

Summary of Preliminary Assessment on Structural, Fire and Electrical Safety

Name of the Factory	: BG COLLECTION LTD.
Address of the Factory	: Baniarchala, Bhabanipur, Gazipur, Bangladesh
Dhaka Present Status of the Factory	: Under Operation
Structural assessment conducted by	: Accord (Full report available at bangladeshaccord.org)
Date of Structural Inspection	: 1 September, 2014
Fire & Electrical assessment conducted by	: Accord (Full report available at bangladeshaccord.org)
Date of Fire & Electrical Inspection	: 4 September, 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	: RC beam and column frame with a 2-way beam slab
iii.	Floor System	: Beam slab
iv.	Floor Area	: Each floor area of the building is 20,000 sqft.
v.	No. of Stories	: 2 storied
vi.	Construction Year	: 2007
vii.	Foundation Type	: Unavailable
viii.	Design Drawings	: Available (Permitted by a Local Authority, dated 2014)
ix.	Soil investigation Report	: Unavailable
x.	Construction Materials	: Unavailable
xi.	Generator	: The building does not contain any generators

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. Carry out an Engineering Assessment on the building to verify that it is stable under lateral loading.
2. Carry out Engineering Assessment on steel roof to determine if any strengthening works are required.
3. Building Engineer to survey the as built condition and update the structural drawings, paying close attention to the column and beam size.
4. Ensure the load on the 1st floor does not exceed 42psf (2.0 kPa)
5. Carry out an Engineering Assessment to establish the safe working load for each level.
6. Produce loading plans for each level.
7. Building Engineer to survey the beams, removing plaster, to establish the extent of the cracks in the beams.

Long Term (Within 6 Months):

1. Carry out all recommendations of the Engineering Assessment.

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2. Ensure loading plans are displayed and actively managed at each level.
3. Monitor the cracks over a period no less than 6 months to establish if there is further movement.
4. Fireproofing material for structural steel element is recommended as suggested in BNBC Codes.
5. Maintain standard of quality control and protection of the fire protection.
6. Building Engineer to investigate the exact cause of the leak and repair the tanks / pipes accordingly.

The recommendations for Fire Safety corrective actions are:

Immediate (Within 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.
4. 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.
5. Provide exit signs above all exits to the exterior and all doors to the exit stairs.

Short Term (Within 3 Months):

1. Provide dedicated storage rooms separated by minimum 1-hr fire-rated construction.
2. Provide minimum 1-hr fire rated doors and seal all unprotected openings to separate the exit stairs from work areas 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. Provide handrails on at least one side of exit stair.
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. 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. Install cable tray with cover to ensure the mechanical protection of the cables laid on wall otherwise cable insulation may damage due to falling object or stepping of occupants onto it.
2. Check the unbalanced loading or over loading at the phase wire. Establish a load management program for every panel board and avoiding any installation exceeding its capacity in future.
3. Cables must be connected to terminals by cable lugs according to the cable size. Connect single cable in single port.
4. Rusted bus bar shall be cleaned. Terminate single cable (lugs/sockets) to a single point (single nut, bolt and washer) of bus bar to get better electrical continuity and avoiding loose connection.
5. Install panel earthing bus-bar and connect the earthing cables with it.
6. Provide earth connection for body and doors of metallic distribution boards using green cables preferably braid so that the metallic door remains at zero potential all the time.
7. Clean the dust inside the cable-duct and provide cover (made of non-combustible material) for the cable-duct to prevent the further accumulation of dust/lint inside the duct. Make sure power source of the cables are disconnected before cleaning.
8. Use PVC pipe for carrying wiring used for the noted lighting with proper support.
9. Install steel conduit to ensure the mechanical protection of the cables laid on floor otherwise cable insulation may damage due to falling object or stepping of occupants onto it.
10. The factory must have as-build electrical SLD with electrical wiring layout designs and drawings. Any changes in load, protection system, conductors, generation and supply system must be reflected in the as-build SLD and drawings.

Short Term (Within 3 Months):

1. Cable entry point at panel must be covered with rubber pad or silicon or metallic sheet.
2. Install steel or PVC conduit ensure the mechanical protection of the cables laid on floor otherwise cable insulation may damage due to falling object or stepping of occupants onto it. Replace broken conduit with fresh one.
3. Seal all the penetrations using non appropriate fire rated material and ensure the cable insulation does not get damaged during sealing work.
4. Replace that wooden material with metallic sheet.
5. Following programs and test results are not conducted and kept.
 - Maintenance program (periodic inspection and testing program)
 - Thermographic scanning inspection report of electrical equipment (tri-annual base)
 - Insulation resistance test of electrical equipment (5 year cycle)
 - Earth resistance test (5 year cycle)

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-Electric safety program (training on electrical safety)

Mid Term (Within 6 months): NA

Long Term (More than 6 months): NA