

the public at large are kept insulated from the hazards associated with the industry sector.

1.2 Creating a Culture of Safety

The design of a safe plant layout is beyond the responsibility of individual employees, but it nevertheless is essential for good power production practices and safe working conditions. Narrow aisles, blind intersections, insufficient overhead space and limited access for equipment repair and maintenance all are detrimental to a safe operating environment.

The National Safety Council in the United States has estimated that work-related accidents in the private sector in 1988 cost industry an average of \$15,100 per disabling injury. Based on this figure and the U.S. Bureau of Labor Statistics – which reported that in 1988 private U.S. Industry, employing 90 million workers, had 6.2 million job-related accidents and injuries was in excess of \$93 billion. Approximately, half of this total (\$46 billion) was for such visible costs as damaged equipment and materials, production delays, time losses of other workers not involved in the accidents and accident reporting.

Similar statistics have been reported in the United Kingdom (UK) and in the European Community. The statistics support the premise that it is the responsibility of every employer to take a strong, proactive stance to ensure their employees' safety.

Designing for safe work environments also means proper scheduling of work activities. It should not be the operator's or worker's responsibility to determine the proper routing of work in process. To make this type of decision a worker's responsibility unfairly shifts to what is truly management's responsibility directly to the worker. It is management's responsibility to ensure that tight work standards are not only defined for each operating facility, but to ensure that procedures and policies are adopted and enforced. Establishing fair work standards through work measurement or some similar technique is, without question, a prerogative and a right of management. Establishing and enforcing tight work standards has resulted and will continue to result in operators taking dangerous short cuts while completing tasks. These short cuts often result in industrial accidents and injuries. By the same token, managers should use standards to ensure a fair day's pay for a fair day's

work, but they should not use them as a whip to achieve maximum productivity through coercion.

Pressure placed on employees to meet tight production schedules results in the same type of problems as with tight work standards. Reasonable schedules based on reasonable capacity determinations and work standards eliminate the pressure and work-related stress placed on employees to overproduce because of unsafe short cuts.

Having a corporate culture that promotes and makes safety and environment a priority should be the goal of the industry. Creating a culture of safety first requires site-specific work practices and working environments to be carefully assessed with a focus on identifying high-risk areas, and then developing concrete plans for improved occupational and process safety performance. Management must focus on using employee insights to prevent costly and potentially deadly accidents before they occur, creating a safer workplace by taking into account both the environment in which employees work and the culture that drives their daily work experience.

As an employer, it is your responsibility to provide a safe work environment for all employees, free from any hazards, and complying with legal and recommended best practices defined in the standards. Health and safety in the workplace is about preventing work-related injury and disease, and designing an environment that promotes well-being for everyone at work.

Knowledge is the key ingredient in providing a safe work environment. If everyone knows the correct procedures, accidents and injuries will be kept to a minimum.

Both employers and employees should:

- Ensure that the way work is done is safe and does not affect employees' health.
- Ensure that tools, equipment and machinery are safe and are kept safe.
- Ensure that ways of storing, transporting or working with dangerous substances is safe and does not damage employees' health.

Employers must:

- Provide employees with the information, instruction and training they need to do their job safely and without damaging their health.

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- Consult with employees about health and safety in the workplace.
- Monitor the work place regularly and keep a record of what is found during these checks.

Policies should be developed in consultation with employees, both with and without disability. It may be necessary to organize support persons or interpreters so that all employees may participate in the consultation.

Occupational Health and Safety (OH&S) procedures must be implemented wherever the work is being conducted, be that in an office, factory, construction site, substation, along transmission line work or home. As an employer, it is your responsibility to ensure all employees have access to information about safety procedures, and for any reasonable adjustments to be made.

It is crucial that **new** employees be:

- Briefed of all new staff on OH&S policy at induction.
- Be provided training on all safety procedures, including evacuation and other emergency procedures.
- Provided access to information about safety procedures, in appropriate formats.

It is crucial the **existing** employees:

- Have access to information in appropriate formats.
- Be provided with regular information updates and re-training sessions.
- Be provided access to information about safety procedures.
- Conduct relevant training on any new equipment or machinery.

The following are some anecdotal facts that can serve to raise a culture of safety among workers and management:

Factors That Make New Workers More Accident Prone:

- Lack of safety training;
- Don't ask questions;
- Unaware of hazards;

- Assume employer is responsible for safety;
- Don't understand rights/responsibilities;
- "It can't happen to me" attitude; and
- Fatigue.

