

KUMASI KEJETIA MARKET FIRE UPDATE

AGENDA

- ▶ PRESS RELEASE ON THE 17TH OF MARCH 2023.
- ▶ LETTER TO THE CONTRACTOR (MESSERS CONTRACTA CONSTRUCTION UK Ltd.)
- ▶ PROPOSED SCHEDULE FOR ASSESSMENT & RECONFIGURATION OF MEP INSTALLATIONS AT THE KEJETIA MARKET.
- ▶ FIRE OUTBREAK AND MATTERS ARISING.
- ▶ WAY FORWARD AFTER REPORT.
- ▶ ANY OTHER MATTERS.

PRESS RELEASE ON THE 17TH OF MARCH 2023.



Kumasi City Markets Ltd

PRESS RELEASE

At its Emergency Meeting Held on Friday 17th March 2023, the Board of Kumasi City Markets Limited in consultation with experts on construction and disaster management, has resolved that in order to protect life and property of patrons of the Kumasi Kejetia Market Complex, the following measures are to be adhered to following the outbreak of fire at the facility on Wednesday the 15th of March 2023.

The experts have advised that there is the need to assess the electromechanical and other safety installations as well as the structural integrity of the affected area before granting access to patrons.

In that regard;

- a. The non-affected area of the facility is to be closed for a further **one week** from Monday 20th March 2023.
- b. The affected area (i.e, connection area) which is the epicenter of the fire is to be closed indefinitely until advised by the assessment experts.

The general public is therefore advised to strictly adhere to the above measures in order to safeguard lives and property.

DATED FRIDAY 17TH DAY OF MARCH 2023

A handwritten signature in blue ink, appearing to read 'Nana Agyenim Boateng I'.

NANA AGYENIM BOATENG I
VICE CHAIRMAN
BOARD KCML

LETTER TO THE CONTRACTOR (MESSERS CONTRACTA CONSTRUCTION UK Ltd.)



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Kumasi Metropolitan Assembly

OUR REF. NO.: V164/184/04A/37

DATE: 17th MARCH, 2023

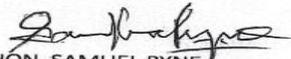
FIRE OUTBREAK AT THE KUMASI KEJETIA MARKET PHASE 1 AND MATTERS ARISING

The above subject matter refers:

At the Emergency Board Meeting of the Kumasi City Markets Limited (KCML) held at the Lancaster Hotel on 17th March 2023, it was agreed that you liaise with the Design Build Contractor, Messrs Contracta Construction UK Ltd. to assess the extent of damage at the affected and non-affected areas and advise on the way forward.

Your Assessment among other things, would advise on the date for the re-opening of the facility.

Counting very much on your cooperation in this matter.


HON. SAMUEL PYNE
(METROPOLITAN CHIEF EXECUTIVE)

THE PROJECT DIRECTOR
AVANGARDE DESIGNS SERVICES
ACCRA

Copy: The Hon. Minister
Ministry of Local Government
Decentralization and Rural Development
Accra

The Hon. Minister
Ashanti Regional Co-ordinating Council
Kumasi

MESSERS CONTRACTA CONSTRUCTION UK Ltd. RESPONSE



17th March 2023

**The Project Director
Messers Contracta Construction UK Ltd
Kumasi**

**RE: FIRE OUTBREAK AT THE KUMASI KEJETIA MARKET PHASE 1
AND MATTERS ARISING**

The above Subject Matter refers.

We have received the enclosed letter with Ref No. *v/164/184/04A/37* dated 17th March 2023 from the Metropolitan Chief Executive of the Kumasi Metropolitan Assembly on the above subject matter of which you are in copy. As the Design and Build Contractor for the Phase 1, you are kindly requested to assist in the immediate assessment of the extent of the damage at the affected and non-affected areas of the market including but not limited to the CCTV, Electrical, Fire Fighting and Detection, Plumbing installations as well as the Structural Integrity of the facility.

As indicated, this assessment will advise on the wayforwrd including the re-opening of the facility for commercial activities. You are therefore to liaise with us to submit a report accordingly.

Counting on your cooperation.

