

Summary of Preliminary Assessment on Structural, Fire and Electrical Safety

Name of the Factory	: DIGNITY TEXTILE MILLS LTD.
Address of the Factory	: Betjhuri, Boiragirchala, Sreepur, Gazipur.
Dhaka Present Status of the Factory	: Under Operation
Structural assessment conducted by	: Accord (Full report available at bangladeshaccord.org)
Date of Structural Inspection	: 17 May, 2014
Fire & Electrical assessment conducted by	: Accord (Full report available at bangladeshaccord.org)
Date of Fire & Electrical Inspection	: 11 May, 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	: 6 storey Steel Structure with composite deck reinforced concrete floor slabs and steel tubular bracing in building elevations over full height of structure.
iii.	Floor System	: Beam slab
iv.	Floor Area	: The total floor area of the building is 3,50,000 sq. ft
v.	No. of Stories	: 7 storied
vi.	Construction Year	: 2013
vii.	Foundation Type	: Unavailable
viii.	Design Drawings	: Available (Permit drawings were approved by LGED in 2012)
ix.	Soil investigation Report	: Unavailable
x.	Construction Materials	: Brick chip aggregated
xi.	Generator	: Generator 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 (Now): NA

Mid Term (Within 6 Weeks):

1. Building Engineer to confirm by calculation the adequacy of all columns to carry the building loading. Verify in-situ concrete stresses either by 100mm dia. cores or existing cylinder strength data for [the identified columns] or [100mm dia. cores from 4 columns].
2. Building Engineer to confirm by calculation the adequacy of the cantilevered structure and take all necessary action to ensure its capability to carry the loadings applied.

Long Term (Within 6 Months):

1. Snagging of the building is ongoing –Ensure that all bolts are tightened and have sufficient thread length.
2. Engage an Engineer to confirm that the splice connection details are adequate for the building loads including wind loading.
3. Make any necessary alterations.
4. Building Engineer to check all plate to plate connection details and confirm that any shimming that has occurred is fully shimmed in all locations.

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5. Produce and actively manage a loading plan for all floor plates within the factory giving consideration to floor capacity and column capacity.

The recommendations for Fire Safety corrective actions are:

Immediate (Within 1 month):

1. Remove manual on/off switches from emergency lighting units to prevent them from being switched off.
2. Provide an emergency lighting and exit sign backup power source that is adequate to provide power for at least 60 minutes and activation of backup power within 10 seconds of loss of power.

Short Term (Within 3 Months):

1. 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.
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 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.

3. Provide a minimum 2-hr fire rated enclosure to seal vertical opening.
4. Inspect, test and maintain the fire alarm system, and keep written records on-site, in accordance with NFPA 72.
5. Inspect, test and maintain the emergency lighting system in accordance with The ACCORD standard. Keep written records on-site.

Mid Term (within 6 Months):

1. Provide 2- hr continuous stairwell enclosure to exterior ground level.

Long Term (More than 6 months):

1. Provide automatic sprinkler protection throughout the building in accordance with NFPA 13.

The recommendations for Electrical Safety corrective actions are:

Immediate (Within 1 month):

1. Overhead service cables must be protected in rigid conduit or in covered trays.
2. Overhead cables must be firmly fastened at both ends.
3. Cables passing through permanent walls must be protected in steel pipes and remaining holes around the pipe must be sealed.

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4. Floor around electrical facilities must be maintained dry at all time.
5. Panel base plates must be installed, at all-time and cable(s) entering panel must be firmly fixed with cable gland.
6. Cables terminating at MCCBs must be installed with cable lugs/terminals of required size and rating.
7. Install separators between different phases of MCCB. Standard separators provided by the MCCB manufacturer must be used.
8. Others (Inspectors please explain in your email or under the photo descriptions what the issues are).
9. Generator Battery must be placed on the acid proof battery stand.
10. Clean the ducts and cover tightly with non-combustible materials.
11. Floors in generator room must be free from water and oil spillage.

Short Term (Within 3 Months):

1. Service cables/lines from the transformer till it enters the building must be protected.
2. Unused gland holes in base plates or top cover must be sealed with blanking plates or plugs.
3. Every wire terminating must be installed using independent lug/terminal.
4. Existing panels with cables entering through, forcefully punched into, panel may be dismantled and reinstalled through base plates with cable supports and glands.
5. Cables must be supported on cable trays and riser. Cables may be laid in cable trench with covers.
6. Cables terminating at distribution boards must be supported in risers and protected throughout its length till the panel base or top plate.
7. Cables supported in tray must be securely laid in the tray and fixed securely.

Mid Term (Within 6 months): NA

Long Term (More than 6 months): NA