

CREATING A CULTURE OF SAFETY AND PROMOTING HAZARD REPORTING IN THE CONSTRUCTION SECTOR IN KENYA

A Continuous Professional Development Session

Organized by the AAK Construction Project Managers Chapter



Crown Paints PLC Showroom, Westlands, Nairobi

2nd February 2024

WELCOME REMARKS

Mr. Ndindiri Waweru, Chairperson, Construction Project Managers (CPM) Chapter

The CPM Chapter held its first CPD session of the year in partnership with Crown Paints PLC. The session was started off by Mr. Ndindiri Waweru, the Chairperson of the CPM Chapter, who emphasized the importance of health and safety awareness among construction professionals and members of the public.



REMARKS BY MEMBER OF THE EXECUTIVE COMMITTEE

AAK Vice President Arch. George A. Ndege

The session topic on Health and Safety (H&S) in construction sites and buildings is timely as it speaks to very critical issues that are often overlooked- risks and hazards before they happen. The data generated from the discussions would be of value to the larger AAK membership.

CONSTRUCTION SAFETY EQUIPMENT AND LIABILITY

By Eng. Patrick Wanjohi

- The evolution of H&S started in the 19th century when poor working conditions significantly contributed to the high number of disease outbreaks, injuries, and deaths in construction sites.
- This led to the introduction of Personal Protective Equipment (PPE) for head, eye, ear, hand, foot, body, fall, and respiratory protection.
- PPEs have recommended EN/BS/KS standards that guarantee the equipment's safety and overall wear and tear.
- Effective hazard prevention and control requires collaboration across the board, from the designers to the workers.
- The quality of the data is crucial - data is only usable when it is true.
- The Occupational Safety and Health (OSH) Act (2007) stipulates that the contractor is liable for any injuries to his workers and third parties and damage to property and equipment during the execution of the works.



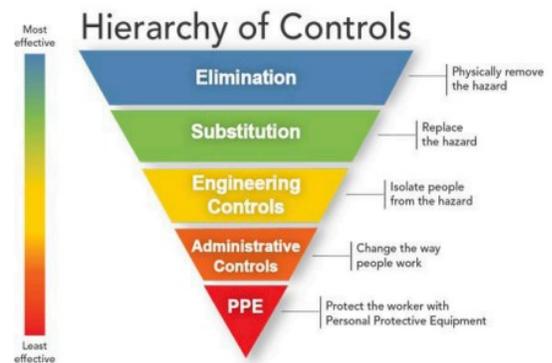
a PPE-compliant site

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SOURCES AND TYPES OF HAZARDS AND MITIGATION STRATEGIES

By Ms. Gladys Nyaga

- Risks and hazards are assessed to be eliminated and reduced **as low as reasonably possible** (ALARP).
- Hazards are classified into psychological, physical, ergonomics, biological, safety, and chemical hazards.
- Information on hazards can be obtained from observations, tools, equipment manuals, manufacturer safety data sheets, internal and external audits, previous incident records, hazard analysis, and hazard identification and risk assessment registers.
- The risk management process involves identifying the hazards, assessing risks, controlling risks, recording findings, and reviewing controls.
- Some barriers to hazard reporting include lack of training, unclear reporting channels, complex reporting systems, and lack of top leadership commitment and safety culture.
- Health and Safety by Design manage health and safety risks throughout the lifecycle of structures, plants, substances, and other products. Designers are in a strong position to make work healthy and safe from the start of the design process.



Source: NIOSH.

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TRAINING AND ACCREDITATION FOR HEALTH AND SAFETY EXPERTS

By Moureen Amase

- Health and Safety protects construction workers' wellness, well-being, and welfare.
- Several institutions train health and safety experts, including international institutions such as the National Examination Board in Occupational Safety and Health (NEBOSH) and national institutions such as Mount Kenya University (MKU), KCA University, and Jomo Kenyatta University of Agriculture and Technology (JKUAT), among others.
- The health and safety (H&S) plan helps manage and implement H&S procedures and protocols on sites. It should comply with all the regulations, including OSHA, Environmental Management and Coordination Act, and Public Health Act.



- Some of the contents of the H&S plan include first aid, H&S risks, a training plan, and an Emergency Response Plan (ERP).
- The H&S plan should detail how the various protocols will be conducted, including the number of experts, types of training sessions, and specific ERPs for confined spaces, work at height, outdoors, etc.
- First aiders must undergo training in NITA and DOSH-certified institutions. However, first-aiders are not medics and should not administer medicine.
- The first aid box should be fully stocked and should not have medication.
- According to the first aid rule 77, for 11 to 49 workers, you should have at least two trained first aiders with at least one always available on site. For 50-99 workers, you should have three first aiders with one firstaider available on site, while for above 500 workers, you should have a first aid room, a fully stationed certified nurse, and a firstaider available on site.

