

Summary of Preliminary Assessment on Structural, Fire and Electrical Safety

Name of the Factory : Zafar Enterprises (Pvt) Ltd.
Address of the Factory : 123/1/A, Samad Super Market, South Jatrabari, Dhaka
Present Status of the Factory : Under Operation
Structural Assessment Conducted by : BUET
Date of Structural Inspection : 29 October 2014

BASIC INFORMATION:

The commercial-cum-factory building is a five-storied (plus one basement) RC beam column frame structure. The following information was noted:

- i. Building Usage Type : Market (basement through 2nd floor), Garments factory (3rd & 4th floor)
- ii. Structural System : RC Frame structure
- iii. Floor System : Edge supported RCC slabs; thickness= 5" (as per drawing)
- iv. Floor Area : Approximately 837 sq. m (9000 sft) per floor
- v. No. of Stories : Five stories, although designed as a 4-storied residential building
- vi. Construction Year : 1st phase: 1991- up to 3rd floor; 2nd phase: 1995-4th floor
- vii. Foundation Type : Pile caps resting on bolli (wooden) piles (8'x8', 7'x7' & 6'x6' for interior, exterior and corner columns respectively; 12, 9 & 9 bolli piles for interior, exterior and corner columns as per design drawing)
- viii. Design Drawings : RAJUK approved Drawing available (RAJUK No. 4773/79/3993, dt. 12/9/1981; Designer: Md. Omar Faiz, AMIEB-8359); Structural and foundation drawing were prepared recently (Undated).
- ix. Soil Investigation Report : Not available
- x. Construction Materials : Reinforced Concrete with Brick Chips (verified) and reinforcing steel (40 grade assumed)
- xi. Generator : Basement (150 kVA)

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) : The factory owner has been instructed to prepare and submit a load plan for vetting. Owner is asked to get soil exploration report in order to check foundation adequacy by a qualified engineer.

Mid Term (6-weeks) : None

Long Term (6-months) : None

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

Name of the Factory : Zafar Enterprises (Pvt.) Ltd.
Fire & Electrical assessment conducted by : BUET
Date of Fire & Electrical Inspection : 11th November 2014

(A): Recommendations for Fire Safety corrective actions:

Fire Safety Issues	
Immediate <i>(the factory should not continue to be occupied until these non-conformities have been rectified):</i>	N/A

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<p>Short Term <i>(Actions that must be incorporated into a Fire Safety Management Plan immediately (a week) and should be a regular activity)</i></p>	<p>Remove all temporary obstructions from all escape routes, aisles and passageways.</p> <p>Remove all combustible materials from boiler/ generator room.</p> <p>Ensure minimum width of corridors, passageways and aisles.</p> <p>Ensure adequate numbers of fire drills.</p> <p>Ensure easy access to portable extinguishers and monitor and maintain the same at required interval as per guidelines.</p> <p>Provide proper directional sign and exit sign in Bangla and English as per guidelines.</p>
<p>Mid Term <i>(The remedial works indicated must be carried out within a period of 6 weeks)</i></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, basement, offices, work areas. Also design to ensure proper separation of high risk areas (e.g., generator, boiler rooms) as per guidelines.</p> <p>Remove all collapsible gates/roller shutters/sliding doors. 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 <i>(The remedial works indicated must be carried out within a period of 6 months)</i></p>	<p>Install horizontal and vertical fire-rated separation for stairways of appropriate specifications, grills, storage and assembly areas, basement, offices, work areas.</p> <p>Ensure proper fire separation of high risk areas (e.g., generator, boiler 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 style="text-align: center;">Electrical Safety Issues</p>	
<p>Immediate <i>(the factory should not continue to be occupied until these non-conformities have been rectified):</i></p>	<p style="text-align: center;">N/A</p>

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<p>Short Term <i>(Actions that must be incorporated into a Fire Safety Management Plan immediately (a week) and should be a regular activity)</i></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 & door with fitted condition. Provide distribution board as per guideline and put identification mark on distribution panel.</p> <p>Remove broken/loose MCB/MCCB box/socket.</p>
<p>Mid Term <i>(The remedial works indicated must be carried out within a period of 6 weeks)</i></p>	<p>Provide separate service ducts for electrical cables.</p> <p>Provide new Emergency Lighting system.</p>
<p>Long Term <i>(The remedial works indicated must be carried out within a period of 6 months)</i></p>	<p>N/A</p>