For and on behalf of
Avangarde Design Services

A handwritten signature in blue ink, appearing to be 'Kwadwo A. Yeboah-Asare', written over a faint watermark of the Avangarde Design Services logo.

**Arc. Kwadwo A. Yeboah-Asare
Project Director/Team Leader.**

PROPOSED SCHEDULE FOR ASSESSMENT & RECONFIGURATION OF MEP INSTALLATIONS AT THE KEJETIA MARKET.

PROPOSED SCHEDULE FOR ASSESSMENT & RECONFIGURATION OF MEP INSTALLATIONS AT THE KEJETIA MARKET.

S/N	ACTIVITY	PLANNED TIMELINE	REMARKS
1.	Complete Barricading of Fire-Affected Area.	Monday, 20 th March Saturday, 25 th March 2023	Subject to Availability of budget and material
2.	Assessment & Reconfiguration of Electrical Services.	Monday, 20 th March Friday, 24 th March 2023	Remove cables to breach by Friday. Measure the closed cables
3.	Assessment & Reconfiguration of Fire Fighting Systems	Monday, 20 th March Saturday, 25 th March 2023	Isolation of the area. Work on the pumps
4.	Assessment & Reconfiguration of CCTV Systems	Monday, 20 th March Friday, 25 th March 2023	

Continue...

5.	Assessment & Reconfiguration of PA System	Monday, 20 th March Friday, 24 th March 2023	
6.	Assessment & Reconfiguration of Fire Detection System	Monday, 20 th March Friday, 24 th March 2023	
7.	Fire Certification by Ghana National Fire Service	Monday, 20 th March Monday, 27 th March 2023	Subject to the completion of the entire MEP works
8.	Fire Safety & Simulation Drills by NADMO & GNFS	Monday, 20 th March Monday, 27 th March 2023	Subject to the completion of the entire MEP works
9.	Provision of Insurance Cover	Monday, 20 th March Monday, 27 th March 2023	Subject to Fire Certification by GNFS

1 Introduction

On 15/03/2023, around 16:30hrs, a fire incident was reported on the first floor of the connection area of the Kumasi Market Phase 1 (KMP1). Consequently, the authorities took the decision to close Kumasi Market Phase 1 to allow uninterrupted access and time for the investigating into the cause of the fire outbreak, assess the conditions of the Market's structure and infrastructure, and to evaluate the actions necessary to be taken to enable the reopening of the KMP1.

On 16/03/2023, Avangard (the Engineer Consultant for KMP1 and KMP2 – under construction) requested Contracta's support to evaluate the conditions of the market after the fire outbreak. This request was formally confirmed by KMA and Avangard's letter issued on 17 March 2023.

Therefore, Contracta's team has made an assessment of the area and present in this preliminary report its conclusion and recommendation.



This Preliminary Report, or any other subsequent one in this issue, aims to support Avangarde/KMA as per the above request. In no circumstance can this report be considered a contractual obligation or create any legal liabilities. Notwithstanding any of the conclusions contained in this report, the Owner of the facility must engage a third party to enquire about the status of the facility and the actions to be taken.



Furthermore, the causes of the fire outbreak are not the objective of this report.

Contracta immediately responded to the situation by providing mechanical work elevated platforms (manlift) to evacuate the trapped persons to safety. After people were evacuated from the building, Contracta supported the fire officers by transporting few people to the hospital with our ambulance and had our water tanks in readiness to provide additional water for firefighting purposes, as needed.



