

INITIAL ELECTRICAL ASSESSMENT REPORT (EAR)

Factory Name: **CLIFTON TEXTILES & APPARELS LTD.**

Address: **180, Baizid Bostami Road Nasirabad I/A Area-1,
Building -1, Chittagong Chittagong Chittagong
Bangladesh**

Assessor: **Emkay Enterprises LTD**

Date: **31 Jan 2015**





Introduction to the Report

The following report contains a site profile and summary of non-conformities identified during an onsite assessment commissioned by the Alliance for Bangladesh Worker Safety (Alliance) and conducted by a third-party Qualified Assessment Firm (QAF). The assessment was conducted against the Alliance for Bangladesh Worker Safety Assessment Protocols (APs) and Fire Safety and Structural Integrity Standard, which is harmonized with the factory assessment guidelines developed by Bangladesh University of Engineering and Technology (BUET) for the Bangladesh National Tripartite Plan of Action (NTPA). The goal of the Alliance process is to provide clear and practical technical requirements by which Bangladeshi Ready Made Garment (RMG) Factories producing for Alliance members may be consistently and fairly evaluated for fire, structural, and electrical safety in a non-duplicative manner. Each assessment will prompt action plans that will be used by RMG factories to systematically and sustainably improve safety conditions for garment workers. Beyond tracking and reporting on action steps taken in a transparent manner, the Alliance organization and its members will seek to further support factory improvements through technical assistance, training, implementation support for functional Worker Committees, and in some cases financial assistance and wage support for workers if factories are closed for remediation.

The contents of the report do not constitute a guarantee of compliance with the applicable laws, the Alliance Standard or the absolute or continued safety against fire, electrical and/or structural integrity issues that may lead to injury or loss of life. The report is designed to provide a non-exhaustive summary of risk issues, based on a limited sampling and duration of time onsite by the named QAF. Neither the QAF nor the Alliance can certify or guarantee the quality, outcome, or effectiveness of actions taken in response to the report.

For more information and report feedback please go to: www.bangladeshworkersafety.org.





GENERAL INFORMATION

General Information	
Factory Name:	CLIFTON TEXTILES & APPARELS LTD.
Address:	180, Baizid Bostami Road Nasirabad I/A Area-1, Building -1, Chittagong Chittagong Chittagong Bangladesh
Country:	Bangladesh
Province:	Chittagong
City:	Chittagong
Zip Code:	4210
Audit Duration:	1 Days
Re-Audit:	Re-Audit After 0 Months
Draft Report Date :	21.02.2015
Final Report Date :	Will Be Finalized After Review
Are all action items from previous assessment complete? :	N/A
Buildings in Complex :	There is one building.
Is the building(s) owned or rented by the Factory?:	Owned
Number of Building Levels (Stories) :	Main RCC Building: 7-stories with steel shed on roof deck of 5th floor: Ground floor+6
Approximate Building Area (SF) :	Total: 191,740.00 SF (Main RCC Building: G.F: 28,000; 1st: 28,000; 2nd: 28,000; 3rd: 28,000, 4th: 28,000, 5th: 28,000, roof: 23,740).
Date of Building Construction :	2003-2005
Date of Last Building Renovation/Addition :	None.
Ancillary Structures in Complex :	None.
Approximate Ancillary Structures Area (SF) :	None.
Number of Occupants :	Total Occupancy: 3,232. (Main RCC Building: G.F: 10; 1st: 238; 2nd: 771; 3rd: 755, 4th: 728, 5th: 729, roof:

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	Capacity: 900 (During dining)).
Provide brief description of the electrical system for each building.:	The factory has two Generators of 1415KW each. One Transformer of 100KVA has been provided as a backup power source. Power is distributed through one L.T. panel, five SMDB and twenty eight SDB.
Physical location of Substation? :	1st Floor of the building but separate from other occupancies.
What equipment/loads does the UPS serve? :	1.Emergency Light, 2. Exit Sign.



