Name of the Factory	: **Winner Wears Ltd**
Address of the Factory	: Hazi Kuzrat Ali Mollah Super Market, 3rd floor,1 Harunabad, Section # 12, Mirpur, Dhaka, BangladeshPresent
Status of the Factory	: **Under Operation**
Structural assessment conducted by	: Alliance
Date of Structural Inspection	: 07 June 2014
Fire & Electrical assessment conducted by	: Alliance
Date of Fire & Electrical Inspection	: 05 June 2014

BASIC INFORMATION:

The present garment factory is a Single storied. The following general information was noted:

i.	Building Usage Type	: Garments Factory.
ii.	Structural System	: Roof consists of concrete slab on metal deck. RCC Columns on exterior with 2"-diameter pipe columns at interior with steel angle trussed tin shade roof covering.
iii.	Floor System	: Single Storied PEB Building.
iv.	Floor Area	: 17639 sft.
v.	No. of Stories	: Single storied.
vi.	Construction Year	: 2010
vii.	Foundation Type	: Unknown
viii.	Design Drawings	: Not Available.
ix.	Soil investigation Report	: Not Available
x.	Construction Materials	: PEB Building Materials, Reinforced Concrete (brick chips).
xi.	Generator	: Unknown.

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. Engage a qualified structural engineer to develop the required documents to confirm compliance with building code. Documents must comply with Alliance Standard Part 8 Section 8.19 and 8.20.

ii. Have a qualified structural engineer document compliance with the seismic and wind requirements stated in the 2006 BNBC.

iii. Engage a qualified structural engineer to confirm satisfactory structural performance of the buildings under wind loading. Compliance may be waived if the Factory Owner provides satisfactory evidence of a cyclone operations plan that includes full evacuation of the factory in advance of any approaching cyclone.

iv. Have a qualified structural engineer prepare credible as-built documents based on the requirements of Part 8 Section 8.19 of the Alliance Standard. All elements must be evaluated and included in drawings including a detailed design report.

v. The compressive strength of the exterior columns constructed using MCAC shall be investigated by an appropriate program of in-situ testing and representative destructive testing of core samples.

vi. Have a qualified structural engineer complete further analysis of the structure to confirm redundant load path and develop a remediation plan if required.

vii. Adequately anchor and brace all non-structural elements such as the rack systems to resist earthquake forces to comply with the BNBC and Alliance Standard.

viii. Under guidance from a qualified structural engineer arrange geotechnical investigation at close vicinity of the structure and make the report available for review.

ix. Have a qualified structural engineer develop Floor Loading Plans per the requirements of Part 8 Section 8.20.5.3.

x. Have a qualified structural engineer prepare load plans including the information required in Section 8.20 of the Alliance Standard. Floor load plans should be visibly posted throughout the factory building.

xi. Provide signage or the appropriate markings at all areas used for storage to indicate the acceptable loading limits detailed in the Load Plan (noted elsewhere).

Long Term (6 months) : Provide a protective coating at the structural elements constructed with MCAC exposed to rainfall or other sources of water. Have protective coating approved by the Alliance or a qualified structural engineer.

The recommendations for Fire Safety corrective actions are:

Immediate (3 to 6 Days)	Remove all materials and obstructions from aisles. Areas should be regularly inspected to assure aisles are kept clear at all times. Remove all stored materials from underneath cutting tables.
Short Term (3 Weeks)	Remove all locking devices from all egress doors and means of egress components in accordance with Alliance Standard Section 6.8. If locks are required for security reasons, utilize special door locking features complying with NFPA 101.
Mid Term (6 Weeks)	Post maximum occupant load for all areas (near exit). As noted elsewhere, floor loads must be limited to the available capacity of the exit stairs. Upon installation of automatic alarm system and accompanying alarm panel, arrange for direct connection to monitoring service or Fire Service and Civil Defense. If connection is not possible, until that time that it is, a person shall be assigned to contact the fire department in the event of fire alarm activation. An annunciator shall be located in a constantly attended location to alert this person.
Long Term (6 Months)	Install automatic fire alarm system with sufficient smoke/heat detectors as per NFPA 72. Automatic detectors should be tied into the fire alarm system. Alarm system should initiate occupant notification upon activation of detectors in addition to the manual fire alarm stations. All fire alarm installations shall be submitted for review by the Alliance for review prior to commencement of installation. If they can make the west side exit functional, travel distance will be within 45m from any point of the floor. By installing automatic detection system and fire alarm (as noted elsewhere), they can also solve the maximum travel distance problem (60m). Install side-hinged swinging type doors at all exits in compliance with Standard. Rearrange the area in order to increase width of all aisles to a minimum effective width of 36 in. Revise main entrance do there is no lip or other protrusion that may cause tripping. Changes in elevation of walking surfaces do not exceed 6.35 mm (1/4 in) unless provided with a beveled slope of 1 in 2 that does not exceed 12.7 mm (1/2 in). Store machine oil and other chemicals in designated area with properly labeling and organization. Do not store in areas of high heat such as boiler room; Boiler Room - Boiler should separate from other occupancies by a minimum 1 hour construction ; Generator Room - Separate generator from egress route by 2hr fire rated construction; Store Room - Storage Areas shall be separated from the surrounding occupancy with a minimum 1 hour construction. Develop a hot work permit program. The program must comply with the requirements of NFPA 51B as per Alliance

	Standards Part 13 Section 13.4 Hot Work Permit and NFPA 51B. Create a Fire Safety Director position and provide sufficient training so that the individual is able to carry out the required duties.

The recommendations for Electrical Safety corrective actions are*:*

Immediate(3 to 6 Days)	Remove all combustible materials within the substation room.
Short Term (3 Weeks)	Develop and implement an electrical safety program. Include key topes such as lock out tag out procedures, personal protective equipment requirements, etc. Provide generator frame earthing (grounding) at two separate points. Establish an inspection testing and maintenance program for the Uninterruptible Power Supply (UPS) and associated components.
Mid Term (6 Weeks)	Consult with a qualified Electrical Engineer and ensure electrical cables are sized according to capacity of circuit breakers. Have a qualified electrical engineer develop as-built electrical drawings providing detailing key components of the electrical system. Remove multi looping of wiring/cables at bus bar within the distribution panels. Relocate electrical switch and raceway to compliant location securely fitted to wall. Install phase separators between all terminal connections. Provide electrical insulation mats in front of all live front switchboards, panels, and distribution boards.
Long Term (6 Months)	Provide 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.