition found
12/13/96	96-02075	CH0161	Crushing Injury	Caster/camber operation - finger pinched by tool	Operator instructed to use tool if fixture hangs up
12/19/96	96-02092	CH0161	Sprain/strain	Caster/camber operation - strained shoulder positioning axle	Assist tool provided
12/11/96	96-02040	CH0132	Laceration	Rear spring install - hit head on hoist	No action taken
12/13/96	96-02055	CH0132	Sprain/strain	Rear spring install - pain in left wrist - new on operation	Referred to Ergo. Comm.
12/13/96	96-02058	CB1101	Sprain/strain	Seat deck - groin sore - related to hernia repair	Referred to Ergo. Comm.
12/13/96	96-02059	CB1101	Sprain/Strain	Seat deck - Right knee sore - same operator as above	Referred to Ergo. Comm.
12/2/96	96-02105	CB1053	Contusion	Flattop pit - rt. shoulder sore from working overhead	Multispindle/art.arm on order
12/7/96	96-02018	CB1053	Sprain/strain	Flattop pit - Temp bumper secure backup - back sore	Off-line fixture provided
12/19/96	96-02091	CE0132	Contusion	Motor mount secure - Transmission bracket fell on toe	Installing catch trays

APPENDIX E

8-DISCIPLINE REPORT

8-DISCIPLINE REPORT

1) TEAM CONTACT:

PHONE NO: 2177 **YEAR/CARLINE:** 1997 F-Series

ASSIGNEE: Hollowell **COMPONENT:** Wheel lip molding/970005

ACTIVITY: Trim **INITIATOR:** FINAL AREA

DATE OPENED: Jan **PLANT:** NORFOLK ASSEMBLY

2) PROBLEM DESCRIPTION:

DESCRIPTION: Operator injured hand.

3) ROOT CAUSE (S):

Operator was using palm of hand to seat wheel lip molding.

4&5) ACTIONS:

Operator has been given a hammer to seat wheel lip molding. Operator can place hammer in apron.

6) VERIFICATION:

The hammer will prevent the operator from using hand to pound in molding.

7) PREVENTION:

The above steps will prevent reoccurrence.

8) CONGRATULATE YOUR TEAM!