

Summary of Preliminary Assessment on Structural, Fire and Electrical Safety

Name of the Factory	: Cristal Apparels Ltd.
Address of the Factory	: Ka-15/6, Haji Shahab Uddin Shopping Complex, Rasulbag, Mohakhali, Dhaka
Present Status of the Factory	: Partially Evacuated on the basis of Review Panel recommendation.
Structural Assessment Conducted by	: BUET
Date of Structural Inspection	: 28 th December 2013
Fire & Electrical Assessment Conducted by	: BUET
Date of Fire & Electrical Inspection	: 27 th January 2014

BASIC INFORMATION:

The factory building has RC beam column frame structural system. The following information was noted:

i. Building Usage Type	: Mixed occupancy (Mostly garment factory building)
ii. Structural System	: RC Frame Building
iii. Floor System	: Edge supported RCC slabs with thickness of 125mm
iv. Floor Area	: Approximately 1040sq. m per floor with typical grid of 5.49m by 4.57m
v. No. of Stories	: Nine story with two basements
vi. Construction Year	: Not available; probably constructed in around 1990
vii. Foundation Type	: Raft (no information is available on foundation type below the raft)
viii. Design Drawings	: Not available
ix. Soil Investigation Report	: Not available
x. Construction Materials	: Reinforced Concrete
xi. Generator	: Outside the 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)	: Operate under restricted loading as per recommendations of the Review Panel.
Mid Term (6-weeks)	: A Detail Engineering Assessment (DEA) has to be completed.
Long Term (6-months)	: Necessary remediation's after completion of DEA.

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

(A): Recommendations for Fire Safety corrective actions:

Immediate <i>(the factory should not continue to be occupied until these non-conformities have been rectified):</i>	N/A
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<p>Short Term</p> <p><i>(Actions that must be incorporated into a Fire Safety Management Plan immediately (a week) and should be a regular activity)</i></p>	<p>Remove all temporary obstructions from all escape routes, aisles and passageways.</p> <p>Remove all combustible materials from generator room.</p> <p>Ensure minimum width of corridors, passageways and aisles.</p> <p>Ensure easy access to portable extinguishers and monitor and maintain the same at required interval as per guidelines.</p> <p>Provide proper directional sign and exit sign in Bangla and English as per guidelines.</p>
<p>Mid Term</p> <p><i>(The remedial works indicated must be carried out within a period of 6 weeks)</i></p>	<p>Produce proper drawing and plans to create horizontal and vertical fire-rated separation for stairways of appropriate specifications, grills, storage and assembly areas, lift lobby, offices, work areas. Also design to ensure proper separation of high risk areas (e.g., generator, boiler, transformer and substation rooms) as per guidelines.</p> <p>Remove all collapsible gates/roller shutters. Produce design drawings to demonstrate how stairways are to be made of adequate dimensions and appropriate specifications and to be converted into fire-rated enclosures equipped with fire-rated side swinging doors of required dimensions opening in the direction of travel at each floor.</p> <p>Produce design to install standard standpipe, hose and fire pump system.</p> <p>Provide design to install proper detection and alarm system.</p> <p>Install command station as per guidelines.</p>
<p>Long Term</p> <p><i>(The remedial works indicated must be carried out within a period of 6 months)</i></p>	<p>Install horizontal and vertical fire-rated separation for stairways of appropriate specifications, grills, storage and assembly areas, lift lobby, offices, work areas.</p> <p>Ensure proper fire separation of high risk areas (e.g., generator, boiler, transformer and substation rooms) as per approved design.</p> <p>Install fire rated enclosure and doors of appropriate dimensions at exit to the stairs to prevent smoke and fire propagation as per approved design.</p> <p>Install standard standpipe, hose and fire pump system.</p> <p>Install proper detection and alarm system.</p> <p>Provide fire rated enclosure, install self closing fire rated door as per guidelines.</p>

(B): Recommendations for Electrical Safety corrective actions:

<p>Immediate</p> <p><i>(the factory should not continue to be</i></p>	<p>N/A</p>
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<i>occupied until these non-conformities have been rectified):</i>	
Short Term <i>(Actions that must be incorporated into a Fire Safety Management Plan immediately (a week) and should be a regular activity</i>	Ensure earthing of panel body & door with fitted condition. Provide distribution board as per guideline and put identification mark on distribution panel. Remove broken/loose MCB/MCCB box/socket.
Mid Term <i>(The remedial works indicated must be carried out within a period of 6 weeks)</i>	Provide separate service ducts for electrical cables. Provide new Emergency Lighting system. Provide appropriate Lightning Protection System as per guidelines.
Long Term <i>(The remedial works indicated must be carried out within a period of 6 months)</i>	N/A