

Summary of Preliminary Assessment on Structural, Fire and Electrical Safety

Name of the Factory	: WILLIAMS SWEATERS LTD.
Address of the Factory	: Palashbari, Dhamsona, Ashulia, Savar, Dhaka
Dhaka Present Status of the Factory	: Under Operation
Structural assessment conducted by	: Accord (Full report available at bangladeshaccord.org)
Date of Structural Inspection	: 4 June, 2014
Fire & Electrical assessment conducted by	: Accord (Full report available at bangladeshaccord.org)
Date of Fire & Electrical Inspection	: 14 July, 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 2 way spanning slab
iii.	Floor System	: Beam slab
iv.	Floor Area	: The total gross land area of 27700 sq.ft
v.	No. of Stories	: Single storied
vi.	Construction Year	: Before 1984
vii.	Foundation Type	: Unavailable
viii.	Design Drawings	: Available (Dated January 2014, signed by the Savar Cantonment Officer (military))
ix.	Soil investigation Report	: Unavailable
x.	Construction Materials	: Unavailable
xi.	Generator	: 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): NA

Mid Term (Within 6 Weeks): NA

Long Term (Within 6 Months): NA

The recommendations for Fire Safety corrective actions are:

Immediate (Within 1 month):

1. Remove locking features from all egress doors. If locks are required for security reasons, utilize special door locking features complying with NFPA 101.
2. Keep egress paths and stairs clear of storage.
3. Replace all 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. Regularly inspect all exit signage and replace/install lights as needed to illuminate signs.
5. Replace exit signs with signs that indicate proper direction of exit.

Summary of Preliminary Assessment on Structural, Fire and Electrical Safety

Short Term (Within 3 Months):

1. 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.
1. Provide minimum aisle widths of 36-in.
2. Modify the egress door to swing in the direction of egress travel.
3. Inspect, test and maintain the fire alarm system, and keep written records on-site, in accordance with NFPA 72.
4. Inspect, test and maintain the emergency lighting system in accordance with The ACCORD standard. Keep written records on-site.
5. 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. Seal all penetrations and openings to the interior of the building along the discharge path, up to a height of 10 ft., to provide a minimum 1-hr fire separation.
2. Provide additional notification appliances such that the fire alarm system is audible throughout the building in accordance with NFPA 72.
3. 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. 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 resistance test of electrical equipment and cables must be performed once every 5 year cycle and recorded.

Summary of Preliminary Assessment on Structural, Fire and Electrical Safety

4. Electrical safety training and awareness program for the electrical personal and workers must be initiated and recorded.
5. Overhead service cable must be firmly fixed at both ends and supported on catenary wire.
6. Disconnect the supply and clean all the debris. Provide metallic cover (checkered plate) or concrete slab on cable trench to prevent the damage of cable insulation as well as prevent the ingress of debris, dust and lint. Establish a cleaning program to keep the cable trench dust- proof.
7. Conduit wiring must be complete with accessories (joints, elbow, bents, etc.) to protect and support wiring throughout wiring length.
8. Materials and wastage stored in generator room must be removed and cleared.
9. Minimum of one meter safe distance must be kept between the panels and DBs from the worker table and other materials to prevent obstruction for the maintenance personal.
10. Sharp bents in cables, near termination points, must be prevented to avoid stress on cable.
11. Use rigid PVC pipe for surface and exposed wiring through-out its length and supported properly (clamped with saddle, at regular interval of 600 mm).The conduit shall run vertically or horizontally, shall never at angle. Flexible conduit must not be used for long point wiring (except for special wirings).

Short Term (Within 3 Months):

1. Cable terminating at Generator output terminal box must be supported on riser and protected. Existing cables laid on floor may be supported in cable trench or on trays.
2. Provide cable gland same as the cable size at the cable entry and exit so that the cables are not stressed on the sharp edges of the entry and exit hole of the switch boards & panels. Provide covers if any additional gap remains after cable gland is fix.

Mid Term (Within 6 months): NA

Long Term (More than 6 months): NA