

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

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Name of the Factory	: YOUNG 4 EVER
Address of the Factory	: Plot # B-89/90, Basic I/A, Fatullah, Bangladesh
Dhaka Present Status of the Factory	: <b>Under Operation</b>
Structural assessment conducted by	: Accord (Full report available at bangladeshaccord.org)
Date of Structural Inspection	: 6 August, 2014
Fire & Electrical assessment conducted by	: Accord (Full report available at bangladeshaccord.org)
Date of Fire & Electrical Inspection	: 16 August, 2014

**Basic Information:** The present garment factory is a commercial building with beam-column frame system. The following general information was noted:

i.	Building Usage Type	: Garment factory
ii.	Structural System	: R.C beam and column frame with a 2-way solid slab
iii.	Floor System	: Beam slab
iv.	Floor Area	: The factory has total floor area of 28,000.00Sq.ft.
v.	No. of Stories	: 5 storied
vi.	Construction Year	: 2006
vii.	Foundation Type	: Unavailable
viii.	Design Drawings	: Available
ix.	Soil investigation Report	: Available
x.	Construction Materials	: Unavailable
xi.	Generator	: Ground Floor

**Recommendations for Corrective Action:** The recommendations of corrective action for both Structural and Fire & Electrical Safety are as follows:

**The recommendations for Structural Safety corrective actions are:**

Immediate (Now): NA

Mid Term (Within 6 Weeks):

1. The factory's Engineer to carry out an Engineering Assessment of, and check the current structural system, under lateral wind and seismic loads.

Long Term (Within 6 Months):

1. The factory's Engineer should survey the actual conditions and reproduce the as-built drawings as early as possible.
2. Provide a proper waterproof layer on the current roof level.
3. Provide a proper painted protection to the bars to prevent steel corrosion.
4. Based on the analysis results carry out any remedial works deemed necessary.
5. Either fully remove the shed or strengthen in accordance with a Structural Engineer's advice.

**The recommendations for Fire Safety corrective actions are:**

Immediate (Within 1 month):

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1. Remove locking features from all egress doors / gates. If locks are required for security reasons, utilize special door locking features complying with NFPA 101.
2. Remove all storage from exit stairs and egress paths.
3. Replace all gates / sliding doors along the means of egress with side-hinged, swinging egress doors. If locks are required for security reasons, utilize special door locking features complying with NFPA 101.
4. Regularly inspect all exit signage and replace/install lights as needed to illuminate signs.
5. Remove manual on/off switches from emergency lighting units to prevent them from being switched off.

### Short Term (Within 3 Months):

1. Separate the boiler and generator room by a minimum 2-hr fire-rated construction. Seal and/or protected all openings to maintain the required fire separations.
2. Provide dedicated storage rooms separated by minimum 1-hr fire-rated construction. Where separate storage rooms may not be feasible, provide defined storage areas and limit the storage arrangement as follows:

-Maximum height of 2.4m and maximum area of 23m<sup>2</sup>

-If sprinkler protected: maximum height of 3.66m and maximum area of 93m<sup>2</sup>.

Separate areas of unenclosed combustibile storage by a minimum clear distance of 3m.

3. Provide minimum 1.5-hr fire rated doors and seal all unprotected openings to separate the exit stairs from work areas and other building spaces on all floor levels. Ensure that the fire doors are self-closing and positive latching and that they are provided with fire exit (panic) hardware where serving production floors. If fire doors are required to be held open for functional reasons, provide automatic closing devices tied to the fire alarm system.
4. Seal all penetrations and openings in exit stair enclosure walls to maintain the fire separation.
5. Inspect, test and maintain the fire alarm system, and keep written records on-site, in accordance with NFPA 72.
6. Inspect, test and maintain the emergency lighting system in accordance with The ACCORD standard. Keep written records on-site.
7. Test the emergency lighting system on each floor and provide additional emergency fixtures to provide adequate illumination along the means of egress. Provide a minimum illumination of 10 lux at the floor level within exit stairs and exit discharge paths and minimum 2.5 lux along exit access aisles.

### Mid Term (within 6 Months):

1. Provide visible notification in accordance with NFPA 72.

Long Term (More than 6 months): NA

### **The recommendations for Electrical Safety corrective actions are:**

#### Immediate (Within 1 month):

1. Cables connected to bushing must be properly supported and terminated on the bushing with socket.

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2. Panel base plates must be installed and cable(s) entering panel must be firmly fixed with cable gland. Install cable tray (riser) or rigid conduit.
3. Install separators/barriers between phases of MCCB to avert flashover. Standard separators provided by the MCCB manufacturer must be used.
4. Install cable tray/ladder to support the cable. Installation must be done horizontally/vertically and never at angle. Proper cable dressing must be done. Install baseplate/top cover for cable entry with cable gland. Install trench cover with concrete slab/checkered plate.
5. Cables must be supported on covered cable trays and riser or must be laid into trench. Cable trench should be covered with checkered plate or concrete slab.
6. Install base plate with glands for cable entry. Control cables must be protected inside the slotted duct fixed inside the panel frame. Cable dressing must be properly done inside the panel.

### Short Term (Within 3 Months):

1. The factory must have As-built electrical SLD with electrical wiring layout designs and drawings. Any changes in load, protection system, conductors, Generation and supply system must be reflected in the As-built SLD and drawings.
2. Thermo graphic scanning of the entire electrical system must be performed on tri-annual basis and recorded.
3. Insulation resistant test of all the cables must be performed once every 5 year cycle and recorded.
4. Electrical safety training and awareness program for the electrical personal and workers must be initiated and recorded.

Mid Term (Within 6 months): NA

Long Term (More than 6 months): NA