A PRESENTATION

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AT

TALL BUILDING FIRE SAFETY CONFERENCE

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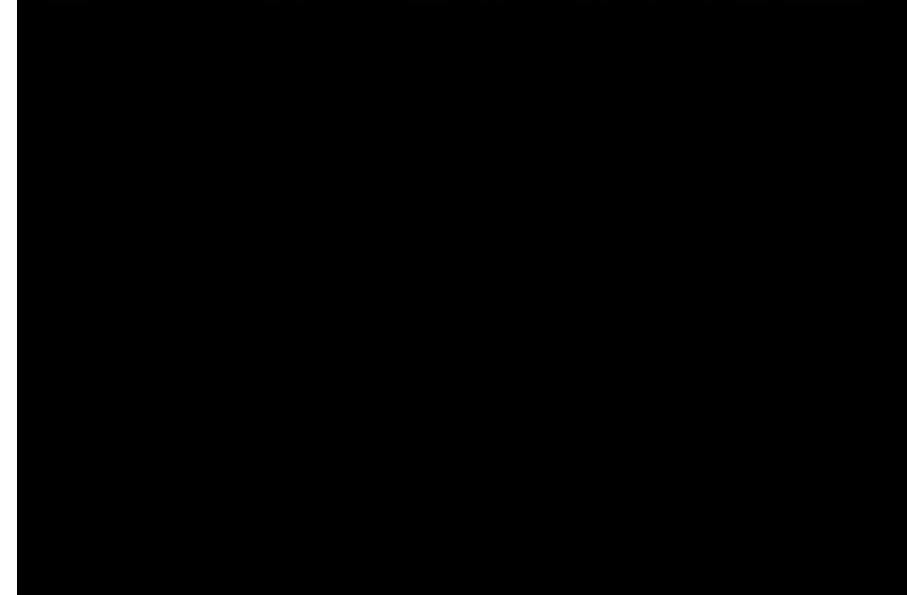LAGOS NIGERIA

# THE ROLES OF FACILITY MANAGERS IN HIGH-RISE FIRE PREVENTION

**GPFI®**

# AGENDA

- Introduction

- Definitions

- High Rise Building Design considerations

- Responsibilities of FM for HRB Fire Management

- Challenges faced by FMs in dealing with HRB fire

- What FMs must do to fulfil their responsibility

- Conclusion

- References

# INTRODUCTION

• One of the key outcomes of development in cities is the need to maximise the use of spaces in view of not enough land spaces, congestion etc, this has led to development and growth of highrise buildings globally

• The first high-rise buildings were constructed in the United States in the 1880s. They arose in urban areas where increased land prices and great population densities created a demand for buildings that rose vertically rather than spread horizontally, thus occupying less precious land area. (Britannica).

• In this part of the world, it has become a major attraction for commercial & residential buildings with Lagos accounting for the highest no HRBs in Sub-Saharan Africa.

• With the incidences of fire disasters in London, (residential); Dubai, (Residential); New York, (Commercial); Lagos, (Commercial), it has become imperative for us as a people to put a framework in place for HRB fire prevention. I thank the organizers for putting this together.

# *DEFINITIONS*

# DEFINITIONS

**Facility Management**

"*organizational* function which integrates people, place and process *within the built environment* with the purpose of *improving the quality of life of people* and the *productivity of the core business*".

**ISO 41011:2017**

**High Rise Building (HRB)**

According to Section 202 of the 2015 International Building Code (IBC), a building is considered a high-rise when there is an "occupied floor" more than 75 feet above the lowest level of fire department vehicle access.

# WHY ARE FMS NEEDED?
## TO



Create integrated plans that account for the complexities and interdependencies of the services that are provided.

Justify the existence of facilities and services.

Ensure that facilities and services are lean, flexible, and effective.

Provide just those services that are in demand or are necessary for compliance.

# WHY ARE FM NEEDED?
## TO

Deliver those services in a way that provides the best value for the money.

Ensure life safety and regulatory compliance.

Provide an environment that enables efficient execution of core functions

# *INTRODUCTION*

Fire/life safety is perhaps the most important area in which a facility manager is involved, and it requires the individual to have some knowledge about a wide range of topics, including operational considerations, testing and inspection requirements and policies and procedures.

Specifically, experts note that a facility manager needs to know at least a little bit about the sprinkler system and the fire alarm system and have some knowledge about fire drills, emergency planning, housekeeping and storage practices, as well as a building's fire egress features.

The individual also needs to make sure the various systems are regularly inspected and tested, and that they meet local codes and regulations.

(Chris Jelenewicz, engineering program manager, Society of Fire Protection Engineers.)

