

Summary of Preliminary Assessment on Structural, Fire and Electrical Safety

Name of the Factory	: TEXTOWN LIMITED
Address of the Factory	: Dewan Idris Road, Bara Rangamatia, Ashulia, Savar, Dhaka, Bangladesh
Dhaka Present Status of the Factory	: Under Operation
Structural assessment conducted by	: Accord (Full report available at bangladeshaccord.org)
Date of Structural Inspection	: 11 March, 2014
Fire & Electrical assessment conducted by	: Accord (Full report available at bangladeshaccord.org)
Date of Fire & Electrical Inspection	: 25 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	: R.C Framing structural system
iii.	Floor System	: Beam slab
iv.	Floor Area	: Building 1 has the area of 13,502 sq.ft./floor, building 2 has the area of 6,700 sq.ft./floor and building 3 has the area of 1,380 sq.ft./floor. Shed 1 has the area of 19,200 sq.ft. and shed 2 has the area of 2,030 sq.ft.
v.	No. of Stories	: 6 storied
vi.	Construction Year	: 2003-2006
vii.	Foundation Type	: Unavailable
viii.	Design Drawings	: Available
ix.	Soil investigation Report	: Unavailable
x.	Construction Materials	: Unavailable
xi.	Generator	: Outbuilding

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):

1. Factory Engineer to review design, loads and columns stresses in entire building.
2. Verify insitu concrete stresses either by 100mm dia. cores or existing cylinder strength data for the structure.
3. A Detail Engineering Assessment of Factory to be commenced, see attached Scope.
4. Immediately reduce stacking height of fabric to ensure total load does not exceed 3.0kPa.

Mid Term (Within 6 Weeks):

1. Produce and actively manage a loading plan for all floor plates within the factory.
2. Detail Engineering Assessment to be completed.
3. Mark the maximum allowable height of fabric stacking to ensure full compliance.
4. Consider the renewal of this staircase, using suitable corrosion-resistant materials, and of a design suitable for emergency and panic loading.

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Long Term (Within 6 Months):

1. Continue to implement load plan.
2. Factory Engineer to review design, loads and columns stresses in area identified above.
3. Verify insitu concrete stresses either by 100mm dia. cores or existing cylinder strength data.
4. Produce and actively manage a loading plan for all floor plates within the factory giving consideration to floor and column capacity.

The recommendations for Fire Safety corrective actions are:

Immediate (Within 1 month):

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. Reduce occupant load to not more than available exit capacity. In the future provide additional exits.
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. Keep egress paths and stairs clear of storage.
5. Remove manual on/off switches from emergency lighting / exit signage units to prevent them from being switched off.
6. Remove fabric from stair treads.
7. Configure the fire alarm system to initiate automatic occupant notification on all floor levels to facilitate whole building evacuation upon any manual fire alarm station activation.
8. Remove all storage from exit stairs and egress paths.

Short Term (Within 3 Months):

1. 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 23m²

-If sprinkler protected: maximum height of 3.66m and maximum area of 93m².

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

1. Provide a minimum 2-hr fire-rated shaft to separate the utility risers from each floor level. Seal all penetrations and openings in floor/ceiling assemblies to maintain the fire separation.
2. Seal all penetrations and openings in exit stair enclosure walls to maintain the fire separation.
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)

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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. Separate the boiler / generator room by a minimum 2-hr fire-rated construction. Seal and/or protected all openings to maintain the required fire separations.
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. Separate the hazardous materials / flammable liquid storage room by a minimum 2- hr fire-rated construction. Seal and/or protected all openings to maintain the required fire separations.

Mid Term (within 6 Months):

1. Remove single-station smoke alarms. Provide automatic smoke detection throughout the building, tied into the fire alarm system, 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.

The recommendations for Electrical Safety corrective actions are:

Immediate (Within 1 month):

1. Remove all the combustible materials stored near electrical panels and perform inspection regular so that no such material is stored in future.
2. Provide appropriate strip connector to make joints and ensure the joint is placed inside a junction box.
3. Provide cable duct made of noncombustible material preferably metal to support and protect the cables. Install the duct in such a way so that it prevents ingress of water.
4. Existing panel door earth connection from earth strip may be disconnected from the strip and connected to the panel frame, such that it will not disturb the opening and closing of the panel door.
5. Provide cable ladder made of noncombustible material preferably metal to support and protect the cables. Ensure the cables are firmly fixed with the ladder.
6. Provide phase separator made of noncombustible material preferably rubber in between MCCB terminal.

Short Term (Within 3 Months):

1. Provide cable ladder made of noncombustible material preferably metal to support the overhead service cable and ensure the cables are firmly fixed with the ladder.

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2. Rearrange the cables and provide cable ladder or tray made of noncombustible material preferably metal to support and protect the cables. Seal the penetrations by fire rated material.
3. Disconnect the supply and clean all the debris. Provide cover made of noncombustible material preferably concrete slab to prevent ingress of debris in future.
4. Provide PVC pipe throughout cable's length and plaster the channel keeping provision for inspection and maintenance.
5. Provide cable tray or PVC pipe instead of flexible pipe to support and protect the cables and ensure cable glands are used at the cable entry of the panels.
6. Seal the penetrations using appropriate fire rated material and the cables are not stressed while in touch of concrete. Provide cable ladder or tray to support and protect the cables.

Mid Term (Within 6 months): NA

Long Term (More than 6 months): NA