Figure 1.1 – The shop and Police officers assisting in fighting the fire



Figure 1.2 - The shop and Police officers assisting in fighting the fire

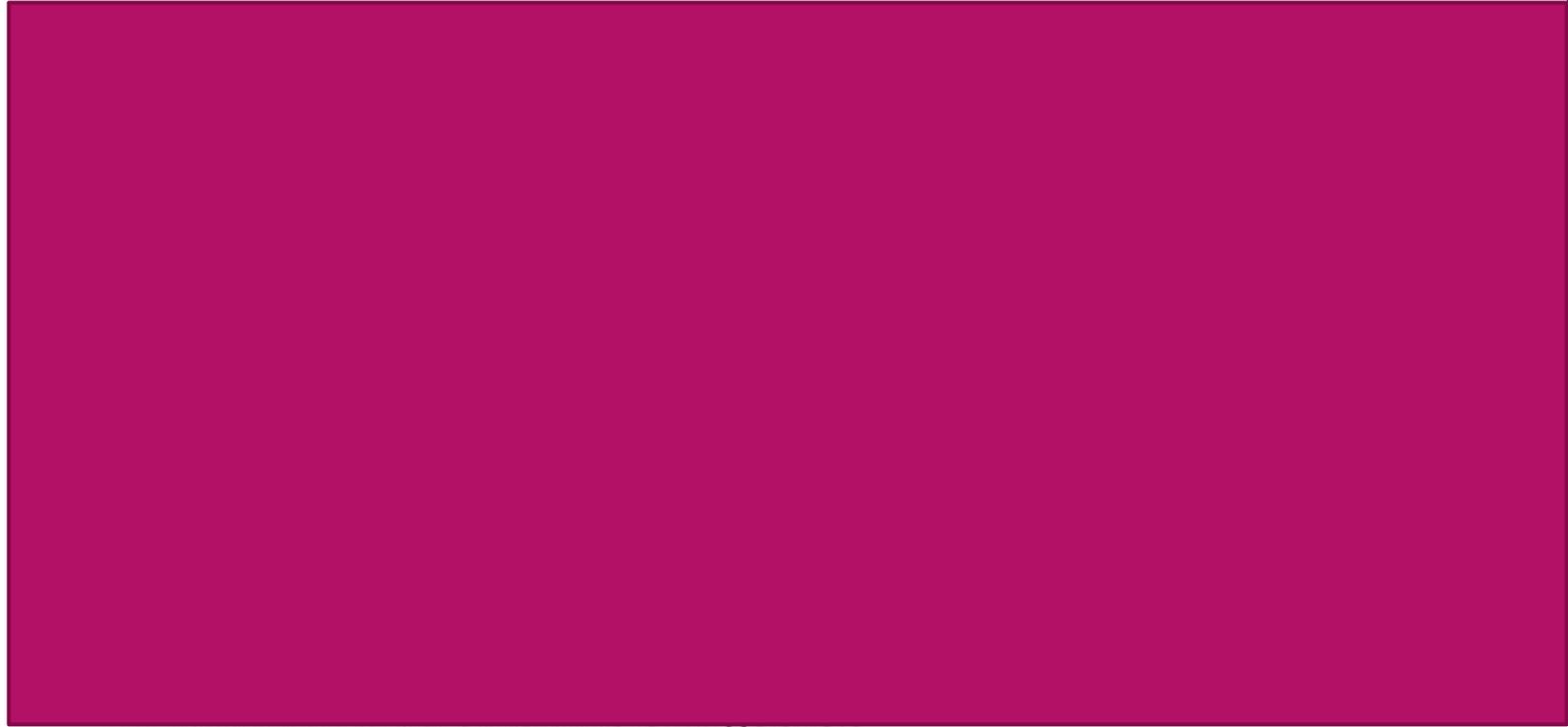


Figure 1.3 – Smoke engulfing the upper floor of the structure



Figure 1.4 – Fire under control

2 Main Findings



d. All the fire cabinets in the facility had in them, a DCP extinguisher and fire hose and properly labelled (Figure 3.3).



e. There were gas cylinders in this area of the fire that should not have been there



