

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

Name of the Factory	: <b>Bulbul Knitting &amp; Sewing Ltd.</b>
Address of the Factory	: 228/7, Dighirchala, Chandana, Joydebpur, Gazipur
Present Status of the Factory	: <b>Under Operation</b>
Structural Assessment Conducted by	: BUET
Date of Structural Inspection	: 14 <sup>th</sup> January 2014
Fire & Electrical Assessment Conducted by	: BUET
Date of Fire & Electrical Inspection	: 23 <sup>rd</sup> January 2014

### **BASIC INFORMATION:**

The present garment factory is housed in a Six-storey reinforced concrete building. The reinforced concrete building is a RC frame with flat plate flooring system. The following information were noted:

i. Building Usage Type	: Commercial Building
ii. Structural System	: RC columns with flat plate floors
iii. Floor System	: Flat plate
iv. Floor Area	: Approx. 6000- 7200 sft/floor (used by Bulbul Knitting)
v. No. of Stories	: 6 (Six)
vi. Construction Year	: 2008-2009 (as reported)
vii. Foundation Type	: Individual footing (3.05m×3.05m, Reinforcement: 20mm @5inch c/c both way)
viii. Design Drawings	: Reinforced concrete building design drawing is partially available (only one sheet). Consultant: Planning and Engineering Consultants, Jorpukur, Joydebpur, Gazipur.
ix. Soil Investigation Report	: Available (conducted in March 2008 by The National Soil Engineers, 186/A West Kafrul, Old Taltola, Sher-e-Bangla Nagar, Dhaka-1207)
x. Construction Materials	: Not Available (Assumed brick chips for RC and 40 Grade reinforcement).
xi. Generator	: Generator is located at the GF of 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)	: The factory owner has to prepare and submit the load plan for all floors within three weeks for approval
Mid Term (6-weeks)	: None
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:**

**(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
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<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 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</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, 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. 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</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, 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 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</p> <p><i>(the factory should not continue to be occupied until these non-conformities have been rectified):</i></p>	<p>N/A</p>
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<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>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</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 Lightening 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>