

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

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| Name of the Factory                        | : Apollo Knit Wear (BD) Ltd.  |
| Address of the Factory                     | : Okeystar, Plot No. : 1-5/1, Road No. -7, Section No. -7<br>Pallabi, Mirpur, Dhaka |
| 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              | : 13 April, 2014  |
| Fire & Electrical assessment conducted by: | Accord (Full report available at bangladeshaccord.org)                              |
| Date of Fire & Electrical Inspection       | : 12 April, 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       | : Garments Factory   |
| ii.   | Structural System         | : RCC beam slab, Cantilevered beam slab  |
| iii.  | Floor System              | : Beam slab  |
| iv.   | Floor Area                | : Unavailable  |
| v.    | No. of Stories            | : 7 Storey   |
| vi.   | Construction Year         | : 2012   |
| vii.  | Foundation Type           | : Not applicable   |
| viii. | Design Drawings           | : Available (Not matched the site conditions and the actual building dimensions) |
| ix.   | Soil investigation Report | : Unavailable  |
| x.    | Construction Materials    | : Unavailable  |
| xi.   | Generator                 | : Ground floor- southeast side separate structure to main building.              |

**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:**

- Update structural drawings to suit actual site conditions.

**Mid Term (Within 6 Weeks):**

- Carry out a DEA as noted in the Item 2 actions; concentrating on dimensional differences, a lack of any recognisable lateral support system and the use of a different concrete aggregate.
  - Carry out a Detailed Engineering Assessment on the cantilevered portion of slab.
  - Conduct Engineering Assessment on the steel fire escape staircase.
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## Summary of Preliminary Assessment on Structural, Fire and Electrical Safety

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### **Long Term (Within 6 Months):**

- Implement and complete any recommendations resulting from the DEA.
- Display and enforce loading plans.

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

#### **Immediate:**

1. Keep egress paths and stairs clear of storage.
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. Remove locking features from all egress doors and gates. If locks are required for security reasons, utilize special door locking features complying with NFPA 101.

#### **Short Term (Within 3 Months):**

1. Separate the boiler, generator, and transformer rooms by a minimum 2-hr fire-rated construction. Seal and/or protect all openings to maintain the required fire separations.
2. Provide dedicated storage rooms separated by minimum 1-hr fire-rated construction.
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. Modify the egress door to swing in the direction of egress travel.
5. Inspect, test and maintain the fire alarm system, and keep written records on-site, in accordance with NFPA 72.

#### **Mid Term (within 6 Months):**

1. Replace the single-station smoke alarms with automatic smoke detectors tied into the fire alarm system.

#### **Long Term:**

1. Replace the fire alarm system with a new, listed addressable fire alarm system in accordance with NFPA 72.
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### **The recommendations for Electrical Safety corrective actions are:**

#### **Immediate:**

1. Establish a routine cleaning program to keep neat and clean the transformer room. Shut down the power of the transformer and clean the exterior of the transformer at scheduled period.
2. HT Cable must be supported by cable riser or ladder with cover to ensure the mechanical protection of the cables from any physical damage or reduce the stress on termination point /bushing.
3. Establish a routine cleaning program to keep the transformer room neat and clean.
4. Disconnect the power source of the panel and clean dust and debris of all interior components. Establish a periodic cleaning program and maintain records of the activities. Provide cover made of noncombustible material on the unused openings for preventing ingress of dust and debris in future.
5. Install separators between different phases of MCCB. Standard separators provided by the MCCB manufacturer must be used.

#### **Short Term (Within 3 Months):**

1. Flexible PVC conduit wiring must be additionally supported on vertical and horizontal cable tray. Flexible conduit must not be used for long point wiring (except for special wirings).
2. Make circular hole at the base plate of panels and provide cable gland according to the respective cable size for cable entry and exit so that the cables are not stressed on the sharp edges of the hole of panels. Provide covers (of noncombustible material) if any additional gap remains after installing cable glands.
3. The cable in flexible conduit must be supported in cable tray up to the base or top plate of the panel to prevent any physical damage to cable insulation. APOLLO KNIT WEAR (BD) LTD Page 9 of 10 Flexible conduit must not be used for long point wiring (except for special wirings).
4. Cables laid outside building must be supported in cable trays and protected against weather and possible physical damages.
5. Replace rewire fuses (cut-out fuse) mounted on the wiring ducts with MCBs installed in protective enclosure.

#### **Mid Term: NA**

#### **Long Term: NA**

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