

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

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Name of the Factory	: <b>CONCORD FASHION EXPORT LTD.</b>
Address of the Factory	: South Shalna, Joydebpur, Gazipur
Dhaka Present Status of the Factory	: <b>Under Operation</b>
Structural assessment conducted by	: Accord (Full report available at <a href="http://bangladeshaccord.org">bangladeshaccord.org</a> )
Date of Structural Inspection	: 16 March, 2014
Fire & Electrical assessment conducted by	: Accord (Full report available at <a href="http://bangladeshaccord.org">bangladeshaccord.org</a> )
Date of Fire & Electrical Inspection	: 11 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	: Garment factory
ii.	Structural System	: Waffle slab supported by RC columns
iii.	Floor System	: Beam slab
iv.	Floor Area	: Unavailable
v.	No. of Stories	: 5 storied
vi.	Construction Year	: 2000
vii.	Foundation Type	: Piled foundation
viii.	Design Drawings	: Available
ix.	Soil investigation Report	: Available (1998)
x.	Construction Materials	: Stone aggregated
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. Continue with current strengthening works to column at Ground Floor.
2. Building Engineer to ensure the structure is not loaded beyond capacity by the loading from high build up in storage areas.
3. Building Engineer to create controlled loading plans for all floors.
4. Building Engineer to ensure the structure is not loaded beyond capacity by the loading from the water tank.
5. Building Engineer to carry out design check on adequacy and robustness of tank support system and prepare plan for upgrade if required.

Long Term (Within 6 Months):

1. Factory Engineer to review all columns at Ground Floor which have been subject to impact loads and specify remedial action if required.
2. Continue to implement load plan.
3. If necessary, provide Reinforced concrete or steel supports to 2 No. plastic water tanks at high level to replace existing brick supports.

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4. Continue to carry out repairs to cracking using methods similar to those currently being used.
5. Building engineer to check the structures and propose additional reinforcement and a stability system as required.

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

#### Immediate (Within 1 month):

1. Reduce occupant load to not more than available exit capacity immediately. If greater occupant load is desired, provide additional exits in the future.
2. Remove locking features from all egress doors / gates. If locks are required for security reasons, utilize special door locking features complying with NFPA 101.
3. Keep egress paths and stairs clear of storage.
4. 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.
5. Remove all storage from exit stairs and egress paths.

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

1. Separate the boiler, generator, and transformer rooms by a minimum 2-hr fire-rated construction. Seal and/or protected all openings to maintain the required fire separations.
2. 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.
3. Seal all penetrations and openings in exit stair enclosure walls to maintain the fire separation.
4. Provide minimum aisle widths of 36-in.
5. Modify the egress door to swing in the direction of egress travel.
6. Inspect, test and maintain the fire alarm system, and keep written records on-site, in accordance with NFPA 72.
7. Regularly inspect all exit signage and replace/install lights as needed to illuminate signs.

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

1. Modify stair to discharge directly outside. Or provide 2-hr fire-rated exit passageway leading directly outside.
2. Remove single-station smoke alarms. Provide automatic smoke detection throughout the building in accordance with NFPA 72.

#### 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.

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

Immediate (Within 1 month):

1. Provide cover made of non-combustible material preferably metallic sheet to protect the cables' insulation from physical damage as well as prevent entering debris, dust and lint.
2. Install additional lights inside generator room and ensure minimum 150 lux illumination around the room for performing the maintenance and inspection.
3. CTs shall be firmly supported to panel enclosure rather than supported on cables/bus bar.
4. The PVC/rigid pipe must be used for surface wiring which must be continuous through-out its length and properly supported (clamped with saddle, at regular interval of 600 mm).The conduit shall run vertically or horizontally, shall never at angle.
5. Disconnect the panel form power source and clean the interior of the panel regularly and seal the openings to protect ingress of lint and dusts. Provide covers if any additional gap remains after installing cable glands.

Short Term (Within 3 Months):

1. Install the cable tray or ladder with cover to provide mechanical support to the HT cable.
2. The PVC/rigid pipe must be used for surface wiring which must be continuous through-out its length and properly supported (clamped with saddle, at regular interval of 600 mm).The conduit shall run vertically or horizontally, shall never at angle.
3. Install the cable tray or ladder with cover to provide mechanical support and provide covers made of noncombustible material preferably metallic sheet to protect the cables' insulation from physical damage as well as prevent entering debris, dust and lint.
4. Damaged conduit must be replaced and supported, clamped using saddle at regular interval (600 mm preferably).
5. Wires shall be properly supported and protected using PVC flexible pipes (industrial graded).
6. Changeover switch shall be fixed on the wall. Also use PVC or steel pipes for carrying cables. Support the conduits by using saddle clamp.

Mid Term (Within 6 months):      NA

Long Term (More than 6 months): NA