

Summary of Preliminary Assessment on Structural, Fire and Electrical Safety

Name of the Factory	: Step Two Apparels Ltd.
Address of the Factory	: “Lutfan Tower”, Plot # E-13, Middle Badda, Dhaka
Present Status of the Factory	: Under Operation
Structural Assessment Conducted by	: BUET
Date of Structural Inspection	: 25 th December 2013
Fire & Electrical Assessment Conducted by	: BUET
Date of Fire & Electrical Inspection	: 6 th December 2013

BASIC INFORMATION:

Four Garments Factories, namely, Step Two Apparels Ltd. (4th Floor), News Style Garments Ltd. (5th Floor), Lifestyle Fashions Maker Ltd. (7th, 8th and 9th Floor) and K. A. Design Ltd. (10th and 11th Floor) housed at “Lutfan Tower” was inspected. The building has been designed as a 12-storied (GF+11 plus one basement) commercial building. The following information was noted:

- i. Building Usage Type : Commercial Building (Shopping Complex and Garments Factory).
- ii. Structural System : R.C. Beam-Column framed structure.
- iii. Floor System : Edge supported R.C. solid floor slab system with R.C. beams at the edges.
- iv. Floor Area : Approx. 14170 sft for typical floors (as per architectural drawing).
- v. No. of Stories : 12 (Twelve) with one basement floor.
- vi. Construction Year : Completed in 1995.
- vii. Foundation Type : Mat Foundation. However, the thickness of mat is not shown in the structural drawing.
- viii. Design Drawings : Available.
- ix. Soil Investigation Report : Available (Prepared by Unique Boring and Engineering, 34, Green Road, Nowab Mansion, 3rd Floor, Dhaka in May, 1995).
- x. Construction Materials : Reinforced Concrete with stone chips (as reported during site visit) and steel deformed rebars (60 Grade, as mentioned in the structural drawing).
- xi. Generator : 8 numbers which are located at basement floor of 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:

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| Short Term (Immediate) | : The Roof Top Antenna Towers of Bangla Link together with the Tower Control Room shall be removed from the roof of the building; intensity of loading due to storage of finished goods shall not exceed 60 psf (2.87 kN/m ²). |
| Mid Term (6-weeks) | : The rebars in columns (interior columns) shall be scanned |
| Long Term (6-months) | : None |

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

(A): Recommendations for Fire Safety corrective actions:

Immediate <i>(the factory should not continue to be occupied until these non-conformities</i>	Open all the stairways for use of the occupants during working hours and ensure enclosed safe passageway.
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<i>have been rectified):</i>	
<p>Short Term</p> <p><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 generator room.</p> <p>Ensure minimum width of corridors, passageways and aisles.</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</p> <p><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, lift lobby, 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>Produce design to install standard standpipe, hose and fire pump system.</p> <p>Provide design to install proper detection and alarm system.</p> <p>Install command station as per guidelines.</p>
<p>Long Term</p> <p><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, lift lobby, 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 standard standpipe, hose and fire pump system.</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:

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<p>Immediate</p> <p><i>(the factory should not continue to be occupied until these non-conformities have been rectified):</i></p>	<p>N/A</p>
<p>Short Term</p> <p><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>Ensure well-dressed cabling with lugs and remove loose cabling.</p> <p>Ensure earthing of panel body & door with fitted condition.</p> <p>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</p> <p><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>Provide appropriate Lightning Protection System as per guidelines.</p>
<p>Long Term</p> <p><i>(The remedial works indicated must be carried out within a period of 6 months)</i></p>	<p>N/A</p>