*DESIGN CONSIDERATION FOR FIRE PREVENTION IN HIGH RISE BUILDINGS*

## HIGH RISE BUILDING DESIGN CONSIDERATIONS

The fundamental axiom in fire safety for high-rise buildings is that the building must **remain intact throughout the fire** and offer refuge for the occupants until they can be evacuated. There must be no structural failure should there be a burnout in any portion of the building. (construction & masonry association of US)

Key consideration for a safe HRB:
- Building Structure
- Material used for construction
- Design for safety – detection, suppressions systems
- Static & dynamic features of the HRB
- Water supply – Water for Fire Mgt?
- Stair well design – Type, pressured, smoke prevention?
- HVAC system
- Lifts systems
- Utilities
- Alternative Power source
- Fire detection, prevention & fighting systems?

# RESPONSIBILITIES OF FM FOR HRB FIRE PREVENTION

# PROFM BODY OF KNOWLEDGE
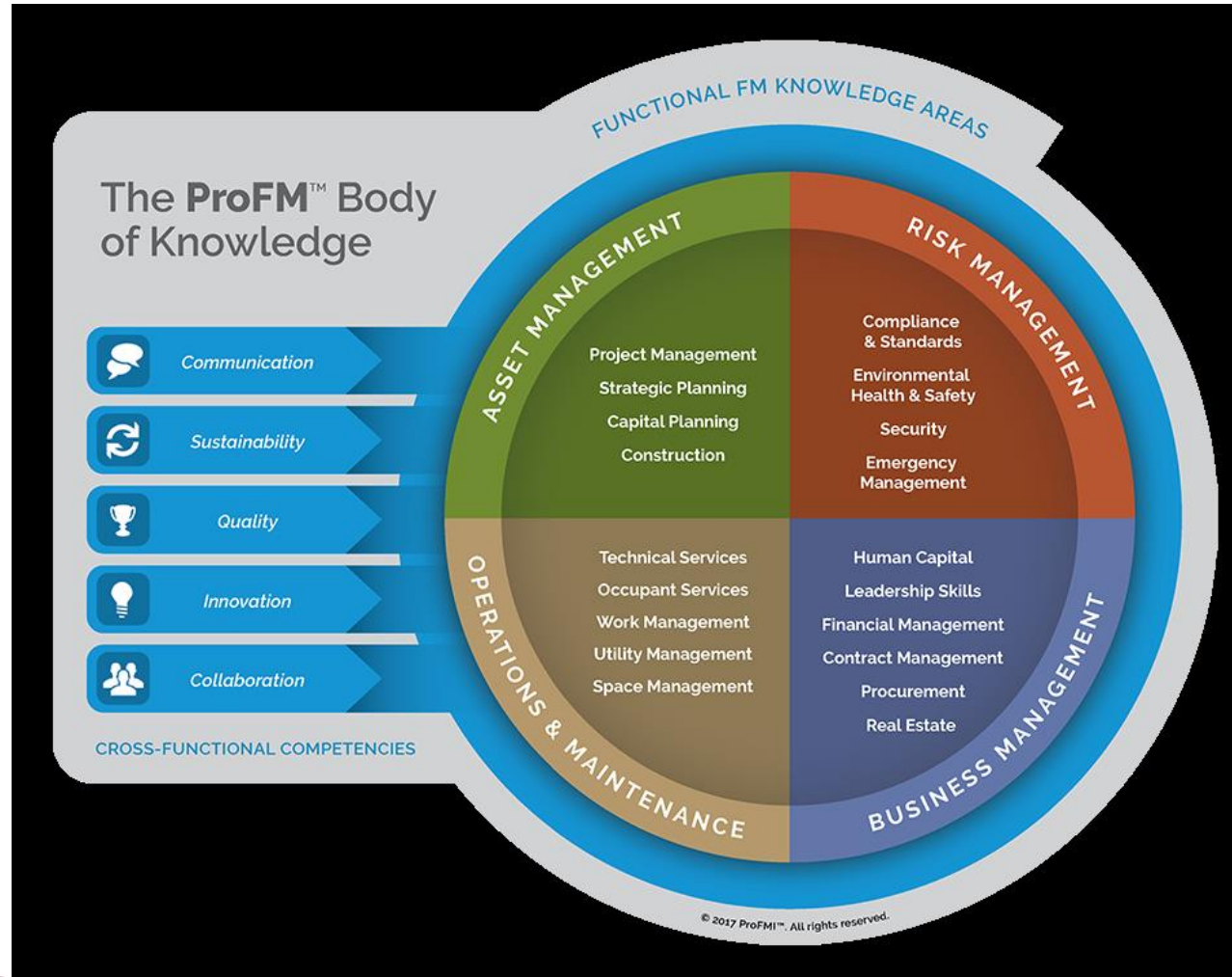
## RESPONSIBILITY OF FM FOR FIRE PREVENTION IN HRB

- Creating safe and healthy workplaces, preventing or mitigating risks to occupants from workplace hazards and accidents, including fire.

