Name of the Factory	:	**BODY FASHION LTD.**
Address of the Factory	:	Naogor kadda konabari,Gazipur, Dhaka, Bangladesh
Dhaka Present Status of the Factory	:	**Under Operation**
Structural assessment conducted by	:	Accord (Full report available at bangladeshaccord.org)
Date of Structural Inspection	:	15 June, 2014
Fire & Electrical assessment conducted by	:	Accord (Full report available at bangladeshaccord.org)
Date of Fire & Electrical Inspection	:	26 March, 2014 & 27 March, 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 columns / down stand beams
iii.	Floor System	: Beam slab
iv.	Floor Area	: Unavailable
v.	No. of Stories	: 5 storied
vi.	Construction Year	: 2001
vii.	Foundation Type	: Unavailable
viii.	Design Drawings	: Available (Industrial permit drawing)
ix.	Soil investigation Report	: Available
x.	Construction Materials	: Brick aggregated
xi.	Generator	: Ground floor -utility 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 (Now):

1. The replacement of the steel roof structure with a concrete slab is to be put on hold, pending the outcome of the Detail Engineering Assessment.
2. Building Engineer to review design, loads and column stresses.
3. The Imposed Loading on any floor is not be increased from current levels pending the outcome of the Detail Engineering Assessment.
4. A Detail Engineering Assessment of the Factory is to be commenced, see attached scope.

Mid Term (Within 6 Weeks):

1. Detail Engineering Assessment to be completed.
2. Produce and actively manage a loading plan for all floor plates within the Building, giving consideration to floor capacity and column capacity.
3. As part of Detail Engineering Assessment, Building Engineer to check if beams/slabs have sufficient capacity to support fully-filled water tanks, toilet plinths & build-up, and yarn storage.
4. As part of Detail Engineering Assessment, Building engineer to check the 1st floor slab for loading from brick piers under lateral and vertical load.

5. Building engineer to check lateral stability of extension and how it is connected to main building.
6. As part of Detail Engineering Assessment, Building engineer to investigate cause of cracking and the need for any remedial works / structural repairs.
7. As part of Detail Engineering Assessment, Building Engineer to provide detailed calculations for the lightweight steel roof structure. These should confirm its ability to withstand all wind loading pressure, suctions and uplift forces.
8. As part of Detail Engineering Assessment, Building Engineer to provide detailed calculations for the roof beam noted above.
9. Utility structures to be checked by the Building Engineer for their capacity to withstand code vertical and horizontal loads.
10. As part of Detail Engineering Assessment, movement joint details at roof level to be developed by Building Engineer.

Long Term (Within 6 Months):

1. Continue to implement loading plan.
2. Actions identified in the Detail Engineering Assessment to be fully implemented on site.
3. Implement any actions arising from checks.
4. Carry out remedial works / structural repairs as required.
5. Implement any remedial works arising from Detail Engineering Assessment.
6. Provide accurate as-built drawings.
7. Carry out remedial works as required, or vacate and remove.
8. Carry out works to incorporate movement joint at roof level.

The recommendations for Fire Safety corrective actions are:

Immediate (Within 1 month):

1. Remove 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.

Short Term (Within 3 Months):

1. 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.
2. Separate the boiler / generator room by a minimum 2-hr fire rated construction. Seal and/or protected all openings to maintain the required fire separations.
3. 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.

4. 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.

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

6. Regularly test the emergency lighting system on each floor and replace/repair lights as needed.

Mid Term (within 6 Months):

1. Replace the single-station smoke alarms with automatic smoke detectors tied into the fire alarm system. Configure the fire alarm system to initiate occupant notification upon activation of any two smoke detectors in addition to the manual fire alarm stations.

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.

2. Should provide separate fire water tank dedicated to the building and follow requirements as per NFPA-20 (Fire Pumps); NFPA-22(Water Tanks); and NFPA-24 (Underground water mains).

The recommendations for Electrical Safety corrective actions are:

Immediate (Within 1 month):

1. Generator frame must be earthed providing two distinct earth connection of proper size earth conductor (minimum 35sqmm).

