Name of the Factory	: **Britannia Label (BD) Ltd (PKG).**
Address of the Factory	: Jaigir, Dholla Bazar, Singair, Manikganj, Dhaka, Bangladesh.
Present Status of the Factory	: **Under Operation**
Structural assessment conducted by	: Alliance
Date of Structural Inspection	: 12-July-14
Fire & Electrical assessment conducted by	: Alliance
Date of Fire & Electrical Inspection	: 12-July-14

BASIC INFORMATION:

There are 2 Main Buildings & 7 Ancillary Buildings in the factory premises. The following general information was noted:

i.	Building Usage Type	: Garments Factory
ii.	Structural System	: Main Building-1 (Printing Building + Bond Room): Single storied Pre-fabricated steel Building with Mezzanine floor; Main Building-2 (Oven Label Building): Proposed for 5-storied RCC frame structure Building
iii.	Floor System	: RCC Structure with beam and column & PEB building
iv.	Floor Area	: 17,353 SF
v.	No. of Stories	: Main Building-1: 1 (Grade w/ Mezzanine); Main Building-2: Proposed 5 (Grade + 4)
vi.	Construction Year	: 2013
vii.	Foundation Type	: Unknown
viii.	Design Drawings	: Available.
ix.	Soil investigation Report	: Available.
x.	Construction Materials	: Reinforced Concrete & Steel
xi.	Generator	: Ground Floor

RECOMMENDATIONS FOR CORRECTIVE ACTION:

The recommendations of corrective action for Structural, Fire and Electrical Safety comprises of Short Term, Mid Term and Long Term basis are as follows:

The recommendations for Structural Safety corrective actions are:

Immediate : NA

Short Term: (3 Weeks) :

i. Develop a program to ensure that all live loads for which a floor or roof has been designed for will not be exceeded. The designated Load Manager shall oversee this program and ensure it is enforced.

ii. Designate a representative as the Factory Load Manager. The Factory Owner shall ensure that at least one individual, the Factory Load Manager who is located onsite full time at the factory, is trained in calculating operational load characteristics of the specific factory. The Factory Load Manager shall serve as an ongoing resource to RMG vendors and be responsible to ensure that the factory operational loads do not at any time exceed the factory floor load limits as described on the Floor Load Plans.

Mid Term (6 Weeks) :

i. "Complete further testing on areas of deterioration and have a qualified structural engineer develop a remediation plan."
ii. "Adequately anchor and brace all non-structural elements to resist earthquake forces to comply with the BNBC and Alliance Standard."
iii. "Engage a qualified structural engineer to confirm and document that provisions have been made to accommodate concentrated loads. If provisions have not been made, have a qualified structural engineer develop a remediation plan."
iv. "Have a qualified structural engineer document compliance with the seismic and wind requirements stated in the 2006 BNBC."
v. "Engage a qualified structural engineer to confirm satisfactory structural performance of the buildings under wind loading."
vi. Engage a qualified structural engineer to develop the required documents to confirm the structural integrity of the buildings. Documents must comply with Alliance Standard Part 8 Section 8.19 and 8.20
vii. "Have a qualified structural engineer prepare credible as-built documents based on the requirements of Part 8 Section 8.19 of the Alliance Standard."
viii. "Have a qualified structural engineer prepare load plans including the information required in Section 8.20 of the Alliance Standard."
ix. "Provide signage or the appropriate markings at all areas used for storage to indicate the acceptable loading limits detailed in the Load Plan."
x. "Have a qualified structural engineer develop Floor Loading Plans per the requirements of Part 8 Section 8.20.5.3"

Long Term (6 Months) : NA

The recommendations for Electrical Safety corrective actions are*:*

Immediate (3 to 6 Days)	Arrange periodic inspection & thermal scan to identify the overloading, loose connection, unbalanced load which may cause the excessive heat-rise and take action accordingly.
Short Term (3 Weeks)	
Mid Term (6 Weeks)	All boxes and enclosures (including transfer switches, generators, and power panels) for emergency circuits shall be permanently marked so they will be readily identified as a component of an emergency circuit or system. The required marking can be by color code, the words "emergency system," or any other method that identifies the box or enclosure as a component of the emergency system. Seal all unnecessary holes in distribution board with rubber blanks or covers. Any unnecessary hole shall not be kept in front of the panel. Check all the cable and circuit breaker for sorting out the higher rated circuit breakers. The rated current of a protective device (MCB, MCCB, Fuse) must not exceed the current carrying capacity of any conductor in the circuit. Provide covers or blanks to conceal all live internal components of switchboards and/or distribution boards.

	Install two distinct earth connections of minimum 35 sqmm for generator frame earthing. Provide cover (made of noncombustible materials)to provide mechanical protection of the cables and prevent the ingress of dust, debris. Provide a capacity information label which contains the current carrying capacity and size of main cable, rated capacity of circuit breaker and the busbar (with dimension).Display panel schedules posted on panels' door (inner side).
Long Term (6 Months)	Develop and implement an electrical safety program. Include key topics such as lock out tag out procedures, personal protective equipment requirements, etc. Reference NFPA 70e for example program requirements. Provide eathing connection to all exposed-conductive parts (metal) related to/in close proximity to electrical equipments/installation and utility service such as metallic water/gas/steam pipes etc. such that all the metals remain at the same potential of building earthing system. Develop an Insulation Resistance Measurement Program that ensures deterioration of insulation resistance will be identified quickly. Testing should be in compliance with InterNational Electrical Testing Association (NETA). All transformers, switchgears etc. shall be subject to an insulation resistance measurement test to ground after installation but before any wiring is connected. Insulation tests shall be made between open contacts of circuit breakers, switches etc. and between each phase and earth. Complete thermographic scans at least on a three year cycle. Thermographic scans should be completed in accordance with the Standard for Infrared Inspection of Electrical Systems & Rotating Equipment and NFPA70B or a comparable standard. Provide earthing connection to the panel enclosure as per BNBC Table 8.2.11. Provide earth connection doors of metallic distribution boards using green cables preferably braid so that the metallic door remains at zero potential all the time. Survey all distribution panels to identify all circuits that are not provided with a dedicated neutral. Provide individual neutral connections the same size as the respective phase cable-size for all loads. The number of neutral connections in neutral bus bar must be same as the number of circuit breakers. Terminate cables providing appropriate (according to the size of the respective cable) copper cable-socket, copper nut- bolt,copper washer. Calculate and display the information of the capacity & panel-schedule of the distribution boards and then provide a physical means to prevent the installation of additional circuit breakers.

The recommendations for Fire Safety corrective actions are:

Immediate (3 to 6 Days)	
Short Term (3 Weeks)	Doors shall be keep lock free in the direction of egress under any conditions. All hasps, locks, slide bolts, and other locking devices need to be removed where available.
Mid Term (6 Weeks)	Establish an inspection, maintenance, and testing program for the standpipe and hose system. Program needs to be complying with the requirements of NFPA 25. Post the occupant load for every assembly and production floor in a conspicuous space near the main exit or exit access doorway for the space. Provide stair designation signs from the stairs to the floor in English and Bengali. Signs shall be indicating the name of the stair and the floor level. Signs shall be posted adjacent to the door. Prepare as-built drawings for new fire safety features of the building.
Long Term (6 Months)	