Figure 2.1- Gas cylinders being throw from the 1st floor

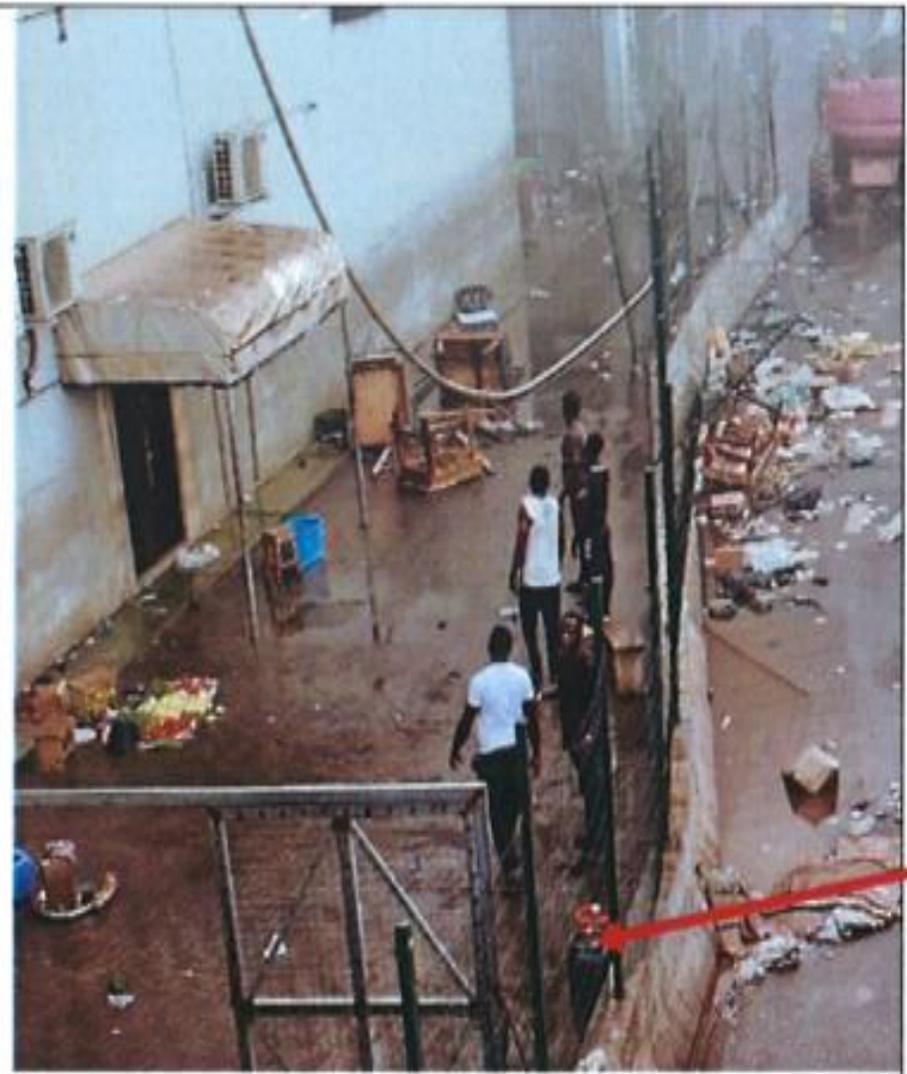


Figure 2.2- Gas Cylinders on the floor after being thrown down



Figure 2.3 – Skyfire Alarm System Panel



Figure 2.4 – Covered Smoke detectors



Figure 2.5 – Fire Cabinet

3 Contracta Supportive Actions

- a. Four (4) man-lift equipment were provided by KMP2 for the rescue of traders trapped on the structure's upper floors.
- b. Two (2) water trucks were mobilised from KMP2 and KAP projects to support the Ghana National Fire Service in combating the fire.
- c. An ambulance vehicle and health support team from Contracta were immediately dispatched to the event scene to help the injured.
- d. Three (3) Contracta mobile tower lights were transported to the event scene to provide illumination for the firefighting team throughout the night.



4 Damages

Despite the efforts of the firefighters, the fire caused considerable damage to the structure of the fire affected area of the building. The flames destroyed goods and properties whilst the upper area of the market structure building suffered from significant smoke staining to the soffit of the roof covering.

By our technician's account, the incident damaged about 42 shops in the affected area, 12 with severe damages.



