

## **Summary of Preliminary Assessment on Structural, Fire and Electrical Safety**

Name of the Factory	: Work Field Knit Wears
Address of the Factory	: East Isdair, Upazila Road, Fatullah, Narayanganj
Present Status of the Factory	: Under Operation
Structural Assessment Conducted by	: BUET
Date of Structural Inspection	: 19 <sup>th</sup> January 2014

### **BASIC INFORMATION:**

The factory building is a five storied RC structure. The building has RC beam-column framing system. The following information was noted:

- i. Building Usage Type : Garment factory
- ii. Structural System : Reinforced concrete beam-column frame structure
- iii. Floor System : Edge supported RCC slabs. However, 1<sup>st</sup> floor to top floor slabs are one way slabs having supporting beams at two opposite sides only.
- iv. Floor Area : Approximately 4000 sq.ft per floor (typical grid spacing: 12'x15')
- v. No. of Stories : Five story and some unauthorized structures on the roof
- vi. Construction Year : Construction period is not available.
- vii. Foundation Type : Pile foundation as per drawing.
- viii. Design Drawings : Available. But the actual beam layout differs significantly with the supplied drawing. In the 1<sup>st</sup> floor slab beams in two way directions as per drawing was observed. However, in 2<sup>nd</sup> floor and above slabs beams were observed in one direction only.
- ix. Soil Boring Report : Available
- x. Construction Materials : Reinforced Concrete
- xi. Generator : Outside the building

### **RECOMMENDATIONS FOR CORRECTIVE ACTION:**

The recommendations of corrective action for both Structural and Fire & Electrical Safety comprises in Short Term, Mid Term and Long Term basis.

The recommendations for **Structural Safety** corrective action are:

- Short Term (Immediate) : Tin shed structures are constructed on some part of the roof not in accordance to the approved drawing. These structural parts should be removed.
- Mid Term (6-weeks) : The factory owner has been instructed to prepare and submit a load plan for vetting.
- Long Term (6-months) : A Detail Engineering Assessment (DEA) has to be completed. Necessary remediation's after completion of DEA.

The recommendations for **Fire & Electrical Safety** corrective action are:

Name of the Factory	: Work Field Knit Wears
Fire & Electrical assessment conducted by	: BUET
Date of Fire & Electrical Inspection	: 4 <sup>th</sup> February 2014

#### ***(A): Recommendations for Fire Safety corrective actions:***

Immediate <i>(the factory should not continue to be occupied until these non-conformities have been rectified):</i>	N/A
Short Term <i>(Actions that must be incorporated into a Fire Safety Management Plan immediately (a week) and should be a regular activity</i>	Remove all temporary obstructions from all escape routes, aisles and passageways. Ensure minimum width of corridors, passageways and aisles. Ensure easy access to portable extinguishers and monitor and maintain the same at required interval as per guidelines. Provide exit sign in Bangla and English as per guidelines.

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<p>Mid Term (The remedial works indicated must be carried out within a period of 6 weeks)</p>	<p>Remove temporary structure from roof top.</p> <p>Produce proper drawing and plans to create horizontal and vertical fire-rated separation for stairways of appropriate specifications, grills, storage and assembly areas, offices, work areas. Also design to ensure proper separation of high risk areas (e.g., generator, boiler, transformer and substation rooms) as per guidelines.</p> <p>Remove all collapsible gates/roller shutters. Produce design drawings to demonstrate how stairways are to be made of adequate dimensions and appropriate specifications and to be converted into fire-rated enclosures equipped with fire-rated side swinging doors of required dimensions opening in the direction of travel at each floor.</p> <p>Provide design to install proper detection and alarm system.</p>
<p>Long Term (The remedial works indicated must be carried out within a period of 6 months)</p>	<p>Install horizontal and vertical fire-rated separation for stairways of appropriate specifications, grills, storage and assembly areas, offices, work areas.</p> <p>Ensure proper fire separation of high risk areas (e.g., generator, boiler, transformer and substation rooms) as per approved design.</p> <p>Install fire rated enclosure and doors of appropriate dimensions at exit to the stairs to prevent smoke and fire propagation as per approved design.</p> <p>Install proper detection and alarm system.</p> <p>Provide fire rated enclosure, install self closing fire rated door as per guidelines.</p>

### **(B): Recommendations for Electrical Safety corrective actions:**

<p>Immediate (the factory should not continue to be occupied until these non-conformities have been rectified):</p>	N/A
<p>Short Term (Actions that must be incorporated into a Fire Safety Management Plan immediately (a week) and should be a regular activity)</p>	<p>Provide instructions for first aid and artificial respiration from exposure to electrical shock.</p> <p>Provide cover on the cable trench and rubber mat in front of the panel.</p> <p>Ensure well-dressed cabling with lugs and remove loose cabling.</p> <p>Ensure earthing of panel body &amp; door with fitted condition.</p> <p>Provide distribution board as per guideline and put identification mark on distribution panel.</p>
<p>Mid Term (The remedial works indicated must be carried out within a period of 6 weeks)</p>	<p>Provide separate service ducts for electrical cables.</p> <p>Provide new Emergency Lighting system.</p> <p>Provide appropriate Lightning Protection System as per guidelines.</p>
<p>Long Term (The remedial works indicated must be carried out within a period of 6 months)</p>	N/A