ACCIDENT PREVENTION

1. Basic Activities - Successful accident prevention requires a minimum of five fundamental activities:

A) Continuing periodic inspection of all work areas to identify and eliminate physical hazards which contribute to accidents.

B) Continuing review and if necessary redesign of work procedures and operating methods.

C) Using education, instruction, training, and discipline to minimize human factors which contribute to accidents.

D) Investigating thoroughly accidents to determine the contributing cause(s).

E) Acting immediately to minimize, eliminate or correct the contributing factors.

2. Accidents are Preventable - Many persons, either through ignorance or misunderstanding, believe that accidents are the inevitable result of unchangeable circumstances, fate or a matter of luck. It must be emphasized that accidents do not happen without cause, and the identification and control of these causes are the keys to accident prevention. No supervisor can be effective in any accident prevention endeavor unless he/she believes that the causes of accidents can be eliminated and consistently strive to do so.

3. Causes of Accidents - Causes of accidents are divided into three (3) categories:

a) unsafe acts of people
b) unsafe physical or mechanical conditions
c) acts of nature (flood, hurricane, etc.)

Statistics indicate that 88% of all accidents are caused by unsafe acts of people, 10% by unsafe conditions and 2% by acts of nature. Obviously, the greater percentage of accidents are caused by unsafe acts.

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4. Unsafe Acts

The majority of unsafe acts of people may be assigned to one or more of the following:

A) Failure to follow instructions or a proper job procedure.
B) Cleaning, oiling, adjusting or repairing equipment that is moving, electrically energized or pressurized.
C) Failure to use personal protective equipment.
D) Failure to wear safe personal attire.
E) Improper use of equipment.
F) Improper handling of material.
G) Improper use of hands or body part.
H) Making guards/safety devices inoperative.
I) Operating or working at unsafe speeds.
J) Taking unsafe position or posture.
K) Unsafe mixing or combining.
L) Using equipment known to be faulty.
M) Driving errors.
N) Horseplay.

Unsafe acts are usually brought about by one of the following:

A) Lack of knowledge, skill, coordination or planning.
B) Improper attitude.
C) Physical or mental defects.
D) Temporary lack of safety awareness.

5. Unsafe Conditions

The majority of most unsafe or hazardous conditions fall into one of the following headings:

A) Defective, inferior or unsuitable equipment or material.
B) Poor housekeeping.
C) Hazardous methods or procedures.
D) Selection error (person not suited to job).
E) Inadequate safety guards.

6. Control of Accident Causes

There are three primary controls utilized in the elimination of accident causes. The three are outlined on the following page.

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A) Engineering - Environmental causes of accidents, or unsafe conditions, can be eliminated through the application of safety engineering techniques. When an operation is mechanically and physically safe the possibility of an accident occurring has been reduced by 10%. It may be necessary to make mechanical modifications to eliminate unsafe conditions and, in some cases to prevent unsafe acts.

B) Education - Safety education is the most effective tool in preventing unsafe acts by persons. Safety consciousness developed in personnel through training should be broadened by specific instruction in safe work habits, practice and skills. Training is particularly important in the development of a proper safety attitude and the formation of safety habits.

C) Enforcement - Usually accidents can be prevented through effective safety engineering and employee training. However, there are some people who are a hazard to themselves and others because of their failure to observe and comply with accepted safety standards. No organized safety program can be effective without enforcement because accidents are frequently a direct result of safety procedure violations. Department Heads and supervisors are responsible for enforcing safety standards and regulations. Failure to do so would be condoning conduct that leads to preventable accidents.

7. Elimination of Unsafe Conditions

One of the most effective means of preventing accidents is the elimination of unsafe conditions. However, to preach safety while permitting unsafe conditions to exist will create a credibility gap and adversely affect the safety attitude of County employees. The following are some of the procedures that should be carried out to eliminate unsafe conditions:

A) Remove all obstacles to the safe movement of personnel, equipment and material.
B) Repair damaged facilities (i.e., broken steps or windows, etc.).
C) Replace worn or damaged equipment and tools.
D) Provide proper equipment for the job at hand.
E) Install proper safety guards.
F) Provide personal protective equipment and require its use.
G) Insist on good housekeeping practices.
H) Replace worn or damaged electrical equipment and fixtures.
I) Post warning signs in hazardous areas.

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8. Control of Work Habits

Regardless of the degree of safety built into a job, unsafe actions by employees will always be a cause of accidents. Teaching employees good work habits means showing them how to do their jobs safely, prevent equipment damage and reduce the possibility of injury to themselves and others. Most of this can be accomplished through the application and enforcement of safety rules. By showing the "why and how" and by constantly supervising to correct promptly, safe work habits can be formed.