Major Causes of Injury:

- Slips, trips and falls;
- Improper use of equipment;
- Faulty use of equipment;
- Improper lighting;
- Not turning off power while repairing equipment (lock out procedures);
- Entering unsafe confined spaces that do not normally accommodate people; and
- Improper use or storage of chemicals and other hazardous materials.

The Employer's Responsibilities:

- Provide a safe workplace.
- Ensure adequate training of workers.
- Keep written records of training: who, when and what type.
- Establish and maintain a comprehensive occupational safety program, including a written safety policy and an accident investigation program.
- Support supervisors, safety coordinators, and workers in their safety activities.
- Take action immediately when the worker or supervisor tells you about a potentially hazardous situation.
- Initiate an immediate investigation into accidents.
- Report serious accidents to the HSO (Health and Safety Officer) or to the Corporate Prevention Division.
- Provide adequate first aid facilities and services.
- Provide personal protective equipment where required.
- Make available to all workers copies of Industrial Hygiene Policy.
- Post Health and Safety Regulations and all other regulations.

The Supervisor's Responsibilities:

- Instruct new workers on safe work procedures.
- Train workers for all tasks assigned to them and check their progress.
- Ensure that only authorized, adequately trained workers operate tools & equipment and use hazardous chemicals.
- Ensure that equipment and materials are properly handled, stored and maintained.
- Enforce safety regulations.
- Correct unsafe acts.
- Identify workers with problems such as drugs or alcohol that could affect their performance, and follow up with interviews and referrals where necessary.
- Formulate safety rules and inspect for hazards in your own area.

Worker's Responsibilities:

- You have an obligation to make your workplace safe.
- Know and follow safety and health regulations affecting your job.
- If you don't know how, ask for training before you begin work.
- Work safely, and encourage your co-workers to do the same.
- Correct or immediately report any unsafe conditions to your supervisor.
- Report any injury immediately to a First Aid attendant or supervisor.
- Take the initiative; make suggestions for improved safety conditions.

Site Orientation:

- All new employees should have a site orientation from their supervisor and be given a brief on safety procedures including: the layout of the section, a safety orientation, fire exit locations and procedures, emergency equipment and location of first aid facilities or services.

- Always be aware of your surroundings;
- Look up for falling objects;
- Be mindful of up/down traffic;
- Be cautious of structural inadequacies;
- Do not race up or down flights of stairs;
- In a noisy environment, use visual cues to look for potential hazards. Only use designated walkways, they are there for a reason; and
- Often some sites require workers to work in pairs or teams in case of an accident.

Hazards:

- Hazards in a work place can never be eliminated, but they can be controlled with proper equipment, training and supervision.
- Hazards are divided into two general categories:
 - Physical hazards – those that can cause immediate damage to the body. Examples: Moving equipment, machinery, confined space; heat, cold, chemicals, electrical, visibility.
 - Delayed Injury hazards – those due to repeated exposure or, a delayed reaction of the human body causing injury. Examples: Noise, ergonomics, repetitive strain injury, back injury, inhalation, radiation.

Computer Workstations:

- Problems with lighting can cause eyestrain and may also contribute to muscle soreness and fatigue.
- Avoid glare, position your computer workstation so that when you face the monitor, you are sitting beside or parallel to the window.
- If you face the window, light from the outside shines directly into your eyes and makes it difficult for you to focus on the screen.
- If you sit with your back to a window, you may have problems with reflections, or high light levels. In either situation, adjust the blinds to reduce the amount of light on your screen.

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- Overhead lights can shine directly in your eyes or reflect images onto your computer screen, making it difficult to view your screen. To avoid this adjust the angle of your screen so that it's at right angles to the work surface.
- The top line of text on your screen should be at eye level. Most of the screen will be slightly below eye level.
- The distance between your eyes and the screen should be about arm's length.
- Your chair should provide good lumbar support.

Lighting:

- Problems with lighting can cause eyestrain.
- Poor lighting can also contribute to muscle soreness and fatigue.