Figure 4.1 - The aftermath of the fire incident and the damaged structures

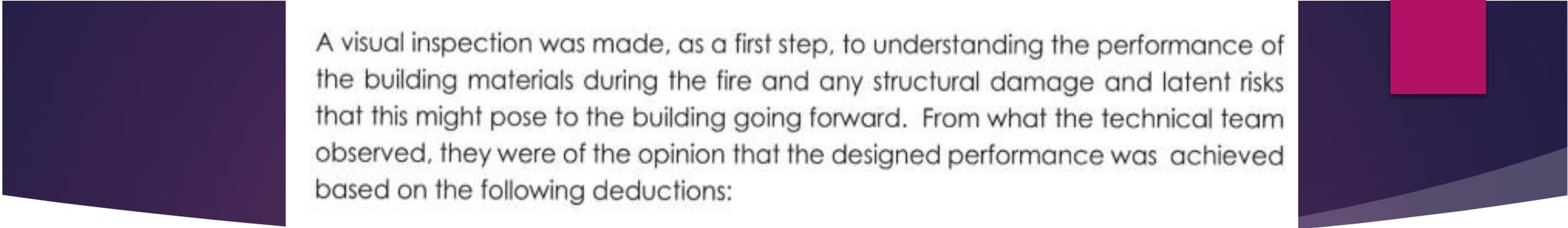


5 Findings During the Inspection

5.1 Structural Assessment – 1st Floor

On the 1st floor, in the area in which the fire began and its surroundings, it was possible to identify the following issues:

- Some beams were affected by the fire and got visually bent. A deeper inspection is recommended to confirm the "level of structural damages" and the impact of the damage on the integrity of the structure.
- Some portions of the steel deck at the 2nd level floor slab got visually damaged by the fire. A more detailed inspection is recommended to confirm the "level of the damage" and the impact of this referred "damage" on the integrity of the structure.
- It was impossible to confirm if any other damage affected the concrete slab because the area was full of debris and with a layer of water on top.
- The structure of some stores was affected in the surrounding area, where the fire started.
- Concrete has been exposed to high temperatures for a long time, and specialists should conduct a more detailed investigation with proper equipment to confirm its integrity.



A visual inspection was made, as a first step, to understanding the performance of the building materials during the fire and any structural damage and latent risks that this might pose to the building going forward. From what the technical team observed, they were of the opinion that the designed performance was achieved based on the following deductions:

- Considering the affected area by the fire, and the preliminary visual evaluation of the steel structure, the intumescent painting has accomplished its main function, which is to protect the building structure against the fire to avoid the collapse of the building.
- Considering the fire occurrence, the cementitious wall fulfilled the function of resisting fire and not supporting combustion. It was evidenced that a store close to the area in which the fire started did not have its goods burned, it is clear therefore that the separating wall resisted and protected adjacent store from the fire.

Notwithstanding the above observations, it is recommended that a more detailed structural survey be carried out by specialists with special survey equipment to check and determine the depth of any damage and the implications for the integrity of the structure.

5.2 Structural Assessment – 2nd Floor

On the 2nd floor area, where the fire began and its surrounding areas, the following issues were identified:

- Cracks were evidenced on the slab, including the unevenness of the slab beside store S-3199. A more detailed study is recommended to confirm the "level of damage" as well as the impact of this damage on the integrity of the structure.
- A detailed inspection should be carried out by specialists with special survey equipment to confirm the unevenness of the slab in the corridor between stores S-3157 and S-3184, as visually it appears that the slab in this area has a settlement. Furthermore, it should be taken into consideration that the steel deck of this floor got damaged.
- Concrete has been exposed to high temperatures, and a more detailed investigation should be carried out to confirm its integrity.

5.3 Structural Assessment – Ground Floor

No inspection was carried out on this floor because it was not possible to get access to the area.

