Name of the Factory	:	**BKC SWEATER LTD.**
Address of the Factory	:	Plot No 212-214, Dagerchala Main Road, Dagerchala, National University, Gazipur, Dhaka
Dhaka Present Status of the Factory	:	**Under Operation**
Structural assessment conducted by	:	Accord (Full report available at bangladeshaccord.org)
Date of Structural Inspection	:	3 May, 2014
Fire & Electrical assessment conducted by	:	Accord (Full report available at bangladeshaccord.org)
Date of Fire & Electrical Inspection	:	8 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 2-way spanning solid slabs
iii.	Floor System	: Beam slab
iv.	Floor Area	: The total floor area of the factory building is 67,000 sqft
v.	No. of Stories	: 5 storied
vi.	Construction Year	: 2011
vii.	Foundation Type	: Unavailable
viii.	Design Drawings	: Available
ix.	Soil investigation Report	: Available (Dated December 2007)
x.	Construction Materials	: Stone Chips aggregated
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. Extent of loading within Washer area on 1stfloor, including floor build-up, to be surveyed and capacity of floor slab to be assessed to confirm that the floor slab is designed to carry these loads.
2. Produce and actively manage a loading plan for all floor plates within the factory giving consideration to floor capacity and column capacity.
3. Implement loading plans on an on-going basis.
4. Building Engineer to survey as constructed building. Updated drawings to be prepared showing the correct as constructed layout.
5. Prepare/update calculations showing the structural adequacy of the building structure taking into account the factory design imposed loading and the as built structure.
6. Prepare controlled loading plans for all floors designating allowable storage density and where storage may be placed.
7. As part of as-built drawing update, Building Engineer to review structural design at junction of main factory and Boiler Annex.

8. Cracking of floor slab/brick walls at this joint to be reviewed on an on-going basis and if required, remedial works are to be carried out.

9. If any additions to the building structure are proposed, the Building Engineer shall provide calculations showing the structural adequacy of all columns taking into account any additions to the existing structure, the loading plans and as built structure, including insitu concrete strength testing.

The recommendations for Fire Safety corrective actions are:

Immediate (Within 1 month):

1. Provide minimum .75-hr fire rated doors and seal all unprotected openings to separate the storage area to the exit discharges.

2. Remove all storage from exit stairs and egress paths.

3. Replace all gates and roll-up 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.

Short Term (Within 3 Months):

1. 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.

2. Provide a minimum 2-hr fire rated shaft to separate the utility risers from each floor level. Seal all penetrations and openings in floor/ceiling assemblies to maintain the fire separation.

3. Provide dedicated storage rooms separated by minimum 1-hr fire-rated construction.

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

5. 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. Replace the single-station smoke alarms. Provide automatic smoke detection throughout the building 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. HT cable must be firmly clamped to the pole at regular intervals.

2. Replace the Silica gel and fill the oil cup to the required level as instructed by the manufacturer.

3. Clean the transformer regularly.

4. Cables and wirings in flexible PVC conduits must be additionally protected and supported in cable ladder or in trays. Section of cables between floor and panel must be protected in rigid conduits or covered tray to protect cables from possible physical damages.

5. Cables passing through walls must be protected and remaining gaps must be sealed with fire rated materials.

6. Cables entering base/top plates without glands, leaving opening gaps around cables, must be sealed with metal plates. Compression glands must be used to fix existing cables to the base/top plates.

7. MCCBs and control gears must be enclosed in protective case with ample strength.

8. Install barriers between different terminals of the MCCB. Standard separators provided by the MCCB manufacturer must be used.

9. Check panels regularly and tighten loose connections to avoid hot-spots. Overheating cables may be due to overloading due to higher connected loads or unbalanced three phase loading.

10. Check and redesign the requirements to control the circuits. If three phase control is not required, then replace with suitable control devices. Control devices may be selected as per the connected loads.

11. Disconnect the panel from electric supply and remove all the combustible materials from inside the panel.

12. Wires must not be joined in between terminals. Existing wires with joints may be replaced with full length wires. Where unavoidable, the existing joints may be checked and firmly connected.

13. Lead Acid batteries must be placed on acid resistant stands without obstructing/blocking the passages.

14. Electrical installations must be separated from other utilities and stalled at safe distances. Cables and wires installed in boiler room must be protected from external heat by providing heat resistant insulations or installing at safe distance.

Short Term (Within 3 Months):

1. Excess HT cable coiled near transformer must be protected and supported through safe route and cable must not be bent more than the manufacturer's recommended bending radius.

2. Cables terminating to transformer must be securely fixed to the cable riser (riser must be grouted at the foundation) and may be laid in cable trench. OR cables must be protected and supported in cable trays at safe height.

3. Clean cable trench periodically. Support cables in cable trays inside trench and provide trench cover to protect the cables in it. Wires laid in cable trench must be additionally protected in rigid conduits or in covered trays.

4. Panel base plates must be installed, at all time, and cable(s) entering panel must be firmly fixed with cable gland.

5. Panel base must be securely fixed to its foundation with appropriate fastening devices. Wooden boards/planks used for panel supports must be removed.

6. Incoming and outgoing cables terminating at MCCB must be of same size.

7. Multiple cables terminating at a terminal must be avoided. Wires and cables terminating at bus bars must be connected independently from other wires/cables.

8. Clean the wiring ducts and check all existing wire joints. Duct must be closed with cover to prevent ingression of dust/lint.

9. Cables and wires terminating to panels or switchboards must be protected and supported in trays or ladders. Wirings in flexible PVC conduits must be additionally protected and securely fixed at regular intervals.

10. Damaged wiring supports must be repaired or replaced. Flexible PVC conduits used for wiring must be additionally supported in cable trays or in wiring ducts. Avoid use of flexible conduits for regular wiring.

11. Cables terminating to generator terminal box must be supported in ladders and must be protected. Cables on floor may be installed in cable trays/ducts or in OH trays at safe height.

Mid Term (Within 6 months): NA

Long Term (More than 6 months): NA