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Construction & Technology Management

Construction Health & Safety Management
(COTM 5116)

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Chapter Two - Health & Safety in CI

Part One:

- Characteristics
- Policy
- Legal and Regulatory Requirements for Construction Projects
- Promoting a Positive H&S culture

Part Two:

- Risk Assessment with respect to H&S
- Control and Prevention Principles



Characteristics of Construction Industry

Construction industry:

- Lead by the need for buildings to live, manufacture, store, operate, and other reasons.
- Project based industry
- Has a complex industrial structure (from small to large firms)
- The main source of employment
- Highly exposed to Health and Safety Issues
- Different states has different Construction H&S policy

H&S: Policy, Legal & Regulatory Requirements

Policy

- It is a written statement by an employer stating the company's commitment for the protection of the health and safety of employees and to the public.
- It is an endorsed commitment by management to its employees regarding their health and safety.

Legal & Regulatory Requirements

- A construction project must fit into the legal framework governing the property
- Even though there are no well coherent and codified laws or pertinent reading materials, particularly in our country, on the ebullient matter of the construction law Hagos & Shewangzaw (2009), EBCS 14 is waiting for approval.
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Ethiopian's Construction Industry

Has a draft H&S Code of Standards (EBCS 14)

- Not yet approved
- With four sections
 - Definitions and Scope of application
 - Planning
 - Preventive and protective measures (Chapter 2& 3)
 - Handling of hazards (Chapter 2& 3)

H&S Code of Standards (EBCS 14)

Section 1: Definition and Scope of Application

- Applicable to Building Construction, Maintenance, Renovation, Demolishing and other associated activities to all Classes of Buildings stated in Ethiopian Building Proclamation.
- Covers the Health and Safety precautions for the most common construction activities.
- The builder needs to come up with H&S precaution measures for special method/s of construction
- States the minimum requirements
- Other equivalent or better approaches are also acceptable if proven.

Cont'd...

Section 2: Planning

- Involves Safety plan, Site planning, and layout

Safety Plan of a Work Place

- A contractor needs to prepare Safety Plan of Work places which shall incorporate:
 - Assignment of a safety officer and/or the establishment of Safety and Health Committee - in charge of following up the safety preparations and implementation.
 - On the job training of safety officer and/or safety committee members and the workers.
 - Displaying pieces of information of particular importance

Cont'd...

Displaying pieces of information

- list of construction work to be performed on a construction site involving particular risks.
- Approximate time of performance of the work,
- Instructions for action in the event of a risk.
- Names and contact details of persons responsible.
 - For the work and measures for ensuring the safety of workers, For giving first aid
- Contact address of nearest place of providing emergency medical assistance and the means of access.

Cont'd...

Site Layout of a Work Place

- Before work begins, site layout plan that contains the following items shall be prepared and approved.
 - Safe means of access to and egress from all workplaces.
 - The sequence or order in which work will be done.
 - The locations of danger zones.
 - Storage for flammable materials, if there are any.
 - Routes for vehicular traffic. It should be “one way” as far as practicable.

Cont'd...

- Storage areas for materials, construction waste and equipment at the optimum distance
- The location of construction machinery, office rooms and trade workshops, medical and welfare facilities
- Delineation and fencing external border of the site and clearly marking it in order to keep away unauthorized persons and to protect the public from site hazards.
- Appropriate lighting posts, if night work or work when there is no adequate light is expected.
- Signs and signals that convey required cautionary messages.

Cont'd...

Signs and Signals

- Warning, Cautionary, and Informative signs and signals shall be placed where required
- Signs shall be visible at all times when work is being performed, and shall be removed or covered when the hazards no longer exist
- Danger Signs: shall be used only where an **immediate hazard exists**.
 - It shall have **red** as the predominating color for the upper panel; **black** outline on the borders; and a white lower panel for additional sign wording.

Cont'd...

Danger Signs:

- shall be used only where an **immediate hazard exists**.
 - **Red** as the predominating color for the upper panel
 - **Black** outline on the borders
 - **White** lower panel for additional sign wording



Cont'd...

Caution Signs:

- Shall be used only to **warn against potential hazards** or **to caution against unsafe practices.**
- Standard color
 - background shall be **yellow**
 - The panel: **black with yellow letters.**
 - Any letters used against the yellow background shall be **black.**



Cont'd...

Exit Signs:

- **Standard color**
 - Letter in red color
 - On white background



Cont'd...

Safety Instruction Signs:

- **Standard color**
 - White with green upper panel
 - White letters to convey the message
 - Black letters on white background for additional message

SAFETY FIRST

NO Smoking

Cont'd...