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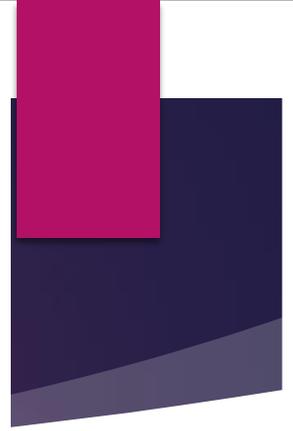
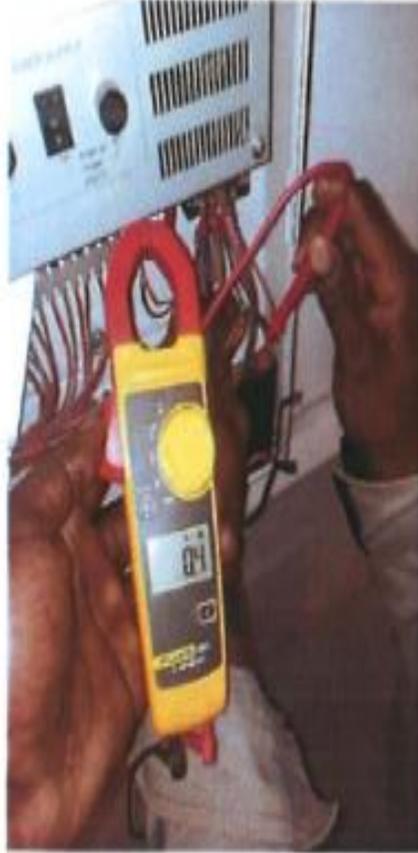


Figure 5.1- Damaged Steel deck and beam



- The jockey pump was turned off, although the panels were energised.





The Firefighting and Fire Detection distribution systems got damaged in the area affected by the fire and should be replaced.

5.5 Electrical System Assessment

In the affected area by the fire, some panels got damaged, and some were utterly condemned and should be repaired/replaced.

Electrical Infrastructure got damaged in the area affected by the fire and should be replaced/repared.

Some Electrical panel rooms have been used as a warehouse, creating obstacles to access the equipment. Using these rooms for storage is a serious fire risk and the practice must cease.



Figure 5.10- Electrical Room being used as storage



During the inspection, it was identified that the main panel breakers that supplied power to the affected area (connection) were off, suggesting that this is why most breakers in the block panels didn't turn off.



Photo of the Main Panel (Breakers Off)

Photo of a block panel (Breakers on)

5.6 Rainwater and Drainage System Assessment

All pipes and supports got damaged in the affected area by the fire and should be replaced.



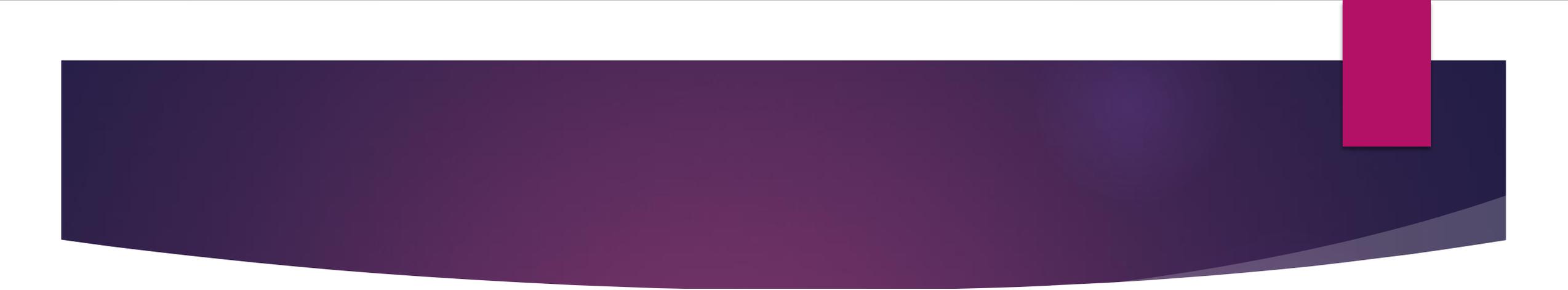
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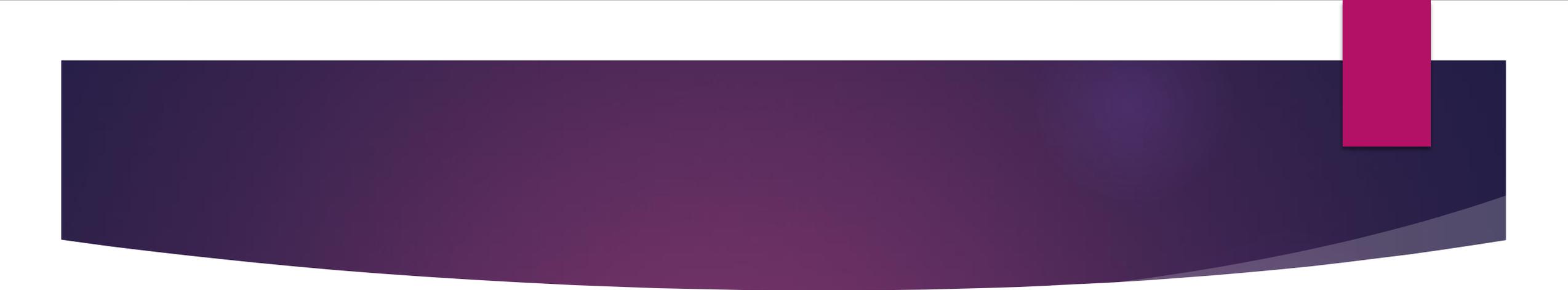
7 Plan of Action