2. Electrical protective device must be removed from wooden board/plank. Electrical devices must be protected and installed in metal casing enclosure made of 20 SWG thickness metal sheets.

3. Assign an electrical engineer to determine the capacity of the installation and redesign the wirings of the panel. If the wirings and loads exceed the capacity of the panel, install additional panel. Establish a load management program for avoiding any installation exceeding its capacity in future. Install slotted wiring-duct inside the panel to arrange and latch the haphazard cables.

4. Wires terminating to devices inside panel must be connected firmly and wires approaching devices must be securely fastened to avoid unintentional contact with live parts. Install slotted wiring duct to latch the cable inside the duct.

5. Termination in electrical wiring system should be done as the cables are not sharply bended.

6. Combustible material inside panel must be removed immediately.

7. Wires terminating to devices inside panel must be connected firmly and wires approaching devices must be securely fastened to avoid unintentional contact with live parts. Install slotted wiring duct to latch the cable inside the duct.
8. Electrical control device must be removed from wooden board/plank.

9. Install covered cable tray to provide the support to these noted cables. Make sure all the cable are arranged and latched properly inside the ladder.

10. Install cable duct to protect the generator output cables and provide covers made of non-combustible material preferably metal to protect the cables' insulation from any physical damage as well as prevent the ingress of debris, dust and lint.

11. Cables in trench must be protected and covered by noncombustible material (instead of wooden cover) preferably metallic sheet to protect the cables' insulation from any physical damage as well as prevent the ingress of debris, dust and lint.

12. Cables tray/ladder must be installed with proper metallic cover to ensure the protection of cables (open atmosphere) from rain, UV and falling objects. Make sure all the cable are arranged and latched properly inside the ladder.

13. Panel base-plate must be installed. Make circular hole at the base-plate of panels and provide cable gland according to the respective cable size for cable entry and exit so that the cables are not stressed on the sharp edges of the hole of panels. Provide covers (of noncombustible material) if any additional gap remains after installing cable glands.

14. 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.

15. Wire joints in panels must be tightly connected using terminals or sockets crimped and insulated. Heat shrink tubes may be used for insulation.

16. Install neutral bus bar inside the panel. Connect individual branch cables to individual points on bus bar using individual lug according to the respective cable size.

Short Term (Within 3 Months):

1. Install cable tray or ladder made of noncombustible material preferably metal to support the main service cables from pole mounted distribution transformer to factory.

2. Use covered cable duct/ladder made of noncombustible material preferably metal to support the wire in flexible pipe. Flexible conduit must not be used for long point wiring (except for special wirings).Use industrial graded flexible pipes instead of using normal flexible pipes (if required).

3. Provide metal enclosure made of 20 SWG thickness metal sheets instead of wood.

4. Remove all the multiple connections made at a single point of bus bar and connect individual branch cables to individual points on bus bar using individual lug according to the respective cable size.

5. Multiple cables connecting at a MCCB terminal must be removed. Individual circuit breaker must be used for each load according to the respective cable-size.

6. Provide phase separators between poles of MCCB made of non-combustible materials preferably use rubber having enough dielectric strength to insulate phases from each other.

7. Panel top cover must be installed to prevent ingress of lint/dust into the panel. Make circular hole at the top plate of panels and provide cable gland according to the respective cable size for cable entry and exit so that the cables are not stressed on the sharp edges of the hole of

panels. Provide covers (made of noncombustible material) if any additional gap remains after installing cable glands.

8. Disconnect the panel form power source and clean the interior of the panel regularly and seal the opening to protect ingress of lint and dusts. Provide covers if any additional gap remains after installing cable glands.

9. Multiple cables connecting at a MCCB terminal must be removed. Individual circuit breaker must use for each load according to the respective cable-size.

10. Electrical devices (MCB) must be protected and installed in metal casing enclosure made of 20 SWG thickness metal sheets.

11. Cables/wirings passing through permanent wall must be protected installing pipes and remaining gaps must be sealed with fire resistant materials. Cable tray/raceway shall be installed for the support of the cable throughout its length.

Mid Term (Within 6 months):

1. Panels located below stairs must be relocated to safe location for easy operation and maintenance work.

Long Term (More than 6 months): NA