

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

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Name of the Factory	: Anowara Styles Ltd.
Address of the Factory	: 202, Padma Oil Road, Godnail, Siddhirganj, Narayanganj, Bangladesh.
Present Status of the Factory	: Under Operation.
Structural Assessment Conducted by	: TUV
Date of Structural Inspection	: 23 <sup>rd</sup> May, 2015.
Fire Assessment Conducted by	: TUV
Date of Fire Inspection	: 23 <sup>rd</sup> May, 2015.
Electrical Assessment Conducted by	: TUV
Date of Electrical Inspection	: 23 <sup>rd</sup> May, 2015.
BGMEA Membership No.	: 2809.

### **BASIC INFORMATION:**

The assessed factory building was a 6 -Storey RCC building and an unapproved pre-fabricated profile shed east side of the building. The structural system of the 6 storied building is RCC beam column frame and beam slab floor system. All floors of building were occupied by the assessed factory as rental basis. The following information was noted:

i. Building Usage Type	: Garment Factory.
ii. Structural System	: RCC beam slab system for 6 storey building.
iii. Floor System	: RCC beam slab system for 6 storey building.
iv. Floor Area	: The typical plinth area is 3573 sft. and total production floor is 31,508 sft
v. No. of Stories	: 6 storey.
vi. Construction Year	: 2013.
vii. Foundation Type	: Pile foundation.
viii. Design Drawings	: Available (approval for 6 storey building from Siddhirganj Municipality on 2nd April, 2009 but no approval for pre-fabricated shed.)
ix. Soil Investigation Report	: Available.
x. Construction Materials	: Stone aggregate. (Identified by removing plaster)
xi. Generator	: East side of the adjacent 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) : None.

Mid Term (6-weeks) :

- As built engineering drawing to be prepared and submitted for approval by appropriate authority. As part of this process building engineer will be required to make a number of checks on the structural design.

Long Term (6-months) : None.

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

#### **(A): Recommendations for Fire 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 (1 ~ 2 weeks) and should be a regular activity</i></p>	<ul style="list-style-type: none"> <li>• Factory management should check alarm call points, alarm &amp; detection system periodically and maintained the record properly.</li> <li>• The first aid hose and standpipe performance should be checked periodically and properly tagged.</li> </ul>
<p>Mid Term</p> <p><i>(The remedial works indicated must be carried out within a period of 6 weeks)</i></p>	<ul style="list-style-type: none"> <li>• Replace all existing exit doors on evacuation routes, exit doors with side hinged type door, which swing outward and in the direction of travel. Swinging of the door should not constrict the width of the corridor / passage below 0.9 meter.</li> <li>• Remove all locking device from all egress door. All exit doors should be open-able from the side they serve without the use of a key.</li> <li>• Provide handrails on both side of each stairway with height of 0.9m measured from the nose of stair to the top of the handrail.</li> <li>• Doors in stair should be outward opening, side-swing, self-closing, non-lockable 1.5 hours fire rated doors in all stair way encloses.</li> <li>• Provide 2 hours fire rated doors at ground floor sub-station room, which is located at the adjacent to stair-2 exit</li> <li>• Provide 1.5 hrs fire rated door for storage area.</li> <li>• Produce design and plan for automatic detection system with automatic fire alarm.</li> <li>• Provide adequate nos. of smoke detectors to cover the whole factory building.</li> <li>• Prepare proper design and plan for dedicated fire pump with alternate backup power supply.</li> <li>• Replace existing 1 inch hose pipe replace with 1.5 inch hose pipe and replace existing 1.5 inch standpipe with 2 inch standpipe to meet the requirement of RMG guideline.</li> <li>• Obtain fire license with full covered area from issuing</li> </ul>

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	authority.
<p>Long Term</p> <p><i>(The remedial works indicated must be carried out within a period of 6 months)</i></p>	<ul style="list-style-type: none"> <li>• Install automatic detection system with automatic fire alarm.</li> <li>• Install dedicated fire pump with alternate backup power supply.</li> <li>• Stand pipe supplying first aid hose should have minimum pressure of 200 KPa.</li> </ul>

### **(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>	<ul style="list-style-type: none"> <li>• None.</li> </ul>
<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>	<ul style="list-style-type: none"> <li>• Relocate switchboards away from water source (&gt; 2.5 m).</li> </ul>
<p>Mid Term</p> <p><i>(The remedial works indicated must be carried out within a period of 6 weeks)</i></p>	<ul style="list-style-type: none"> <li>• Provide rubber mats of adequate size in front of Main distribution panel.</li> <li>• Provide circuit diagram /circuit list with proper current ratings and fuse size, marking for DBs identifying end use load, voltage, number of phases.</li> <li>• Seal the opening of wall at wiring passing through roof partitions. Ensure that all cable penetrations through walls should be adequately sealed with fire resistive elements.</li> <li>• Provide adequate earthing to body and doors to MDB/ DBs. Ensure that all electrical panels provided with proper and separate earth potential.</li> </ul>
<p>Long Term</p> <p><i>(The remedial works indicated must be carried out within a period of 6 months)</i></p>	<ul style="list-style-type: none"> <li>• 1. Provide updated Electrical layout drawing prepared after proper locations of all outlets for lamps, fans, fixed and transportable appliances, motors etc.</li> <li>• 2. Drawings to indicate exact positions of all points of switch boxes and other outlets to match existing installation.</li> <li>• 3. As built drawing to be approved by the engineer-in-charge.</li> <li>• Area of substation to meet requirements of Table 4.3 of</li> </ul>

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	<p>RMG Guideline; the area should be 40 m<sup>2</sup>, or relocate the substation room.</p> <ul style="list-style-type: none"><li>• Provide adequate ventilation arrangements for indoor substation.</li><li>• Provide 1.5 hour fire rated door all around the substation room on ground level.</li><li>• Modify Area of generator room to meet requirements of Table 4.4, RMG Guideline; the area should be 40m<sup>2</sup>, or relocate the generator room.</li><li>• Provide adequate protection against lightning depending on the probability of a strike and acceptable risk levels at roof top of building.</li></ul>
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