ASSESSMENT FINDINGS

Electrical System Information

Question:	Are as-built electrical drawings indicating information such as panel and circuit locations throughout the building(s) available for review?
Priority Level:	High
Non-Compliance Level:	3
Description:	Electrical as-built drawings are found for substation and floors, but in several places drawings do not match with the actual installation.
Source of Findings:	Document Review: Document not available.
Suggested Plan of Action:	Have a qualified electrical engineer update an as-built single line diagram detailing key components and capacity of the electrical system and arrange an approval from authorized body.
Suggested Deadline Date:	03 May 2015
Standard:	Alliance Standard Part 10 Section 10.3.7

Electrical System Maintenance

Question:	Are thermographic scans of electrical equipment completed at least every three years?
Priority Level:	Medium
Non-Compliance Level:	3
Description:	Thermographic scans of electrical equipment are not properly completed.
Source of Findings:	Document Review: Documents not available.
Suggested Plan of Action:	Thermographic scans should be completed in accordance with the Standard for Infrared Inspection of Electrical Systems & Rotating Equipment and NFPA70B or a comparable standard.
Suggested Deadline Date:	05 Apr 2015
Standard:	Alliance Standards Part 10 Section 10.13.8 Electrical Inspections

Electrical System Conditions



Question:	All metal in the building is connected to the building earthing/grounding system such as metal rebar in concrete, metal frame of building, or metal water pipe.
Priority Level:	High
Non-Compliance Level:	1
Description:	All metal in the building has been earthed, but the earth pit design is inappropriate to perform periodic maintenance. GI pipe for earth electrode does not come up to the surface of the earthing pit.
Source of Findings:	Photograph: Earth connection beside main building.
Suggested Plan of Action:	Provide means so that the top end of GI pipe comes out to the earthing pit for routine maintenance.
Suggested Deadline Date:	03 May 2015
Standard:	Alliance Standard Part 10 Section 10.10 Earthing
Question:	Do switchboards and/or distribution boards have clear identification markings?
Priority Level:	Medium
Non-Compliance Level:	3
Description:	Laminated paper has been used for panel board marking. For example, identification on laminated paper was found in SDB-01. This issue is present at all panel boards.
Source of Findings:	Photograph: Identification on laminated paper on SDB-01.
Suggested Plan of Action:	Provide permanent identification marking mentioning name of panels (i.e. SDB-01) on a durable material sheet posted on panels door.
Suggested Deadline Date:	05 Apr 2015
Standard:	Alliance Standard Part 10 Section 10.7 BNBC Part 8 Section 2.11.5.4
Question:	Do switchboards and/or distribution boards have capacity information labels?
Priority Level:	Medium
Non-Compliance Level:	3
Description:	Capacity information labels & panel schedules are not present on electrical panels. This issue is present at all panel boards.
Source of Findings:	Visual Assessment: Visually inspected during audit.
Suggested Plan of Action:	Provide a capacity information label which contains the current carrying capacity and size of main cable, rated capacity of circuit breaker and the busbar (with dimension). Display panel schedules posted on panels door (inner side).





Suggested Deadline Date:	19 Apr 2015
Standard:	Alliance Standard Part 10 Section 10.7 Main Switch, Switchboards And Metal Clad Switchgear and 10.13.7 Inspection of the Installation
Question:	The substation room is clean and free from dirt, lint, water, oil, and debris.
Priority Level:	Medium
Non-Compliance Level:	2
Description:	Some dirt, oil, and debris are present in the Transformer Room.
Source of Findings:	Photograph: Water in Transformer Room.
Suggested Plan of Action:	Remove all dirt, debris, lint, water, oil, and improperly stored materials from the substation room.
Suggested Deadline Date:	15 Mar 2015
Standard:	Alliance Standard Part 13 Section 13.6.2
Question:	Are switchboards and/or distribution boards provided with physical means to prevent the installation of more over current devices than that number for which the panel board was designed, rated, and listed.
Priority Level:	Medium
Non-Compliance Level:	2
Description:	Capacity information labels have not been found in order to determine how many circuit breakers the panels were designed for. Some distribution boards have space in DIN-rail channel to install additional over-current devices.
Source of Findings:	Visual Assessment: Visually inspected during audit.
Suggested Plan of Action:	Calculate and display the information of the capacity & panel-schedule of the distribution boards. Provide a physical means to prevent the installation of additional circuit breakers.
Suggested Deadline Date:	03 May 2015
Standard:	Alliance Standards Part 10 Section 10.7 Main Switch, Switchboards and Metal Clad Switchgear