Back Injuries:

- Approximately 1/3 of workers will suffer back problems during their working life. Back injuries are the most common work related injury.
- The low back is subject to greater mechanical stress than any other part of the body and, because of this, is commonly injured.
- A majority of low-back problems are caused by simple strains that can heal within six to eight weeks with appropriate treatment. Fear and misunderstanding are the two main factors that can delay recovery.
- For engineers and computer scientists, computer use can cause lower back pain and repetitive strain injuries over time.

Everyone in a work force should wisely take a careful look at their work environment and their work habits. Both workers and management need to note whether their workplace is really safe. Both need to consider whether the job requires working with any toxic substances; and if so, are people adequately protected? Both managers and workers need to ask themselves whether they are constantly under stress. Does your environment accept work schedules that

breach legally established limits or hours? Answers to questions such as these might reveal much about how safe people are at work.

Creating a corporate culture of safety means being conscious of the dangers at work. Trying to maintain an unreasonable work schedule can be dangerous. Indeed, tired workers are less efficient and make more mistakes. Companies that foster excessive work and actively seek out and reward workaholics result into consequences that are potentially devastating. Poor work habits, which may include lack of tidiness and cleanliness, pose another hazard. Leaving tools thrown on the floor or live electric wires exposed often lead to accidents, even fatalities. The same can be said of ignoring safety precautions when using power tools and machinery. Another cause of injury and death is failing to clean up spilled fluids, especially toxic ones. Many injuries have occurred when workers have slipped on oily or wet floors. So it might be said that the first law of good work is to be clean and orderly.

Yet, many are tempted to ignore safety procedures. Work pressure may lead to perceptions that short cuts are necessary to meet demands. Therefore, some may reason regarding a safety regulation, 'It has never caused any problem when I ignored it.' One of the worst things that you can do at work is ignore safety procedures and get away with it! Why? Because this fosters overconfidence and carelessness, leading to more accidents.

The explosion of the Chernobyl plant in Ukraine in 1986 is often described as "the world's worst nuclear accident." What went wrong? A report on the disaster speaks of a "catalogue of reckless operating procedures" and "the repeated flouting of safety precautions."

Both employer and employee can cooperate in foreseeing potential safety hazards. Yes, the wise one observes what could prove to be a dangerous situation and looks for ways to protect himself and others.

When employers do this, they benefit, and so do their employees. For example, a company that redesigned their office to avoid "sick building syndrome" found that before long, productivity was up and staff satisfaction levels had improved dramatically. It was also found that fewer people were out on sick leave. Such consideration for the health of others not only makes for a more pleasant atmosphere for employer and employee but, as seen in this case, can also make good sense economically.

The proper approach to creating the safety culture is to make sure every employee applies a common-sense approach to safety.

This includes being diligent in following local safety regulations. Doing this can go a long way towards making the workplace safer.

1.3 Good Housekeeping

1.3.1 General Information

Housekeeping can reduce and eventually eliminate accident causes. The National Safety Council in the United States reports that falls due to improper housekeeping result in between 200,000 and 300,000 disabling industrial accidents each year. Management must take the initiative to properly train employees in the essentials of good housekeeping and in the necessity of maintaining a hazard-free workplace.

Good housekeeping is one of the surest ways to identify a safe workplace. You can tell how workers' feel about safety just by looking at their housekeeping practices. Good housekeeping isn't the result of cleaning up once a week or even once a day. It's the result of keeping cleaned-up all the time. It's an essential factor in a good safety program, promoting safety, health, production, and morale.

Whose responsibility is housekeeping? It's everyone's. Clean work areas and aisles help eliminate tripping hazards. Respecting "wet floor" signs and immediately cleaning up spills prevents slipping injuries. Keeping storage areas uncluttered reduces the chances of disease and fire as well as slips, trips, and falls. Accumulated debris can cause fires, and clutter slows movement of personnel and equipment during fires.

Other housekeeping practices include keeping tools and equipment clean and in good shape or keeping hoses and cables or wires bundled when not in use. Broken glass should be picked up immediately with a broom and dustpan, never with bare hands. Be aware of open cabinet drawers, electric wires, sharp corners or protruding nails. Either correct the unsafe condition if you are able and it is safe to do so, or notify the person responsible for overall maintenance that something should be done.

How a workplace looks makes an impression on employees and visitors alike. A visitor's first impression of a business is important because that image affects the amount of business it does. Good housekeeping goes hand-in-hand with good public relations. It projects order, care, and pride.