Whenever possible, actual demonstration of correct work procedures should be conducted. Fully important is the employee's subsequent performance which should then be carefully examined and any deviation noted immediately and the correct procedure redemonstrated as necessary.

9. Employee Safety Orientation

When a new employee comes to work, he/she begins to learn things and form attitudes about the job, the supervisor and fellow employees. If an employee's department head, supervisor and fellow employees are dedicated to accident prevention, a new employee will probably adopt a similar attitude. All new employees should be notified that unsafe workers will not be tolerated and that the requirements to obey all safety regulations, utilize personal protective equipment and attend safety meetings is non-negotiable and a condition of continued employment with the County.

It will never be taken for granted that previous experience and current qualifications indicate past training in safe work procedures. Each employee deserves to be thoroughly trained in every facet of his/her job and should feel comfortable with his assignment before he is allowed to perform the frequently asked about problems that have arisen and the sage practices discussed that address those problems until the employee is comfortable and productive.

10. Job Safety Analysis

In many organizations the safe work procedure is learned through a trial and error process. An employee performs a job in what appears to be a common sense approach and continues until an accident occurs. The accident is then investigated and according to the finding, the job procedure may be changed.

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Since the primary objective of a safety program is accident prevention, it is imperative that safe job procedures be in place before the employee begins the job. Do not wait until someone is injured to implement the system or pinpoint unsafe acts or conditions. An effective way to insure safety procedures is through the use of a "Job Safety Analysis". It is also effective in employee training and to review existing work methods.

Selecting the Job to be Analyzed

A job is a sequence of steps or activities that a person performs during a work assignment. Since a supervisor's time is limited, his/her time should be spent on analyzing those critical jobs that have caused or have the potential for serious accidents. The following factors can be used in determining the need for a job safety analysis:

1) Past Loss Experience - related to a job will usually give accurate insight on what can be expected in the future. Both the frequency and severity of the injuries should be considered.

2) Potential for a Big Loss - even if a particular job has not had accidents, if the potential points to severe injury it should be considered.

3) New Jobs or Operations - created by changes in equipment or process should be analyzed.

Performing the Job Safety Analysis

The first step is to break the job down into a sequence of steps. The following techniques may be used:

1. Select the right person to observe. This is normally an experienced, capable and cooperative employee who is willing to share ideas.

2. Brief the employee on the purpose of the analysis and explain the process.

3. First, observe the employee as he/she performs the job. Then break the job into its basic components. Avoid the mistake of being too detailed. This will result in an unnecessarily large number of steps. Also, do not make the analysis too general. This will result in lost steps.

4. Record each step of the breakdown by describing the action involved.

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5. Review the breakdown with the employee being observed. Any deviations should be noted. These could lead to or contribute to accident. Obtain the employee's agreement on what is being done and the order of the steps.

Now that the job has been broken down into its basic steps, identification of hazards can begin. To do this the following questions are asked of each step.

1) Is there potential for striking against or being struck by an object or person?

2) Can the employee be caught in, by or between objects?

3) Is there a chance of slipping, tripping or falling?

4) Can the employee be injured by pushing, pulling, lifting, bending or twisting? Does the job location involve awkward body movement?

5) Are there environmental hazards such as toxic or flammable gases, vapors, mists or fumes present? Is there excessive heat, cold or radiation present?

Record the type of accident and agent involved. An example would be "foot struck by trash can". Again, review the hazards that have been identified with the employee involved. The employee may have additional experience related to the job.

The final step is to eliminate or control the hazards that have been identified. This will involve:

1. The Procedure Solution - is provided by outlining a specific procedure that when followed will eliminate the deficiency or potential for an accident that exists.

2. The Job Environment Solution - could involve changing any part or aspect of the total environment, such as lighting, layout, noise level, temperature or work surfaces, to improve the efficiency and/or utilization of people, equipment and material.

3. The Method Change Solution - usually involves a major change in the actual steps of the job.

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4. The Reduced Frequency Solution - permits a reduction in the number of times a repetitive action must be done. Not only will this improve safety and overall efficiency, it also acts to reduce the exposure to people and the wear and tear on equipment. Repetitive actions and operations are frequently necessary because a basic underlying problem exists. Eliminate that problem and the unnecessary steps will be obvious.

Writing the Job Procedure

From the Job Safety Analysis, the standard job procedure can be written. This will provide the supervisor with a tool for teaching the most effective, systematic way to do a critical job while enhancing safety. It can also be used to perform an annual review of work practices by employees, to determine the development of unsafe practices.

To write the procedure, use the job breakdown as an outline. Under each step, detail the work to be performed and the safeguards to use.

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