

Summary of Preliminary Assessment on Structural, Fire and Electrical Safety

Name of the Factory	: VERTEX INNOVATIVE APPARELS LTD.
Address of the Factory	: Forkan Tower, 360/A, Bitak Bazar, Sagorika, Pahartoli Thana, Chittagong
Dhaka Present Status of the Factory	: Under Operation
Structural assessment conducted by	: Accord (Full report available at bangladeshaccord.org)
Date of Structural Inspection	: 15 March, 2014
Fire & Electrical assessment conducted by	: Accord (Full report available at bangladeshaccord.org)
Date of Fire & Electrical Inspection	: 21 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	: R.C Beam and column frame with a 2-way solid slab
iii.	Floor System	: Beam slab
iv.	Floor Area	: Unavailable
v.	No. of Stories	: 6 storied
vi.	Construction Year	: 2011
vii.	Foundation Type	: Unavailable
viii.	Design Drawings	: Available (Stamped & signed by Local Building Authority)
ix.	Soil investigation Report	: Available
x.	Construction Materials	: Unavailable
xi.	Generator	: In a separate shed

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. Do not continue construction past the 5th floor slab level. It is recommended that the 5th floor slab be used as the roof level.

Mid Term (Within 6 Weeks):

1. Factory engineer to review design, loads and column stresses.
2. Detailed engineering assessment to be conducted in order to determine the adequacy of the as-built foundation for existing soil properties.
3. Detailed engineering assessment to be carried out in order to adequately formulate structural plans and assess the suitability of as-built structural elements.

Long Term (Within 6 Months):

1. Produce and actively manage a loading plan for all floor plates giving consideration to slab and column capacity.
2. Carry out any remedial measures recommended by above mentioned detailed engineering assessment.
3. Address findings and recommendations of the above mentioned detailed engineering assessment.

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The recommendations for Fire Safety corrective actions are:

Immediate (Within 1 month):

1. Remove locking features from all egress gates. If locks are required for security reasons, utilize special door locking features complying with NFPA 101.
2. Replace all gates 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. Provide dedicated storage rooms separated by minimum 1-hr fire-rated construction.
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. Separate the generator room by a minimum 2-hr fire-rated construction. Seal and/or protected all openings to maintain the required fire separations.
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. Modify exit arrangement.
2. Decrease the occupancy to 29 people so that only one exit is required.
3. Replace the single-station smoke alarms with automatic smoke detectors tied into the fire alarm system. Configure the fire alarm system to initiate occupant notification upon activation of any two smoke detectors in addition to the manual fire alarm stations.
4. Provide additional notification appliances such that the fire alarm system is audible 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.

The recommendations for Electrical Safety corrective actions are:

Immediate (Within 1 month):

1. Live bus bars in the panel must be adequately insulated with noncombustible insulating material. Wire/cable must be provided with independent lug and connection point at bus. Panel enclosure and door should be connected to main earthing system and ensure zero potential all the time.

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2. Install a noncombustible panel base plate to make it vermin proof and use appropriate sized cable glands and lugs for secure connection.

Short Term (Within 3 Months):

1. Thermo graphic scanning of the entire electrical system must be performed on tri-annual basis and recorded.
2. Insulation resistant test of all the cables must be performed once every 5 year cycle and recorded.
3. Electrical safety training and awareness program for the electrical personal and workers must be initiated and recorded.
4. LT service line must be supported with centenary wire or cable tray throughout its length.
5. Permanent wiring must be supported with rigid conduits/cable trays or noncombustible battens attached to vertical walls at orthogonal angles and clamped at regular interval of 600mm. Exposed wirings must be encased in rigid GI or PVC conduits.
6. Permanent wiring encased in flexible PVC conduit must be supported with rigid conduits/cable trays or noncombustible battens attached to vertical walls at orthogonal angles and clamped at regular interval of 600mm. Exposed wirings must be encased in rigid GI or PVC conduits.
7. Cable duct/trays must be neat and clean all the time. Establish a routine cleaning program to keep the channels run over the production floor neat and clean. Provide channel covering with noncombustible metallic sheet. The metallic tray must be connected to main earth at one point to ensure zero potential every time.

Mid Term (Within 6 months): NA

Long Term (More than 6 months): NA