Directional Signs:

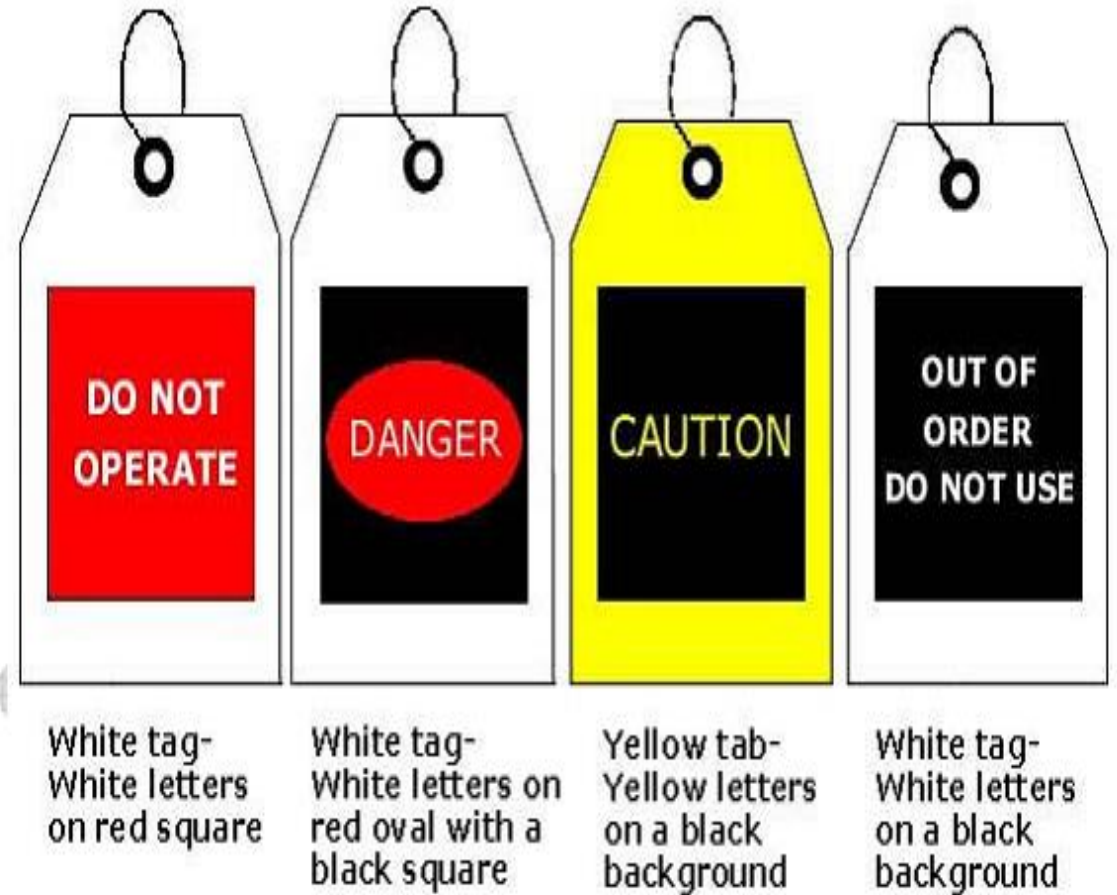
- **Standard color**
 - White directional signs with a black panel
 - Black letters on white background for additional message



Cont'd...

Accident Prevention Tags:

- shall be used as a temporary means of warning employees of an existing hazard, such as defective tools, equipment, etc.
- They **shall not** be used in place of, or as a substitute for, accident prevention signs.



Cont'd...

Flagmen:

- Flagmen or other appropriate traffic controls shall be provided when the operation do not provide the necessary protection adjacent to a highway or street



Cont'd...

Hand signaling by flagmen shall be by use of

- red flags at least 18 inches square (77 cm²) or sign paddles, and in
- Red lights in the periods of darkness

Flagmen shall be provided with and shall wear a red or orange warning garment while flagging.

Warning garments worn at night shall be of reflective material.



Cont'd...

Section 3: Preventative and Protective Measures

Addresses the general requirements for

- Ladders
- Scaffoldings
- Lifting appliances (material and labor hoist, and Tower crane)
- Work at height and roof works
- Excavation

Promoting a Positive H&S Culture

Safety Culture - a combination of an organization attitudes, behavior, beliefs, values, ways of doing things, and other shared characteristics of a particular group of peoples.



Cont'd...

Getting the **Safety Culture** right will lead to a reduction in

- Incidents
- Near misses
- Accidents
- Absences
- Compensation payouts and
- Reputational damage

It also helps the entities to remain competitive and improve worker productivity and likely, job satisfaction.

Cont'd...

Poor Safety Culture can lead to

- Increased injuries
- Accidents
- Absence days
- Decrease in profits and productivity

Therefore, it's important that we have to know the signs of slipping into **Poor Safety Culture**

Cont'd...

Signs of a Poor Safety Culture

- Poor Incident/Accident Reporting
- Blame Culture
- Profitability over Safety
- Lack of communication

Therefore, these signs of a poor safety culture should be investigated properly and avoided as much as possible.