Question:	Each circuit is provided with a dedicated neutral.
Priority Level:	Medium
Non-Compliance Level:	1
Description:	Use of common neutral for different branch circuits was found in SDB-7, 2nd floor. Number of outgoing neutrals is not equal to the number of branch circuits in the Distribution Board.
Source of Findings:	Photograph: Common neutral in SDB-7.
Suggested Plan of Action:	Provide individual neutral connections same as the respective phase cable size for all single-phase loads. The number of neutral connections in neutral bus bar must be same as the number of single-phase circuit breakers.
Suggested Deadline Date:	05 Apr 2015
Standard:	Alliance Standards Part 10 Section 10.3 Electrical Wiring and Cabling
Question:	Are electrical insulation mats provided in front of substation, switchboards and/or distribution boards?
Priority Level:	Low
Non-Compliance Level:	1
Description:	Mats were found in place, but the mats were not electrical graded. For example, mat in front of SMDB-02 was not electrical graded. This issue is present at all locations throughout the factory.
Source of Findings:	Photograph: Non graded mat in front of SMDB-02.
Suggested Plan of Action:	Provide electrical graded rubber mats with the specifications of 650 V-protection and required area (accommodating at least two people or depending on the panels length).
Suggested Deadline Date:	05 Apr 2015
Standard:	Alliance Standard Part 10 Section 10.13.7 Inspection of the Installation.



Emergency Power System

Question:	Are cable trenches properly covered?
Priority Level:	High
Non-Compliance Level:	1
Description:	Cables on ladder beside the generator were found uncovered.
Source of Findings:	Photograph: Uncovered cable ladders in Generator Room.
Suggested Plan of	Provide metallic cover on the cable ladder and provide earthing connection to





Action:	it. Make sure the cover is continuous throughout the length of the ladder.	
Suggested Deadline Date:	05 Apr 2015	
Standard:	Alliance Standard Part 10 Section 10.13.7 Inspection of the Installation	
Question:	Are inspection, maintenance, and testing procedures of the emergency generator being completed and documented?	
Priority Level:	Low	
Non-Compliance Level:	3	
Description:	Proper documents and checklists regarding inspection, maintenance, and testing procedures of the generators were not found.	
Source of Findings:	Document Review: Documents not available.	
Suggested Plan of Action:	Establish a routine maintenance and testing program for the emergency generator. The program shall be based on all of the following: (1) Manufacturer's recommendations (2) Manufacturer's Instruction manuals (3) Requirements of NFPA 110 Chapter 8.	
Suggested Deadline Date:	03 May 2015	
Standard:	NFPA 110 Chapter 8	
Question:	Are inspection, maintenance, and testing procedures of the UPS being completed and documented?	
Priority Level:	Low	
Non-Compliance Level:	1	
Description:	Proper documents and checklists regarding inspection, maintenance, and testing procedures of the UPS were not found.	
Source of Findings:	Document Review: Documents not available.	
Suggested Plan of Action:	The program must based on the following: (1) Manufacturer's recommendations (2) Manufacturer's instruction manuals (3) Minimum Requirements of NFPA 111 Chapter 8 (4) Minimum Requirements of NFPA 70B Chapter 28.	
Suggested Deadline Date:	03 May 2015	
Standard:	Alliance Standard Part 13 Section 13.11 NFPA 111 Chapter 8 NFPA 70B Chapter 28	
Lightning Protection System		
Question:	The lightning protection ground terminals are bonded to the building or structure grounding.	



Priority Level:	Medium
Non-Compliance Level:	2
Description:	The lightning protection ground terminals have not been bonded to the building or structure grounding.
Source of Findings:	Visual Assessment: Visually inspected during audit.
Suggested Plan of Action:	Assign a qualified engineer to redesign the lightning protection system keeping the provision for bonding ground terminals to the structure grounding.
Suggested Deadline Date:	19 Apr 2015
Standard:	Alliance Standards Part 10 Section 10.11 Lightning Protection
Question:	The air termination network vertical and horizontal conductors are appropriately spaced.
Priority Level:	Medium
Non-Compliance Level:	1
Description:	Only three air terminals were found and this does not cover the whole facility area.
Source of Findings:	Visual Assessment: Visually inspected during audit.
Suggested Plan of Action:	Consult a qualified electrical engineer to redesign the system according to the BNBC requirements.
Suggested Deadline Date:	19 Apr 2015
Standard:	Alliance Standards Part 10 Section 10.11 Lightning Protection
Question:	The appropriate number of down conductors are installed based on the building size.
Priority Level:	Medium
Non-Compliance Level:	1
Description:	One down conductor is undersized. Size of the wire is 25 mm ² .
Source of Findings:	Photograph: Down conductor for lightning arrester on roof top.
Suggested Plan of Action:	Consult a qualified electrical engineer to redesign the system keeping the provision for appropriate size of down conductor according to the BNBC table 8.2.14.
Suggested Deadline Date:	19 Apr 2015



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Standard:	Alliance Standards Part 10 Section 10.11 Lightning Protection
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