Name of the Factory	:	**ZAHINTEX INDUSTRIES LTD UNIT 3/4**
Address of the Factory	:	Bokran, Monipur, Gazipur
Dhaka Present Status of the Factory	:	**Under Operation**
Structural assessment conducted by	:	Accord (Full report available at bangladeshaccord.org)
Date of Structural Inspection	:	27 April, 2014
Fire & Electrical assessment conducted by	:	Accord (Full report available at bangladeshaccord.org)
Date of Fire & Electrical Inspection	:	4 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 for 1st floor
iii.	Floor System	: Beam slab
iv.	Floor Area	: The factory has a floor area of 32670 sq. ft.
v.	No. of Stories	: 5 storied
vi.	Construction Year	: 2007
vii.	Foundation Type	: Unavailable
viii.	Design Drawings	: Available
ix.	Soil investigation Report	: Unavailable
x.	Construction Materials	: Brick chip concrete
xi.	Generator	: Ground floor generator rooms

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. Verify in-situ stress and material properties by testing 100mm dia. Concrete cores of 4 columns.
2. Commence and complete a Detailed Engineering Assessment.

Mid Term (Within 6 Weeks):

1. Complete the DEA and carry out any recommendations.

Long Term (Within 6 Months):

1. Complete and monitor any DEA recommendations.
2. Carry out a Detailed Engineering Assessment of steel shed roofs fully evaluating the capacity for gravity, lateral loads and uplift forces.
3. Carry out a Detailed Engineering Assessment of the bamboo roof, fully evaluating the capacity for gravity, lateral loads and uplift forces.
4. Apply a new waterproofing membrane.

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. Remove all combustibles and storage from exit stairs and egress paths.
3. Keep egress paths and stairs clear of storage.
4. Immediately reduce occupant load to not more than available exit capacity. If possible provide additional exits to increase capacity in the future.
5. 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.
6. 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.

1. Separate the boiler, generator, transformer rooms and dryer areas by a minimum 2-hr fire-rated construction. Seal and/or protect 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. Provide fire rated construction in place of windows in the northeast and southeast stairwell.
3. Provide minimum aisle widths of 36-in.
4. Inspect, test and maintain the fire alarm system, and keep written records on-site, in accordance with NFPA 72.
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.
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):

1. Provide 2-hr fire-rated exit passageway leading directly outside or provide sprinkler protection for discharge floor in accordance with NFPA 13.
2. 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. Oil leakages from transformer bushing may be due to stress on bushing from cable terminations.
2. Service cables must be supported on trays or raisers in full length.
3. Cables on floor may be supported on trays installed at safe locations.
4. Cables passing through permanent walls must be protected in steel pipes and remaining holes around the pipe must be sealed.
5. Cables below panels must be laid in trench and supported in cable trays.
6. Cables terminating at the generator output panel must be firmly fixed with cable glands.
7. Cables must be supported on cable trays and riser. Cables may be laid in cable trench with covers.
8. Clean the ducts and cover tightly with non-combustible materials.
9. Cables must be protected and supported and installed through a safe route. Existing cables passing through window and ventilators must be removed immediately.

Short Term (Within 3 Months):

1. Excess length of existing HT cables coiled near transformer must be protected and laid safely.
2. Check connections for tightness to prevent heating due to loose connection.
3. Conduits not meant for electrical use must have properties equivalent to conduits with ample strength and rigidity to be able to protect and support cables drawn in it. Cables in conduits must be protected throughout its length.
4. Cable ducts must be cleaned regularly and covered to prevent ingression of dust and lint.
5. Flexible PVC conduit used for cable protection, but slit open from side may be removed and supported on rigid cable supports. Cable tray, riser or conduits may be used.
6. Wiring extended from wiring ducts in flexible PVC conduit must be provided with additional support between duct and ceiling.
7. Control devices and switches installed inside panel must be securely fixed.

Mid Term (Within 6 months): NA

Long Term (More than 6 months): NA