

Summary of Preliminary Assessment on Structural, Fire and Electrical Safety

Name of the Factory	: CRESCENT FASHION & DESIGN LIMITED.
Address of the Factory	: Beximco Industrial Park, Sarabo, Kashimpur, 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	: 6 April, 2014
Fire & Electrical assessment conducted by	: Accord (Full report available at bangladeshaccord.org)
Date of Fire & Electrical Inspection	: 22 April, 2014 & 8 April, 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 Structure with a steel roof
iii.	Floor System	: Beam slab
iv.	Floor Area	: Unavailable
v.	No. of Stories	: 5 storied
vi.	Construction Year	: 2005
vii.	Foundation Type	: Pad foundation
viii.	Design Drawings	: Available (Signed by the Industrial Authority of Bangladesh Government)
ix.	Soil investigation Report	: Available (Dated 2004)
x.	Construction Materials	: Brick Aggregate
xi.	Generator	: No generator

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. Factory Engineer to review design, loads, and column stresses in area identified above.
2. Verify insitu concrete stresses by 100mm dia. cores from four (4) columns.
3. Bays next to critical columns shall not be loaded greater than 2.0kPa. Any heavy loading shall be removed from bays.
4. Engineer to submit design calculations for new and altered structural elements, including connection designs.

Long Term (Within 6 Months):

1. Produce and actively manage for all floor plates within the factory giving consideration to floor capacity and column capacity.
2. Building Engineer to check column locations in the main building structural drawings.
3. Building engineer to check, collect information and produce accurate and complete as-built documentation as required.

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4. Building engineer to review the load plans, design and calculations for the structure to ensure that lateral stability has been considered.

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. Reduce occupant load to not more than available exit capacity. Or provide additional exits.
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. Remove manual on/off switches from emergency lighting units to prevent them from being switched off.

Short Term (Within 3 Months):

1. Separate the basement storage by a minimum 2-hr fire-rated construction. Seal and/or protected all openings to maintain the required fire separations.
2. Separate the transformer room by a minimum 2-hr fire-rated construction. Seal and/or protected all openings to maintain the required fire separations.
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) 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. Provided 2hr separation for the lift service room.
5. Inspect, test and maintain the fire alarm system, and keep written records on-site, in accordance with NFPA 72.
6. Test the emergency lighting system on each floor and provide additional emergency fixtures to provide adequate illumination along the means of egress. Provide a minimum illumination of 10 lux at the floor level within exit stairs and exit discharge paths and minimum 2.5 lux along exit access aisles.
7. 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 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): NA

Short Term (Within 3 Months):

1. HT cable dropping from 11kV pole must be firmly fixed to the pole with supports and clamps and protected by steel/PVC ridged conduit up to minimum of 2 meters above ground level.
2. UG cable must be buried underground at proper depth (min 0.5m), installing sand bedding and protective covers. Where necessary cables must be installed with cable route markers.
3. Two power transformer must be barred by barrier wall and maintain adequate working space around it.
4. Replace silica gel in breathers and fill the oil cup with as per the manufacturer's instruction.
5. HT cable terminating at Transformer must be firmly supported on riser to avoid stress at the terminations (transformer bushing) and cables laid on floor may be protected in cable trenches/ ducts.
6. Locally fabricated manual interlocking system for breakers may be avoided. Breakers must be electrically interlocked and then provide approved and certified mechanical locking system.
7. Cables terminating in the panel must not contact the bare bus bar. Cables inside panels must be firmly fixed through safe routes.
8. Power cables and wirings may be supported in cable raceways/trays and securely fixed at regular intervals.
9. Existing power cables installed alongside the steam line must be covered to protect against external heat from the steam lines. Adequate separation may be provided from the steam lines.
10. Cables must be supported in ladders/trays/ducts and securely fixed to supports at regular intervals.
11. Wiring inside the panel has to be organized neatly and the switchgears must be placed systematically.

Mid Term (Within 6 months): NA

Long Term (More than 6 months): NA