The Technical team of CCUK recommend the following actions before the partial reopening of the market:

- Complete physical isolation of the affected area (connection) until the inspections and test results were concluded.
- Review/repair/recommission the Fire Pumps (mechanically and electrically) by a third party as recommended and previously advised by Contracta in the past.
- Remove any material unrelated to the fire pump's operation from the Pump Room.

- Review/repair/recommission the Fire Alarm and Detection System (Main and secondary panels and distribution) by a third party as recommended and previously advised by Contracta in the past.
- Visit all the Technical Rooms removing all material unrelated to the operation of the equipment installed on them.
- Detailed analysis carried out by a specialised and well-equipped company with experience in this kind of incident to indicate the proper extension of isolation on the MEP installations at the connection area and its surroundings (at least a 100m radius) for partially reopening the premises:
 - Cabling insulation testing to confirm the integrity of the electrical distribution system.
 - Continuity test on the electrical distribution system to ensure that the outbreak may cause no fault.
 - Visual inspection of all the electrical rooms to ensure that any other use is being done but the electrical cabinet's housing.
- A specialised and well-equipped company with experience in this kind of incident shall conduct a detailed analysis to verify the building's structural integrity in the affected area:
 - X-Ray of the main structural elements (columns and beams) to check their retained structural integrity after such a long exposure to fire.
 - Strength tests on the slab concrete to ensure its original characteristics were not affected by the long-term fire exposure.

- 
- Renew the Building Permit (mandatory)
 - Renew the Fire Permit (mandatory)
 - Renew the EPA Permit (mandatory)
 - Review the Maintenance/Operational/Safety Plans and technical team available in the Market Phase I staff to improving the predictive/corrective maintenance actions and regular inspections practices to:
 - Avoid flammable improper storage methods by traders and users.
 - Avoid Improper use of equipment/tools inside the Market Phase I area by traders and other users.
 - Avoid improper use of Technical Rooms, Electrical Rooms, and other utility support areas as storage or any other purpose than the original one.

- 
- Ensure Regular fire drill sessions to provide safety actions and coordinated egress directions.
 - Ensure proper housekeeping in all Market Phase I area avoiding clogging of passageways and means of escape.
 - Continuous sensitization to the Market's Operation and Maintenance staff for the procedures to be followed, as well as sensitization of the traders and public towards the safety behaviours.
 - Continuous inspection of the market facilities to prevent unauthorized activities in the market.

ANY OTHER MATTERS

METERING SYSTEM AT KUMASI KEJETIA MARKET

- **BULK METER**

Bulk meter means a device used to measure the aggregate electricity consumption of a multi unit complex and includes any associated equipment, systems and technologies, but does not include a meter.

METERING SYSTEM AT KUMASI KEJETIA MARKET

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ELECTRIC METER

There are six types of electrical meters:

- ▶ **Standard meters**
- ▶ **Dial meters**
- ▶ **Digital Meters**
- ▶ **Variable rate meters**
- ▶ **Prepayment meters**
- ▶ **Smart meters**

THANK YOU



INTRODUCTION BY THE MAYOR OF KUMASI

HON. SAMUEL PYNE

PRESENTATION BY NANA AGYENIM BOATENG I