- Developing a fire Prevention Policy is imperative and the policy document should cover the following:

  - ✓ Overall arrangements for fire management including:

  - ✓ Eliminating where possible risk to H&S from fire or where not possible, effectively control those risks.

  - ✓ To reduce fire incidents to the lowest possible level.

  - ✓ employees are competent and effectively trained to carry out their duties in relation to fire safety in a safe manner.

  - ✓ To actively review risks from fire, and their controls, in an effort to constantly improve standards of fire safety in the light of new technology, legislation and best practice.

**RESPONSIBILITY OF FM FOR FIRE PREVENTION IN HRB**

Fire Management Responsibilities:

- Outlining who at Senior level has responsibility for:
  - ✓ ensuring that the fire safety policy is implemented effectively;
  - ✓ Has final authority on all fire safety matters;
  - ✓ Will monitor performance with respect to both statutory requirements and  policy;
  - ✓ Fully endorses the fire safety policy and delegates the responsibility for  policy implementation.
  - ✓ ensuring that relevant staff are given adequate information, instruction and  training
  - ✓ ensuring that fire risks over which you have control are eliminated or  controlled;
  - ✓ appointing one or more "competent" persons to assist with fire safety  matters;

## RESPONSIBILITY OF FM FOR FIRE PREVENTION IN HRB

Responsibilities of the Building Manager/Facilities Manager:

- all testing, maintenance of fire systems for which you are responsible is carried out;

- maintaining records of all fire maintenance and testing (Fire Logbook)

- co-operating with the those that complete the fire audits and completing any actions identified

- ensuring that where fire evacuations are required that these are carried out

- Understanding the fire strategy for the building

- Defining the scope and responsibilities for fire audits

- Occupiers – breaches in fire safety

- Under the law – a FM Company can be held liable for the omissions and acts of our occupiers if they breach fire safety regulations.

- FM can be the main duty holder and hold much greater responsibility in terms of making sure the building remains safe from fire and smoke.

- You need an escalation progress to deal with breaches (i.e. blocking communal fire exits)

**RESPONSIBILITY OF FM FOR FIRE PREVENTION IN HRB**

- A formal log of incidents and actions taken shall be kept at site.
- Ensuring that your contractors testing, and maintenance records are accurate and up to date
- Ensuring that process in place for other contractors' activities – hot works, refurbishments etc
- Ensuring occupier inspections are carried out and

  - Should be based on risk/co-operation with landlord - the process for determining this and what is being checked should form part of your Fire Process/procedures

  - Should be documented within the Building fire manual or similar documents

  - Ensure the building is fully installed with fire detection, prevention & fighting systems/equipment and certified as such

**RESPONSIBILITY OF FM FOR FIRE PREVENTION IN HRB**

- Have an effective emergency plan that highlights high-rise fire prevention, in collaboration with other stakeholders in the building, tenants, and general occupants as welk as regulatory agencies.
- As a facility manager, you must ensure that tenants, general occupants, members of the Emergency Planning Committee, and wardens are aware of the evacuation and emergency management procedures through training and awareness programs
- Understanding of the building design and provision for emergency management & fire prevention and suppression systems.
- Ensure proper maintenance and monitoring of the system
- Carrying out regular drills to test the functionability of the plans and adjusting where necessary
- Ensure to carry along community fire disaster management agencies at the local, state and federal levels and involve them in your drills

**FIRE DRILLS**

- DRILLS PROVIDE VIRTUALLY THE ONLY MEANS SHORT OF AN ACTUAL INCIDENT OF MEASURING THE STATE OF READINESS AND TESTING THE EFFECTIVENESS OF AN EMERGENCY RESPONSE PLAN.

- ROBERT B. KELLY

•*CHALLENGES FACED BY FMS IN DEALING WITH HRB FIRE*

## Challenges faced by FMs in dealing with HRB fire

Below are some of the challenges faced by FMs in HRB fire management

- Poor design consideration for fire – stair well design, roof access, desk strength to withstand an helicopter for evacuation
- Management buy-in on some initiatives to prevent fire – lack of appropriate fire fighting equipment
- Access to stairwell blocked by tenants – use for storage, personal access, etc
- Align to central fire management – tenants designing and installing their own fire management system separate from the central system
- Local code for fire safety for HBR not in place for adoption and implementation
- Knowledge and skills gap for the FM and the team.

