

Summary of Preliminary Assessment on Structural, Fire and Electrical Safety

Name of the Factory	: UNITEX KNITWEAR LTD.
Address of the Factory	: Bokran Monipur, Hotapara, Porabari, Gazipur
Dhaka Present Status of the Factory	: Under Operation
Structural assessment conducted by	: Accord (Full report available at bangladeshaccord.org)
Date of Structural Inspection	: 15 May, 2014
Fire & Electrical assessment conducted by	: Accord (Full report available at bangladeshaccord.org)
Date of Fire & Electrical Inspection	: 31 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	: 4 storied
vi. Construction Year	: 2007
vii. Foundation Type	: Pad foundation
viii. Design Drawings	: Available
ix. Soil investigation Report	: Available
x. Construction Materials	: Unavailable
xi. Generator	: Ground Floor

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):

1. Structural drawing package to be updated to include upper floor levels.
2. Structural drawings to include actual conditions at upper and lower ground floor.
3. Drawings to be amended to reflect actual construction of entrance lobby.
4. Soil Test Report to be reviewed to determine ground capacity and required footing depth.
5. Structural foundation drawings to be reviewed, and ground bearing pressure to be calculated and compared with amended Soils Report.
6. For future stages of construction, the waterproofing seal over the movement joint should use a flexible material.
7. Alterations to finishes to prevent cracking is to the client's requirements.

The recommendations for Fire Safety corrective actions are:

Immediate (Within 1 month):

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1. Remove all storage from exit stairs.
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. Remove manual on/off switches from emergency lighting units to prevent them from being switched off.

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.

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 2- hr fire rated construction for 10 ft on either side of the stairwell for the entire height of the stair.
4. Separate the flammable gas storage by a minimum 2-hr fire-rated construction. Seal and/or protected all openings to maintain the required fire separations.
5. Inspect, test and maintain the fire alarm system, and keep written records on-site, in accordance with NFPA 72.
6. Inspect, test and maintain the emergency lighting system in accordance with The ACCORD standard. Keep written records on-site.

Mid Term (within 6 Months): NA

Long Term (More than 6 months): NA

The recommendations for Electrical Safety corrective actions are:

Immediate (Within 1 month):

1. HT cable dropping from 11kV pole must be firmly fixed to the pole with supports and clamps. HT cable dropping from HT pole must be protected in steel pipe of required size at least 2m from the ground level to protect the cable from any physical damage. The cable should be supported on covered tray or ladder throughout its length up to the HT panel base-plate (except the part of the cable laid underground at a depth of at least 1 meter).
2. Replace silica gel and must include in routine maintenance to check and maintain and also the breather oil cup must be filled with oil to required level as per transformer manufacturer's instruction.

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3. Leakage current collector of the HT cable must be connected to the earth to prevent the damage of cable insulation due to induced voltage.
4. Arcing horns must be aligned and gap must be maintained as per the transformer manufacturer's instruction.
5. 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.
6. Flexible PVC conduit wiring entering/exiting distribution panels must be protected and supported in tray or rigid conduits. Flexible conduit shall not be used for long point of wiring.
7. Install separators between different phases of MCCB. Standard separators provided by the MCCB manufacturer must be used.

Short Term (Within 3 Months):

1. Construct a fire rated room for the transformers. Assign a qualified engineer to design a required transformer room according to BNBC, Section-2.6.3. The transformer must be installed with barrier walls between transformer and other panels. The walls must be fire resistant and should have height up to the ceiling. The wall should have the provision for necessary ventilation and fire rated on required side.
2. Cables should be well supported and protected in cable tray with protective cover. The cable must be arranged on the cable tray.
3. Arrange periodic inspection & thermal scan to identify the overloading, loose connection, unbalanced load which may cause the excessive heat-rise and take action accordingly.

Mid Term (Within 6 months): NA

Long Term (More than 6 months): NA