

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

Name of the Factory	: Bhuiyan Fabrics Ltd.
Address of the Factory	: Khadun, Rupshi, Rupgonj, Narayangonj.
Present Status of the Factory	: Under Operation
Structural Assessment Conducted by	: BUET
Date of Structural Inspection	: 4 <sup>th</sup> November 2014

### **BASIC INFORMATION:**

The factory building is a 4 storied RC structure and has reinforced concrete beam-column framing system structure. The following information was noted:

i.	Building Usage Type	: Garment factory
ii.	Structural System	: Beam-Column frame system
iii.	Floor System	: Edge supported RC slabs (Thickness 5" as shown in drawing)
iv.	Floor Area	: Approximately 6400 sq.ft per floor
v.	No. of Stories	: 4 stories
vi.	Construction Year	: 1998, by Building Owner
vii.	Foundation Type	: Pile footing (As per drawing)
viii.	Design Drawings	: Available (Signed by Chairman, Tarabo Union Parishod)
ix.	Soil Investigation Report	: Available, dated March, 2003
x.	Construction Materials	: Reinforced Concrete (with brick chips)
xi.	Generator	: Outside 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:

Short Term (Immediate) : The remaining tin shed construction on roof is to be removed totally shortly. Some flexural hairline cracks were observed in the roof (4th floor) beams. After removing the tin shed structure on roof, proper actions for these beams should be taken by competent engineer. Also, the dampness of the 4th floor slab (Roof) should be properly taken care of in consultation with competent engineer.

Mid Term (6-weeks) : The factory owner has been instructed to prepare and submit a load plan for vetting

Long Term (6-months) : None

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

Name of the Factory	: Bhuyan Fabrics Ltd.
Fire & Electrical assessment conducted by	: BUET
Date of Fire & Electrical Inspection	: 4 <sup>th</sup> November 2014

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

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

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<p><b>Short Term</b>  <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>Maintain minimum effective width of corridors, passageways and aisles.</p> <p>Ensure minimum width of corridors, passageways and aisles.</p> <p>Ensure adequate numbers of fire drills.</p> <p>Ensure maintaining of the fire extinguishers as per guidelines.</p> <p>Provide proper directional sign and exit sign in Bangla and English as per guidelines.</p>
<p><b>Mid Term</b>  <i>(The remedial works indicated must be carried out within a period of 6 weeks)</i></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, basement, offices, work areas. Also design to ensure proper separation of high risk areas (e.g., substation rooms) as per guidelines.</p> <p>Remove all collapsible gates/roller shutters/s 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. Install command station as per guidelines.</p>
<p><b>Long Term</b>  <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., 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 align="center"><b>Electrical Safety Issues</b></p>	
<p><b>Immediate</b>  <i>(the factory should not continue to be occupied until these non-conformities have been rectified):</i></p>	<p align="center">N/A</p>

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<p><i>Short Term</i> (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. Provide distribution board as per guideline and put identification mark on distribution panel.</p> <p>Remove burnt/broken/loose MCB/MCCB box/socket.</p>
<p><i>Mid Term</i> (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 Lightening Protection System as per guidelines.</p>
<p><i>Long Term</i> (The remedial works indicated must be carried out within a period of 6 months)</p>	<p style="text-align: center;">N/A</p>