

Summary of Preliminary Assessment on Structural, Fire and Electrical Safety

Name of the Factory	: Bristy Garments Limited
Address of the Factory	: Misco Super Market, 4 Darussalam Road, Mirpur, Dhaka
Present Status of the Factory	: Under Operation
Structural Assessment Conducted by	: BUET
Date of Structural Inspection	: 31 st October 2014

BASIC INFORMATION:

The garments factory building was approved by RAJUK as a 6 (six) storied commercial building in 1990 with ground floor as the bottom most floors. The following important points were noted for the building.

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| (i) | Building usage type: | Commercial shops, restaurant and garments factory |
| (ii) | Structural system: | Column beam frame structure |
| (iii) | Floor system: | RC slab supported on beam columns. Typical floor heights are 9'-5" (1 st to 5 th Floor); Ground floor height is 9'-9". |
| (iv) | Floor area: | Building plan dimensions are Approx. 425'-0" × 80'-0". Approximate floor area is 34000 sft per floor with a total floor area of 204000 sft. |
| (v) | No. of stories: | 6 (six) |
| (vi) | Construction Year: | Unknown |
| (vii) | Foundation Type: | Isolated spread footing (Square footing 9'-0" × 9'-0" at a depth of 10'-0") |
| (viii) | Design Drawings: | Approval drawings (RAJUK) were available. |
| (ix) | Soil Investigation Report: | Not available |
| (x) | Construction Materials: | Reinforced Concrete. No test reports of construction materials were available. <ul style="list-style-type: none">• Coarse Aggregate Brick chips• Reinforcement 40-grade plain & 60 grade deformed steel rods |
| (xi) | Generator | 160 kVA located at ground floor |

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) : The live load, temporary or long term duration, must be restricted within 40 psf (2.0 kN/m²) at all the places of the building. Proper measures should be taken to eradicate dampness of the building walls.

Mid Term (6-weeks) : None

Long Term (6-months) : A Detail Engineering Assessment (DEA) has to be completed. Necessary remediation's after completion of DEA.

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

Name of the Factory : Brishti Garments Ltd.

Fire & Electrical assessment conducted by : BUET

Date of Fire & Electrical Inspection : 25th September 2014

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(A): Recommendations for Fire Safety corrective actions:

Fire Safety Issues	
Immediate <i>(the factory should not continue to be occupied until these non-conformities have been rectified):</i>	N/A
Short Term <i>(Actions that must be incorporated into a Fire Safety Management Plan immediately (a week) and should be a regular activity)</i>	<p>Remove all temporary obstructions from all escape routes, aisles and passageways.</p> <p>Remove all combustible materials from transformer/substation/ boiler/ generator room.</p> <p>Ensure minimum width of corridors, passageways and aisles.</p> <p>Ensure adequate numbers of fire drills.</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>
Mid Term <i>(The remedial works indicated must be carried out within a period of 6 weeks)</i>	<p>Remove temporary structure from roof top.</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, 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/sliding doors. 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>
Long Term <i>(The remedial works indicated must be carried out within a period of 6 months)</i>	<p>Install horizontal and vertical fire-rated separation for stairways of appropriate specifications, grills, storage and assembly areas, offices and 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>

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(B): Recommendations for Electrical Safety corrective actions:

Electrical Safety Issues	
Immediate <i>(the factory should not continue to be occupied until these non-conformities have been rectified):</i>	N/A
Short Term <i>(Actions that must be incorporated into a Fire Safety Management Plan immediately (a week) and should be a regular activity)</i>	<p>Provide instructions for first aid and artificial respiration from exposure to electrical shock.</p> <p>Provide cover on the cable trench and rubber mat in front of the panel.</p> <p>Ensure well-dressed cabling with lugs and remove loose cabling.</p> <p>Ensure earthing of panel body & door with fitted condition.</p> <p>Provide distribution board as per guideline and put identification mark on distribution panel.</p> <p>Remove burnt/broken/loose MCB/MCCB box/socket.</p>
Mid Term <i>(The remedial works indicated must be carried out within a period of 6 weeks)</i>	<p>Provide separate service ducts for electrical cables.</p> <p>Provide new Emergency Lighting system.</p> <p>Provide appropriate Lightening Protection System as per guidelines.</p>
Long Term <i>(The remedial works indicated must be carried out within a period of 6 months)</i>	N/A