

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

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Name of the Factory : **Dekko Apparels Ltd**  
Address of the Factory : Plot # M/1, Road # 7, Section # 7, Mirpur, Dhaka  
Present Status of the Factory : Under Operation  
Structural assessment conducted by : Accord (Full report available at bangladeshaccord.org)  
Date of Structural Inspection : 1<sup>st</sup> April 2014

Fire & Electrical assessment conducted by: Accord (Full report available at bangladeshaccord.org)  
Date of Fire & Electrical Inspection : 30 March, 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         | : RC beam slab                         |
| iii.  | Floor System              | : Beam slab                            |
| iv.   | Floor Area                | : Unavailable                          |
| v.    | No. of Stories            | : 7 storied                            |
| vi.   | Construction Year         | : 1992                                 |
| vii.  | Foundation Type           | : pad and piled                        |
| viii. | Design Drawings           | : Available (Local Union Municipality) |
| ix.   | Soil investigation Report | : Unavailable                          |
| 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: NA

Mid Term (Within 6 Weeks):

- Building engineer to check the capacity of the steel stairs and supporting slab under fire escape loading
- Building engineer to check the structures and provide structural drawings and loading plan for the new First floor area.

Long Term (Within 6 Months):

- Carry out any alterations required from the Assessment

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- Engineer to monitor the recent cracking in masonry panels at level 6. Assessment to be made following monitoring and Engineer to specify repairs and strengthening if necessary
- Engage an Engineer to investigate if cracks are only in the nominal render finish. Engage an engineer to specify repairs and strengthening if necessary

The recommendations for Fire Safety corrective actions are:

Immediate (With in 1 month):

1. 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.
2. Remove all storage from exit stairs and egress paths.
3. Replace all gates and 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.

Short Term (Within 3 Months):

1. Separate the generator room/substation 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 are not 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 combustible storage by a minimum clear distance of 3m.  
Provide a 2-hr fire rated vestibule for discharge from the Yarn Store to the exit stair.  
Provide a 1.5 hr. fire rated door on the exit stair side and a 1 hr. fire rated door on the storage room side.
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.  
Provide fire rated protection for the exterior exit stair extending 10 ft. beyond the ends of the stair.  
If fire doors are required to be held open for functional reasons, provide automatic closing devices tied to the fire alarm system.
4. Separate the boiler room by a minimum 2-hr fire-rated construction. Seal and/or protected all openings to maintain the required fire separations.
5. Separate the elevator machine room by a minimum 2-hr fire rated construction. Seal and/or protected all openings to maintain the required fire separations
6. Seal all penetrations and openings in exit stair enclosure walls to maintain the fire separation.
7. Separate the transformer room by a minimum 2-hr fire-rated construction. Seal and/or protected all openings to maintain the required fire separations
8. Provide minimum aisle widths of 36-in.
9. Provide additional means of egress.

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10. Remove and relocate the non-serving electric appliances to the exterior of the stairwells.
11. Provide minimum clearance of 6 ft. 8 in.
12. 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. Provide sprinkler protection for discharge floor in accordance with NFPA 13.

### Long Term (more than 6 months):

1. Replace the fire alarm system with a new, listed addressable fire alarm system in accordance with NFPA 72.
2. Provide automatic sprinkler protection throughout the building in accordance with NFPA 13.

The recommendations for Electrical Safety corrective actions are:

### Immediate (With in 1 Month):

1. Enlarge the transformer room to provide necessary clearance around it. The room area for the transformer should be 13sq m according to BNBC 2006, Section-2.6.3. Make sure that the transformer room should be fire rated and separated from other occupancy.
2. Isolate the transformer from the grid and clean the transformer room. Establish a routine cleaning program as a part of routine maintenance to keep the room neat and clean.
3. Service cable must be supported in cable tray/riser in full length.
4. Generator battery must be placed on the battery stand made of noncombustible material (steel fabricated, acid proof)

### Short Term (Within 3 Months):

1. Install a ladder/pipe made properly supported with pole for supporting the service cables in order to protect the cables' insulation from any physical damage
2. Cable terminating at generator output terminal box must be supported on riser then passed through covered cable tray if it is laid on floor. Remove the spilled oil and keep the generator room dry and clean.
3. Seal all the penetrations using appropriate fire rated material and ensure the cable insulation does not get damaged during sealing work.
4. Provide covers on the trench made of non-combustible material preferably concrete slab to protect the cables' insulation from physical damage as well as prevent entering debris, dust and lint.
5. Wiring in flexible PVC conduit must be supported on cable-tray or riser and protected where required. Flexible conduit must not be used for long point wiring (except for special wirings).

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Mid Term (Within 6 Months):

1. The entrance/exit to transformer room must be kept obstacle free. Remove the cable-drums placed on the way to transformers.

Long Term: NA