ROLE OF THE NATIONAL CONSTRUCTION AUTHORITY (NCA) IN CREATING A CULTURE OF SAFETY AND HAZARD REPORTING IN THE CONSTRUCTION IN KENYA

Arch. Stephen Mwilu

- NCA's roles include Quality Assurance (QA), Registration and Accreditation, Enforcement, Standardization, Training and Capacity Buildings, Code of Conduct, and Consultancy and Advisory services
- NCA currently has 14 regional offices and 13 liaison offices and has a desk in all 57 Huduma Centers
- In the Financial Year 2022/23, NCA conducted Over 25,000 quality assurance inspections in the country, registered over 3,800 construction projects and 8,600 contractors, and accredited 30,000 construction site workers and site supervisors.
- 50 training programs were conducted in collaboration with several institutions within the same period.
- Among the challenges experienced by the Authority include an outdated Building Code awaiting parliamentary approval, poor construction practices due to rogue professionals,

poor workmanship, use of sub-standard materials and poor structural design, inadequate maintenance, and non-compliance with statutory requirements.

- Collaborative and individual responsibility is crucial in maintaining rigorous safety standards.
- Some of the areas of focus NCA seeks to pursue in 2024 include the finalization of the Contractors' Evaluation Criteria, review of the existing quality assurance checklist, increased information sharing, joint inspections and audits for interagency taskforces, collaboration on public awareness campaigns, and development of cross-agency training programs.



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SAFE WORK PRACTICES IN SUBSTRUCTURE WORKS

By Eng. Patrick Wanjohi

- The common types of excavations are trench excavations and deep and large basement & pit excavations.
- Some of the trench & basement excavation hazards and risks include the collapse of excavations, falls and falling objects, materials or objects falling on workers, exposure/injury of underground services, lack of safe access, and water inrush, among others.
- Common measures to prevent excavation collapse include planking & strutting, battering, soldier piles & timber laggings, soil nails and shotcrete, sheet piles, rock bolting, and others.
- The costs associated with ensuring excavation safety include the costs of compliance with the regulating bodies, purchasing the PPEs, setting up a health and safety compliant site, hiring a qualified health and safety officer, safety barriers, access, dewatering, and lateral support equipment and material in the shoring systems.
- However, the cost of non-compliance is much more expensive.



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INTERNATIONAL BEST PRACTICES IN THE CONSTRUCTION, DESIGN, AND MANAGEMENT OF PROJECTS

By: Erick Odongo MSc. Eng, CFIOSH, FIIRSM

- Construction Design and Management (CDM) aims to ensure health and safety issues are appropriately considered during the development of construction projects.
- CDM seeks to reduce the risk of harm to those who build, use, and maintain structures.
- Communication between all parties involved is very critical to ensure health and safety.
- CDM helps reduce risks by making you sensibly plan the work, have the right people, cooperate and coordinate your work, have the right information, communicate the information effectively, and consult and engage with workers
- CDM identifies three main roles in a project: the client ensures the project adequately controls risks from start to end, the principal designer manages health and safety in the pre-construction phase of a project, while the principal contractor manages the health and safety aspects in the project's construction phase.
- Pre-construction information involves the timely provision of Health & Safety Information to all stakeholders, the design phase/concept to pre-start, and the basis for the preparation of the Construction Phase Plan (CPP).
- CPP involves preparing a plan, noting the key dates, getting information from the client, and organizing the work to identify the main dangers on site and how you will control them. This requires working together with others to ensure health and safety.

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Q&A SESSION

Moderated by Patrick Mwangi

Are there provisions for hazards that happen many years later?

- The short-term effect of hazardous materials can be felt almost instantly. Effects of long-term hazards can be experienced over a long period. For example, welding fumes or asbestos cleaners. It is prudent to prevent such health hazards when exposure is inevitable. The employer should ensure monitoring and records are maintained and accessible so they can be referred to in the future.

What are the regulations on working at night?

- Night shifts in construction have been a persistent problem. There should be a night shift plan clearly stating the details, such as the names of the workers. Day workers should not work at night; hence, adherence to the 8-hour work shift should be observed.
- Neighbors have to be informed of the night work schedule during the public participation sessions so that they agree and are aware of this.
- Night work can also be limited to lighter work instead of operating heavy machinery.

What are the recommendations on H&S Data collection and information sharing

- Most of the time, DOSH conducts research but does not share the information.
- The International Labor Organization also provides H&S information

How do we professionalize the highly informal construction sector?

- Designers are responsible for informing the client that the required professionals are qualified to undertake the work.
- Induction of workers who will work on a project is important. The client is responsible for bringing on board the different expertise to undertake the work.
- In developed countries, OSH experts are well-regulated and established. However, in Kenya, OSH experts are pushing for regulation.

Do the current PPEs in the market meet the quality standards?

- There are no guidelines in Kenya that comprehensively stipulate the PPE standards. However, international standards can be used to check whether what is in the market fits the purpose of their intention.

What do you do as a Project Manager when night shift construction causes disturbances to neighbors?

- Usually, when conducting night work, you're required to obtain permission from NEMA and notify the neighbors.

What are your thoughts on the use of one-size-fits-all pre-cast slabs for foundations?

- Foundations should be unique and customized for every site depending on the soil characteristics, drainages, and other factors.

