Name of the Factory : **All Weather Fashions Ltd**

Address of the Factory : 52, Shahid Tajuddin Ahmed Sarani, Mohakhali, Dhaka 1213, Bangladesh

Dhaka Present Status of the Factory : **Under Operation**

Structural assessment conducted by : Accord (Full report available at bangladeshaccord.org)

Date of Structural Inspection : 07.03.2014

Fire & Electrical assessment conducted by: Accord (Full report available at bangladeshaccord.org)

Date of Fire & Electrical Inspection : February 28, 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	: Garments Factory
ii.	Structural System	: RCC beam slab
iii.	Floor System	: Beam slab
iv.	Floor Area	: Unavailable
v.	No. of Stories	: 9 Storey
vi.	Construction Year	: 2000
vii.	Foundation Type	: Not Applicable
viii.	Design Drawings	: Available
ix.	Soil investigation Report	: Unavailable
x.	Construction Materials	: Unavailable
xi.	Generator	: Separate 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:

•Suspend all activities in the building

•Discuss with owner on the possibility of shutting down at least 4 (four) floors of the building to reduce loading to within limits.

•Immediately reduce stacking height of fabric rolls to ensure total load does not exceed 3.0kPa.

•Carry out full building survey to identify all areas of concrete damage, and mark on site with colored spray paint.

Mid Term (Within 6 Weeks):

•Building engineer to carry out thorough load checking of the entire structure, including slabs, beams and columns based on BNBC

•Carry out intrusive testing of structure to determine actual concrete and rebar strength.

•Mark the maximum allowable height of fabric stacking to ensure full compliance.

•Provide propping to the damaged concrete areas (if slab and beam and column).

Long Term (Within 6 Months):

•Develop live load plans for each usable floor and incorporate fail safe indication system

•Consider whether to demolish the unused floors.

•Hack away the damaged concrete and expose reinforcement to check for corrosion

•Carry out replacement of reinforcement and proper regrouping of structural elements.

•Consider removing existing screed, applying a new waterproofing membrane and reapplying the screed.

The recommendations for Fire Safety corrective actions are:

Immediate:

1. Provide minimum aisle widths of 36-in.

2. Remove locking features from all egress doors / gates. If locks are required for security reasons, utilize special door locking features complying with NFPA 101.

3. 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.

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 / exit signage units to prevent them from being switched off.

Short Term (Within 3 Months):

1. Separate the boiler and generator rooms by a minimum 2-hr fire-rated construction. Seal and/or protected all openings to maintain the required fire separations.

2. Provide dedicated storage rooms separated by minimum 1-hr fire-rated construction. Where separate storage rooms are not 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.

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. Inspect, test and maintain the fire alarm system, and keep written records on-site, in accordance with NFPA 72.

Mid Term (within 6 Months):

Long Term:

1. Replace the fire alarm system with a new, listed addressable fire alarm system in accordance with NFPA 72.

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

The recommendations for Electrical Safety corrective actions are:

Immediate:

1. The factory must have As-built 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-built SLD and drawings.

2. Thermo graphic scanning of the entire electrical system must be performed on tri-annual basis and recorded.

3. Insulation resistant test of all the cables must be performed once every 5 year cycle and recorded.

4. Electrical safety training and awareness program for the electrical personal and workers must be initiated and recorded.

5. Generator must be connected to earth securely at least at two points.

6. Provide cable gland at the cable entry of the panel. Ensure the gland size is same as the cable and if any addition gap remains, seal using non-combustible material preferably steel sheet. 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. Connect single cable in a single terminal with proper size of cable.

8. Install cable tray or ladder with protective cover to support the cables entering and leaving the changeover switch as well as reduce cable strain on the termination point.

9. Panel boards must be replaced with non-combustible materials/standard panels.

10. Connect single cable in single port with proper size of cable lug.

11. Provide cover on circular box.

12. Protective device must be installed inside enclosure.

13. Any combustible materials used for protection and installation of electrical equipment's must be removed and replace with non-combustible materials.

Short Term (Within 3 Months):

1. The overhead service connection shall be led into buildings via roof poles or service masts made of GI pipe at least 38 mm in diameter having a goose neck bend at the top and installed on the outer wall.

2. Panels' enclosure including its door should be earthed properly with better earth continuity. Make circular hole at the top plate of panels and provide cable gland according to the respective cable size for cable entry and exit.

3. Wiring ducts must be replaced with non-combustible wiring ducts.

4. Wiring inside the panel dress up properly and panel door must be connected earth bond.

5. All the electrical fittings must be installed on non-combustible materials and the hanging combined switch socket shall be installed properly on non-combustible materials.

6. Cables entering the panel must be arranged and supported properly

Mid Term (within 6 Months):

Long Term: No Observation