Name of the Factory	:	Coeval Textiles Ltd.
Address of the Factory	:	Barenda, Kashimpur,Gazipur
Present Status of the Factory	:	Under operation.
Structural Assessment Conducted by	:	VEC
Date of Structural Inspection	:	30 July, 2015
Fire Assessment Conducted by	:	VEC
Date of Fire Inspection	:	30 July, 2015
Electrical Assessment Conducted by	:	VEC
Date of Electrical Inspection	:	30 July, 2015
BGMEA & BKMEA Membership No.	:	5160 & 1225

BASIC INFORMATION:

The factory building is a three storied RCC building with beam and column system and flat slab system. The following information was noted:

i.	Building Usage Type	:	Garment Factory.
ii.	Structural System	:	Pre-engineered building shed
iii.	Floor System	:	N/A.
iv.	Floor Area	:	17500 sft
v.	No. of Stories	:	Single story
vi.	Construction Year	:	2007-2008
vii.	Foundation Type	:	Isolated column footing
viii.	Design Drawings	:	Available- soil test report and machine layout plan. Not Available – Structural design drawing, approval drawing and architectural design drawing.
ix.	Soil Investigation Report	:	Available
x.	Construction Materials	:	PEB shed, RCC column (brick chips)
xi.	Generator	:	Ground Floor (Separate)

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)	:	1. Building Engineer to review the adequacy of the steel structure. Design should be checked by the Building Engineer to verify the lateral stability of the shed and confirm the requirement of any horizontal bracing in the long direction. Also confirm its ability to withstand all wind loading pressure, suctions and uplift forces
Long Term (6-months)	:	1. Engage a qualified engineer to prepare approval pan and develop set of as-built structural drawing showing structure details, loading, dimensions, levels, foundations and framing on Plan, Section and Elevation drawings.

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*	• All the firefighting equipment's need to test with proper documents. • Lights in storage area need to be installed with protective covers and conduits. • Combustibles are to be managed with good housekeeping. Storage facilities with no air-conditioning duct shall be minimum 2.9 m and when used as a storage facility there shall be a minimum clearance of one third the floor height from the ceiling to the top of the storage stack. • All required means of exit or exit access in buildings or areas requiring more than one exit shall be signposted. The signs shall be clearly visible at all times, where necessary supplemented by directional signs
Mid Term (*The remedial works indicated must be carried out within a period of 6 weeks)*	• Factory needs to prepare as built drawing with floor machine layout showing means of escape with proper dimension. • Factory needs to have a valid fire license covering the full occupied area. • All the exit doors need to be replaced by side swinging so that un-lockable doors can be opened easily in the direction of evacuation without the use of a key. • Factory needs to provide handrail on both sides of stairways as per the requirements of NTPA guideline as well as BNBC 2006. • Factory needs to be installed with adequate illuminated emergency lighting in floors, exits & stairs.)Escape route(. • Emergency back-up power needs to be connected for critical fire safety system and not less than 30 minutes in case of failure of power supply.
Long Term (*The remedial works indicated must be carried out within a period of 6 months)*	• Fire department pre-plan needs to be developed. • Factory needs to provide at least TWO EXITS in 1st floor of the factory building to discharge safely from upper floors to outside of the building. • Factory needs to provide at least TWO EXITS with 4 mm per occupant at each floor of this factory or any existing RMG industrial buildings.

	• Factory needs to provide TWO STAIRS with total width of stair either 8 mm per occupant for any existing or any type RMG industrial buildings. • Final exit route-1 and 2 (from stair-1 route) need to be protected (2 hours rated construction with 1.5 hours rated door) at each floor level entrance and need to be protected from knitting section at ground floor by 2 hours rated construction with 1.5 hours rated door/opening, also need to have a protected escape route till to reach safe refuse area. • All the stairs need to be protected with fire and smoke resistant enclosures and opening (2 hours rated enclosure and 1.5 hour rated door)and provide the protected route from all though the stairway to the final exits. • Factory need to install centralized and automatic fire detection & alarm system on all occupied floors, including other tenanted floors of the building as per NTPA Guideline. • The factory need to install manually operated electrical fire alarm system and automatic fire alarm system with single or multiple call boxes on all occupied floors, including other tenanted floors of the building. • Factory needs to install control panel for centralized automatic smoke detection & fire alarm system according to NTPA Guideline. • Factory needs to install proper standpipe system with having at least 75 mm dia of riser. • Factory needs to install 1 riser per 1000 m2 of floor area and 38 mm diameter of fabric hoses with variable nozzle. • Factory need to ensure the minimum pressure for standpipes supplying a 50mm or larger hose shall be at least 300 Kpa. For standpipe supplying first aid hose (38mm nominal) may have a minimum pressure of 200 Kpa. • Factory needs to be installed with Siamese connection for to the standpipe system located outside the building and accessible to the fire department connection. • Factory needs to have dedicated fire pump with backup power system & sufficient capacity for achieve required pressure in the remote place of the factory. • Factory needs to have sufficient water storage capacity to get adequate pressure to feed fire-fighting equipment and at least 1900liter x 75min=142500 liters water storage tank.

(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*	• Clean interior components from dust and debris and seal all openings within the enclosure to prevent dust and debris from entering. • Ensure inspection of all earthing system is being completed and documented
Mid Term (*The remedial works indicated must be carried out within a period of 6 weeks)*	• Provide Instruction board for first aid and artificial respiration in the substation room and generator room. • Fill the transformer breather with fresh Silica gel and oil cup with fresh Oil. • Provide two separate and distinct connections of earthing for each generator. • Connect all metal in the building and sheds to the building earthing system.
Long Term (*The remedial works indicated must be carried out within a period of 6 months)*	• Develop an electrical layout diagram and an as-built single line diagram detailing key components and capacity of the electrical system. • Establish a periodical Insulation and earth Resistance Measurement Program and record the related testing data. • Inspect electrical panel boards on an annual basis. • Ensure distribution boards have no opening and all live internal components are concealed properly. • Ensure each distribution board is provided with a circuit list and means of identification is provided as per list. • Provide proper cable terminator/connector for stranded conductors at its point of termination. • Install lightning protection system on the building