

## **Summary of Preliminary Assessment on Structural, Fire and Electrical Safety**

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| Name of the Factory                | : Badrunnesa Sweaters Ltd.   |
| Address of the Factory             | : C.S. Dag # 202 (Part) & 203, R.S. 260 & 261, J.L. # 741, Mouja: Bilamalia, Asha Plaza (2 <sup>nd</sup> & 3 <sup>rd</sup> Floor), Hemayetpur Bus Stand, Savar, Dhaka. |
| Present Status of the Factory      | : Under Operation  |
| Structural Assessment Conducted by | : BUET   |
| Date of Structural Inspection      | : 21 <sup>st</sup> November 2014   |

### **BASIC INFORMATION:**

The present garment factory is a commercial building with beam-column frame system. The following information were noted:

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|-------------------------------|---|
| i. Building Usage Type        | : Primarily as Garments Factory   |
| ii. Structural System         | : Beam-column frame structure   |
| iii. Floor System             | : Two-way edge supported solid floor system   |
| iv. Floor Area                | : Approx. 22873.31 sft/floor and 9540.205 sft car parking basement (as per architectural drawing)   |
| v. No. of Stories             | : Presently five with one partial basement  |
| vi. Construction Year         | : 2007 to 2010  |
| vii. Foundation Type          | : Individual footing F1 (11'-0" × 11'-0" with thickness 21" to 33" and 5' footing depth for interior columns C1), combined footing CF1 (11'-0" × 31'-5"), CF2 (11'-0" × 21'-10"), CF3 (11'-0" × 29'-2"), CF4 (11'-0" × 35'-9") and thickness of all combined footing is 21" to 33" and depth is 5'. Also peripheral strip footing having 4' width and depth is 5'. Mat foundation for basement has 21" thickness and 11'-11" depth from ground floor level. 4' compacted sand is shown under both single and combined foundation in supplied drawing. |
| viii. Design Drawings         | : Approval drawing available (approval from RAJUK and date: 16-8-1999 for 5 storied commercial building with partial basement). Structural working drawings are also available.   |
| ix. Soil Investigation Report | : Available and submitted by Advance Builders and Consultant Limited (774 Shewrapara, Begum Rokeya Saroni, Mirpur, Dhaka) July 2007   |
| x. Construction Materials     | : Reinforced Concrete with brick aggregate (as checked) and steel deformed rebar 60 Grade for column and beam and 60 Grade for foundation (as per drawing)  |
| xi. Generator                 | : Four Generators are located on ground floor of 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) : None

Mid Term (6-weeks) : The factory owner has been instructed to prepare and submit a load plan for vetting.

Long Term (6-months) : 4 nos. 4inch cores (3 inch when taken from column) have to be collected and tested. Necessary remedial measures to be taken for dampness and short columns

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

Name of the Factory : Badrunnesa Sweaters Ltd.

Fire & Electrical assessment conducted by : BUET

## Summary of Preliminary Assessment on Structural, Fire and Electrical Safety

Date of Fire & Electrical Inspection

: 27<sup>th</sup> November 2014

### (A): Recommendations for Fire Safety corrective actions:

| <b>Fire Safety Issues</b>  |  |
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| <p><b>Immediate</b><br/><i>(the factory should not continue to be occupied until these non-conformities have been rectified):</i></p>                            | N/A  |
| <p><b>Short Term</b><br/><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 obstructions from all escape routes, aisles and passageways.</p> <p>Maintain minimum effective width of corridors, passageways and aisles.</p> <p>Remove all combustible materials from generator room.</p> <p>Make sure that portable extinguishers are easily accessible, monitored and maintained at regular interval as per the Guidelines.</p> <p>Provide proper directional signs and exit signs in Bangla and English as per the Guidelines.</p>  |
| <p><b>Mid Term</b><br/><i>(The remedial works indicated must be carried out within a period of 6 weeks)</i></p>  | <p>Remove temporary structures from roof top.</p> <p>Prepare drawings to ensure adequate horizontal and vertical fire-rated separation inside one floor and between different floors, e.g. separation with stairways, storage, offices, and work areas as per the Guidelines.</p> <p>Prepare plans to ensure all exit access doors are side-swinging type and open to the direction of traffic flow.</p> <p>Produce drawings to demonstrate how stairways are to be made of adequate dimensions and appropriate specifications and to be converted into continuous fire-rated enclosures equipped with fire-rated doors.</p> <p>Provide design to install proper detection and alarm system. Also show methods to ensure proper separation of high risk areas (e.g., generator, boiler rooms) as per the Guidelines.</p> <p>Provide design to install standard standpipe, hose and fire pump system.</p> <p>Establish command station as per the Guidelines.</p> |
| <p><b>Long Term</b><br/><i>(The remedial works indicated must be carried out within a period of 6 months)</i></p>  | <p>Ensure adequate horizontal and vertical fire-rated separation inside one floor and between different floors, e.g. separation with stairways, storage, offices, and work areas.</p> <p>Ensure all exit access doors are side-swinging type and open to the direction of traffic flow.</p> <p>Install stairways of adequate dimensions and appropriate specifications and convert into continuous fire-rated enclosures equipped with fire-rated doors.</p> <p>Ensure proper separation of high risk areas (e.g., generator and boiler rooms) as per the Guidelines.</p> <p>Install proper detection and alarm system.</p> <p>Install standard standpipe, hose and fire pump system.</p>  |

## Summary of Preliminary Assessment on Structural, Fire and Electrical Safety

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**(B): Recommendations for Electrical Safety corrective actions:**

| Electrical Safety Issues   |  |
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| <p>Immediate<br/> <i>(the factory should not continue to be occupied until these non-conformities have been rectified):</i></p>                            | N/A  |
| <p>Short Term<br/> <i>(Actions that must be incorporated into a Fire Safety Management Plan immediately (a week) and should be a regular activity)</i></p> | <p>Provide instructions for first aid from exposure to electrical shock.</p> <p>Provide clear identification mark on distribution board</p> <p>Ensure well-dressed cabling with lugs</p> |
| <p>Mid Term<br/> <i>(The remedial works indicated must be carried out within a period of 6 weeks)</i></p>  | <p>Provide appropriate Lightning protection system.</p>  |
| <p>Long Term<br/> <i>(The remedial works indicated must be carried out within a period of 6 months)</i></p>  | N/A.   |