

Summary of Preliminary Assessment on Structural, Fire and Electrical Safety

Name of the Factory	: BLUE PLANET KNIT WEAR LTD.
Address of the Factory	: Mulaid, Sreepur, Maona, Gazipur, 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	: 1 April, 2014
Fire & Electrical assessment conducted by	: Accord (Full report available at bangladeshaccord.org)
Date of Fire & Electrical Inspection	: 29 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. beam and column frame with a solid slab
iii. Floor System	: Beam slab
iv. Floor Area	: Unavailable
v. No. of Stories	: 7 storied
vi. Construction Year	: 2012
vii. Foundation Type	: Pad foundation
viii. Design Drawings	: Available
ix. Soil investigation Report	: Available (By TDM of Dhaka)
x. Construction Materials	: Stone aggregated
xi. Generator	: No generator provided

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. Maintain current use of the floors in each building and don't change use or increase occupation pending engineering assessment of highly loaded columns
2. Factory Engineer to review design, loads and columns stresses particularly for areas of high loading identified.
3. Verify in situ concrete strength either by 100mm diameter cores (cores from a minimum of 4 columns) of or existing cylinder strength data.
4. Building engineer to assess light weight roof structure and confirm its ability to withstand all wind loading pressure, suctions and uplift forces.
5. Additional loading to main production building to be identified and incorporated in building assessment.

Mid Term (Within 6 Weeks):

1. Current loading plans to be reviewed based on engineering assessment. Actively manage loading plan for all floor plates within the factory giving consideration to floor capacity and column capacity.

Long Term (Within 6 Months):

1. Continue to implement load plan.

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2. Carry out remedial work if required.

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. 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.
3. 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.
4. Regularly inspect all exit signage and replace/install lights as needed to illuminate signs.
5. Regularly test the emergency lighting system on each floor and replace/repair lights as needed.

Short Term (Within 3 Months):

1. Separate the boiler room by a minimum 2-hr fire-rated construction. Seal and/or protected all openings to maintain the required fire separations.
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. 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 combustible storage by a minimum clear distance of 3m.

4. Provide minimum aisle widths of 36-in.
5. Reconfigure the egress arrangement to reduce the maximum common path of travel to not more than 30 m.
6. Inspect, test and maintain the fire alarm system, and keep written records on-site, in accordance with NFPA 72.
7. 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.

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.

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2. 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.

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. Wiring in flexible PVC conduit must be supported near panel on tray/riser to prevent stress at the entry point (socket & check nuts).
2. Install separators between different phases of MCCB. Standard separators provided by the MCCB manufacturer must be used.
3. Multiple cables connecting at a MCCB terminal must be disconnected. Multiple cables may be connected if the MCCB terminals selected (installed) is designed for multi-cable connection. Cable dressing required.
4. Terminate each cable individually on the bus bar. Multiple cables shall not be terminated on same point of bus bar.
5. All the wires should be terminated independently by using terminal lugs according to cable size.
6. The cable trench must be tightly covered to avoid physical damage to the cables from falling objects. The cover must prevent the trench from falling debris, dust and lint.
7. Mid-length joints in earth down conductor must be avoided as possible. Lightning down conductor shall be jointed with clamp.
8. Cables connecting to bus bars inside panel must be connected firmly with cable lugs. Cable terminating to the bus bars must be fixed with proper size nuts and bolt with washers.

Short Term (Within 3 Months): NA

Mid Term (Within 6 months): NA

Long Term (More than 6 months): NA