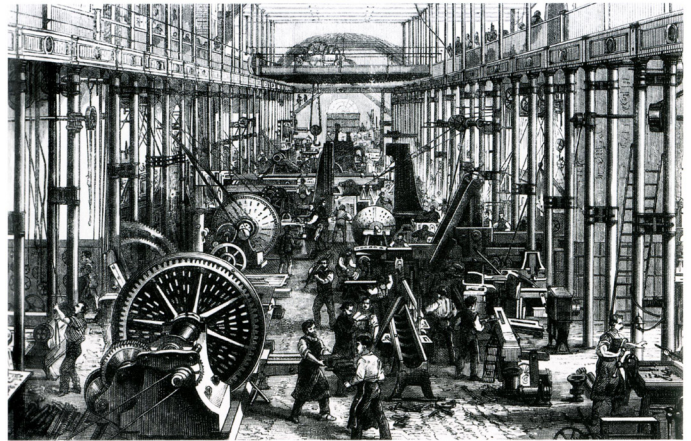


UNIT 1 LECTURE NOTES



The Industrial Revolution employed large numbers of workers in new work environments with new potential safety hazards.

Milestones in the Safety Movement

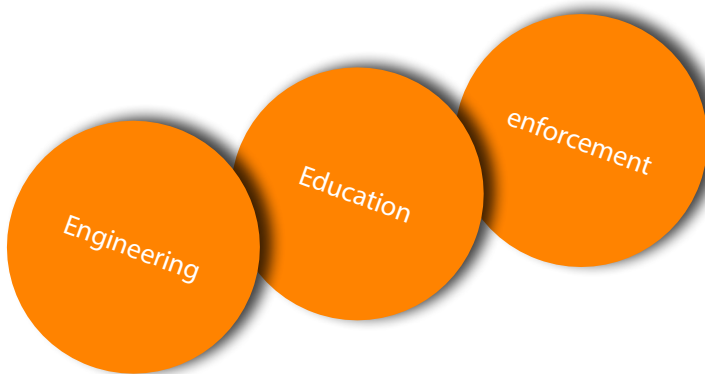
Milestones in the development of the safety movement in the United States include the following:

- First recorded safety program in 1892
- Creation of the Bureau of Mines in 1907
- Passage of the first effective workers' compensation law in the United States in 1911
- Passage of OSHA in 1970

Milestones in the u.s. Safety Movement

1892	First recorded safety program is established.
1900	Frederick Taylor conducts first systematic studies of efficiency in manufacturing.
1907	Bureau of Mines is created by U.S. Department of the Interior.
1908	Concept of workers' compensation is introduced in the United States.
1911	Wisconsin passes the first effective workers' compensation law in the United States, and New Jersey becomes the first state to uphold a workers' compensation law.
1912	First Cooperative Safety Congress meets in Milwaukee.
1913	National Council of Industrial Safety is formed.
1915	National Council of Industrial Safety changes its name to National Safety Council.
1916	Concept of negligent manufacture is established (product liability).
1936	National Silicosis Conference convened by the U.S. Secretary of Labor.
1970	Occupational Safety and Health Act passes.
1977	Federal Mine Safety Act passes.
1986	Superfund Amendments and Reauthorization Act pass.
1990	Amended Clean Air Act of 1970 passes.
1996	Total safety management (TSM) concept is introduced.
2000	U.S. firms begin to pursue ISO 14000 registration for environmental safety management.
2003	Workplace violence and terrorism are an ongoing concern of safety and health professionals.
2007	Safety of older people reentering the workplace becomes an issue.
2014	Pressure on foreign companies that produce goods sold in the United States to improve their safety standards.

Three E's of Environmental Health & Safety



Developments before the Industrial Revolution

Environmental Health and Safety awareness has a long history. There is evidence of environmental health and safety efforts as far back as the time of the Egyptian pharaohs. The Code of Hammurabi, written in Babylon about 2000 BCE, contained clauses that could be interpreted as early attempts at workers' compensation. There is also evidence of concern for safety and health during the time of the ancient Romans.

Role of Organized Labor

Organized labor has played a crucial role in the development of the safety movement in the United States. Particularly important was the work of labor unions to overturn anti-labor laws that compromised safety in the workplace environment.



Laborers striking for better working conditions.

Role of Specific Health Problems

Several specific health problems associated with the workplace have contributed to the development of the modern safety and health movement. These problems include:

- Lung diseases in miners
- Silicosis in tunnel workers
- Mercury poisoning
- Lung cancer tied to asbestos

Changes of the Safety Movement

Tragedies have changed the face of the safety movement at different times in the United States. Examples of such tragedies are:

- The Hawk's Nest tragedy
- Asbestos menace
- Bhopal disaster



Memorials to the Hawk's Nest and Bhopal Tragedies

Development of Accident Prevention Techniques

Widely used accident prevention techniques include:

- Failure minimization
- Fail-safe designs
- Isolation
- Lockouts
- Screening
- Personal protective equipment
- Redundancy
- Timed replacements

Development of Safety Organizations

The development of the safety movement in the United States has been helped by the parallel development of safety organizations, both inside and outside the government. Most prominent among these are:

- The National Safety Council
- The National Safety Management Society
- The American Society of Safety Engineers
- The American Industrial Hygiene Association
- Occupational Safety and Health Administration
- Environmental Protection Agency



Logo of the Occupational Safety and Health Administration

Organizations Concerned With Workplace Safety

- Alliance for American Insurers
- American Board of Industrial Hygiene
- American Conference of Government Industrial Hygienists
- American Industrial Hygiene Association
- American Insurance Association
- American National Standards Institute
- American Occupational Medical Association
- American Society for Testing and Materials
- American Society of Mechanical Engineers
- American Society of Safety Engineers
- Chemical Transportation Emergency Center
- Human Factors Society
- National Fire Protection Association
- National Safety Council
- National Safety Management Society
- Society of Automotive Engineers
- System Safety Society
- Underwriters Laboratories, Inc.

Government And Other Agencies Concerned With Workplace Safety

American Public Health Association*
Bureau of Labor Statistics
Bureau of National Affairs
Commerce Clearing House*
Environmental Protection Agency
National Institute for Standards and Technology (formerly National Bureau of Standards)
National Institute for Occupational Safety and Health
Occupational Safety and Health Administration
Superintendent of Documents, U.S. Government Printing Office
U.S. Consumer Product Safety Commission
* Not a government agency.

Return on Investment (ROI) in Environmental Health and Safety Management

Businesses tend to focus on the bottom line. Consequently, executives constantly pressure managers in their organizations—including environmental health and safety professionals—to document their department's return on investment or ROI.

In other words, executives want to know that safety is not just about preventing losses; it can also help the organization financially.

A study by a large construction firm in the United Kingdom, Foster Wheeler, showed a high (63%) correlation between safety and productivity.

