Name of the Factory	: Yongtai Inds. (Bd) Ltd.
Address of the Factory	: Plot: 55-57 & 73-75, Comilla Export Processing Zone, Comilla, Bangladesh
Present Status of the Factory	: Under operation.
Structural Assessment Conducted by	: TUV
Date of Structural Inspection	: 11 November, 2015
Fire Assessment Conducted by	: TUV
Date of Fire Inspection	: 11 November, 2015
Electrical Assessment Conducted by	: TUV
Date of Electrical Inspection	: 11 November, 2015
BGMEA Membership No.	: 4814

BASIC INFORMATION:

The 2 storey Steel structure building (PEB building) is a beam column frame (Steel) structure & at the roof profile sheet added which is supported by rafter. 4'' slab casted on floors. The following information was noted:

i.	Building Usage Type	: Sweater Factory.
ii.	Structural System	: PEB Building.
iii.	Floor System	: Steel Beam column frame structure.
iv.	Floor Area	: The typical plinth area of 2 storied PEB building is 54432 sft. Total operational area is 108864 sft
v.	No. of Stories	: GF+ 1 Floor (2- Storey), No Basement
vi.	Construction Year	: 2003
vii.	Foundation Type	: Pile foundation
viii.	Design Drawings	: Available for a 2- storied industrial building approved from Bangladesh Export Processing Zone Area on 26th October, 2003
ix.	Soil Investigation Report	: Available
x.	Construction Materials	: 50 ksi steel (as per structural drawing).
xi.	Generator	: The generator room is located outside the main factory building.

RECOMMENDATIONS FOR CORRECTIVE ACTION:

The recommendations of corrective action for both Structural and Fire & Electrical Safety comprises in Short Term, Mid Term and Long Term basis.

The recommendations for **Structural Safety** corrective action are:

Short Term (Immediate)	: N/A
Mid Term (6-weeks)	: N/A
Long Term (6-months)	: N/A

The recommendations for **Fire & Electrical Safety** corrective action are:

(A): Recommendations for Fire Safety Corrective Actions:

Immediate (*the factory should not continue to be occupied until these non-conformities have been rectified*):	N/A
Short Term (*Actions that must be incorporated into a Fire Safety Management Plan immediately (1 ~ 2 weeks) and should be a regular activity*	Factory management should be checked alarm call points, alarm & detection system periodically and maintained the record properly. Periodically check fire pumps. Maintain record properly Fire drill should be conducted quarterly (4 times a year) in existing buildings as detailed under the Fire Safety Plan & should kept record properly.
Mid Term (*The remedial works indicated must be carried out within a period of 6 weeks)*	Remove all locking device from all egress door. All exit doors should be open-able from the side they serve without the use of a key. Provide handrails on both side of each stairway with height of 0.9m measured from the nose of stair to the top of the handrail. Obtain the boiler license from the proper issuing authority. Prepare proper plan and design for 4 hours fire rated barriers with 2 hours fire rated door at ground floor boiler & substation room which located at operational area. Produce design and plan for automatic detection system with automatic fire alarm and control panel.
Long Term (*The remedial works indicated must be carried out within a period of 6 months)*	Provide 4 hours fire rated barriers with 2 hours fire rated door at ground floor boiler & substation room which located at operational area. Install automatic detection system with automatic fire alarm and control panel. Stand pipe supplying first aid hose should have minimum pressure of 200 KPa.

(B): Recommendations for Electrical Safety Corrective Actions:

Immediate (*the factory should not continue to be occupied until these non-conformities have been rectified*):	N/A

Short Term (*Actions that must be incorporated into a Fire Safety Management Plan immediately (a week) and should be a regular activity*	□ All strands cables at exposed ends should be properly soldered / crimped and insulated. □ Provide proper separate earthing/grounding to generator. Ensure that generator body frame to have two separate and distinct connections to the earth / ground.
Mid Term (*The remedial works indicated must be carried out within a period of 6 weeks)*	□ 1. Provide updated SLD matching the existing installation at the factory. 2. SLD to indicate exact positions of all points of switch boxes and other outlets. 3. SLD to be approved by the engineer-in-charge. □ 1. Provide updated Electrical layout drawing prepared after proper locations of all outlets for lamps, fans, fixed and transportable appliances, motors etc. 2. Drawings to indicate exact positions of all points of switch boxes and other outlets to match existing installation. 3. As built drawing to be approved by the engineer-in-charge. □ Refill the silica gel. Ensure that accessories of transformers like breathers, vent pipe, buchholz relay, silica gel must be in order at substation. □ All unwanted materials should be removed from transformer / Generator room. □ Install smoke detection and provide firefighting equipment in the substation and generator room. □ Adequate number of caution boards should be kept in the substation/ transformer room. □ Individual Fuse protection should be provided to every 15/20 A socket. □ The electrical panels to be of metal case and should be marked with “Danger 415 Volts” and identified with proper phase marking and danger signage. □ Provide cable connections with properly soldered / welded lugs at (LT/MDB/DB/SDB)'s. Ensure that all the electrical connections are properly secured with lugs. □ Select conductors and MCCB/MCB with adequate sizing without exceeding permissible current carrying capacity for insulation. □ Avoid looping and bunching of cable at MCCB/MCB and bus bar to use individual circuit and over current device for every incoming and outgoing circuit at the distribution boards. □ Provide circuit diagram /circuit list with proper current ratings and fuse size, marking for

	DBs identifying end use load, voltage, number of phases. □ Provide cable joints of porcelain / PVC connectors with PIB tape wound around before placing the cable in the box. □ Provide proper separate earthing/grounding to transformer. Ensure that transformer body frame to have two separate and distinct connections to the earth / ground. □ Provide separate earthing connection to electrical equipments. Ensure that earth potential provided for all parts of equipment / installation (other than live parts) and that continuous earth connection is provided back to the main intake supply earth. □ Provide adequate earthing to body and doors to all DBs. Ensure that all electrical panels provided with proper and separate earth potential.
Long Term (*The remedial works indicated must be carried out within a period of 6 months)*	□ Provide 4 hour fire rated walls all around the generator room on ground level. □ Each circuit should have a separate neutral (use of common neutral for more than one circuit shall not be permitted). □ Seal the cable entry-exit points of (LT/MDB/DB/SDB)'s with non-flammable materials. In addition: 1. Ensure that HT / LT panels / Switchgears to be vermin / damp proof. 2. Ensure all unused holes / openings in DBs to be blocked properly. □ 1. Provide the ECC to meet minimum cross-sectional area as per table 4.5. 2. Ensure that connections between conductors / equipment are provided to durable electrical continuity and adequate mechanical strength and protection. 3. The continuous earth connection is provided back to the main intake supply earth. □ Provide adequate protection against lightning depending on the probability of a strike and acceptable risk levels at roof top of building.