•*WHAT FMS MUST DO TO FULFIL THEIR RESPONSIBILITY*

# What FMs must do to fulfil their responsibility

It is the ultimate responsibility of the FM to ensure the building is safe for the occupants and the organisation does not loose reputation, funds, and even liable for fire disasters in their building, it is therefore imperative for the FM manager to be:

- Knowledgeable on fire prevention systems
- Knowledgeable about the building design
- Able to manage the fire systems installed
- Able to Interprete the relevant laws and regulations relating to fire safety
- Knowledgeable on the various agencies relating to fire disaster in the city
- Able to carry our regular engagement with all stakeholders in fire management in the building and outside the building
- Able to Implement appropriate changes needed for to ensure the building is fully fire prevented
- Able to create internal company policy document of fire management and business continuity
- Able to carry out regular FRAs
- Able to engage, train and prepare everyone for emergencies.

*COMMUNITY EMERGENCY MANAGEMENT - THE NEW URBAN AGENDA*

*BY 2050, THE WORLD'S URBAN POPULATION IS EXPECTED TO NEARLY DOUBLE, MAKING URBANIZATION ONE OF THE TWENTY-FIRST CENTURY'S MOST TRANSFORMATIVE TRENDS. POPULATIONS, ECONOMIC ACTIVITIES, SOCIAL AND CULTURAL INTERACTIONS, AS WELL AS ENVIRONMENTAL AND HUMANITARIAN IMPACTS, ARE INCREASINGLY CONCENTRATED IN CITIES, AND THIS POSES MASSIVE SUSTAINABILITY CHALLENGES IN TERMS OF HOUSING, TRANSPORTATION, INFRASTRUCTURE, BASIC SERVICES, FOOD SECURITY, HEALTH, EDUCATION, DECENT JOBS, SAFETY AND NATURAL RESOURCES, AMONG OTHERS.*

## The New Urban Agenda

## THE NEW URBAN AGENDA

According to UN Habitat, a UN Agency for Urban Development, World leaders have adopted **The New Urban Agenda**, which sets a new global standard for sustainable urban development, and will help us rethink how we plan, manage and live-in cities. The New Urban Agenda is  roadmap for building cities that can serve as engines of prosperity and centers of cultural and social well-being while protecting the environment. The Agenda also provides guidance for achieving the Sustainable Development Goals and provides the underpinning for actions to address climate change

**Provide basic services for all citizens**
These services include: **access to housing, safe drinking water and sanitation, nutritious food, healthcare and family planning, education, culture and access to communication technologies.**

**Ensure that all citizens have access to equal opportunities and face no discrimination**
Everyone has the right to benefit from what their cities offer. The New Urban Agenda calls on city authorities to take into account the needs of women, youth and children, people with disabilities, marginalized groups, older persons, indigenous people, among other groups

# THE NEW URBAN AGENDA

**Promote measures that support cleaner cities**
Tackling air pollution in cities is good both for people's health and for the planet. In the Agenda, leaders have committed to increase their use of renewable energy, provide better and greener public transport, and sustainably manage their natural resources.

**Strengthen resilience in cities to reduce the risk and the impact of disasters**
Many cities have felt the impact of natural disasters and leaders have now committed to implement mitigation and adaptation measures to minimize these impacts. Some of these measures include: better urban planning, quality infrastructure and improving local responses.

**Take action to address climate change by reducing their greenhouse gas emissions**
Leaders have committed to involve not just the local government but all actors of society to take climate action taking into account the Paris Agreement on climate change which seeks to limit the increase in global temperature to well below 2 degrees Celsius. Sustainable cities that reduce emissions from energy  and build resilience can play a lead role.

# •CONCLUSION

# WAY FORWARD

State-wide and national policy framework on Fire Safety for HRB

Need to have a collaborative framework between all agencies – Physical Planning, building & development control and Safety & Emergency agencies

Organisations to be held accountable to provide adequate resources to not only prevent fire but fire

Industry-wide collaboration to ensure fire prevention for HRB

Knowledge sharing and collaboration between the Govt Agencies and Private Sector

Fire Prevention Certification should be a requirement for the commissioning of new HRB

Community network for HRB fire prevention to be encouraged between Private Sector building owners – Like the Marina CBD Community

Requirement for FMs who manage HRB to be certified in HRB Fire & Emergency Management

Adequate design consideration for Fire prevention must be mandated in HRB designs and such must only be approved if the design meets the basic HRB fire Prevention design requirements

# *CLOSING*

The time is now for us to create a framework and be prepared for emergencies and HRB fire, as the nation grows in the development of HRB.

I hope my submission will help in putting together a holistic framework, that will involve all stakeholders in the building industry – Developers, Arc/Development Engr, Owners, Occupiers, Regulatory Agencies, FMs

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# *THANK YOU*

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