

INITIAL ELECTRICAL ASSESSMENT REPORT (EAR)

Factory Name: **Daeyu Bangladesh Ltd.**
Address: **731, Bhannara, Mouchak, Kaliakoir, Gazipur Gazipur
Dhaka Bangladesh**
Assessor: **Sumerra**
Date: **20 Mar 2014**



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:	Daeyu Bangladesh Ltd.
Address:	731, Bhannara, Mouchak, Kaliakoir, Gazipur Gazipur Dhaka Bangladesh
Country:	Bangladesh
Province:	Dhaka
City:	Gazipur
Zip Code:	1751
Audit Duration:	1 Days
Re-Audit:	Re-Audit After 0 Months
Draft Report Date :	20 March 2014
Final Report Date :	May 11, 2014
Are all action items from previous assessment complete? :	N/A
Buildings in Complex :	1
Is the building(s) owned or rented by the Factory?:	Owned
Number of Building Levels (Stories) :	2 Storied
Approximate Building Area (SF) :	71000 Sq Ft
Date of Building Construction :	1998
Date of Last Building Renovation/Addition :	2013
Ancillary Structures in Complex :	4 Structure 1) Day care & medical centre 2) Generator 3) Yarn store 4) Winding section & machine godown.
Approximate Ancillary Structures Area (SF) :	Unknown
Number of Occupants :	600 (max) per floor

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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:	The factory authority could not provide the one-line diagram of electrical distribution system as per Alliance Standard Part 10 Section 10.3.7. They showed only the Fittings and Fixtures Layout plan.
Source of Findings:	Document Review: No one-line diagram of electrical distribution system available for review.
Suggested Plan of Action:	Have a qualified electrical engineer develop as-built electrical drawings detailing key components of the electrical system.
Suggested Deadline Date:	20 Jun 2014
Standard:	Alliance Standard Part 10 Section 10.3.7

Electrical System Maintenance

Question:	Have workers that operate and maintain the electrical system received electrical safety training? Is training documentation on site?
Priority Level:	High
Non-Compliance Level:	3
Description:	Electrical safety training documentation was not on site for review. It is unclear if training is provided in accordance with NFPA 70e
Source of Findings:	Document Review: Electrical safety training documentation was not on site for review.
Suggested Plan of Action:	Develop and implement an electrical safety program. Include key topics such as lock out tag out procedures, personal protective equipment requirements, etc. Reference NFPA 70E for example program requirements.
Suggested Deadline Date:	20 Jun 2014
Standard:	Reference NFPA 70e for example
Question:	Is the electrical switchgear and panel boards inspected on an annual basis to ensure that the equipment is installed in accordance with the listed ratings?



Priority Level:	Medium
Non-Compliance Level:	3
Description:	The electrical switchgear and panel boards are not inspected on an annual basis to ensure that the equipment is installed in accordance with the listed ratings as per Alliance Standards Part 10 Section 10.13.8 Electrical Inspections
Source of Findings:	Document Review: No inspection records.
Suggested Plan of Action:	Inspect electrical switchgear and panel boards on an annual basis to ensure that the equipment is in good working condition and is installed in accordance with the listed ratings.
Suggested Deadline Date:	20 May 2014
Standard:	Alliance Standards Part 10 Section 10.13.8 Electrical Inspections
Question:	Is a periodical Insulation Resistance Measurement Program established and recorded?
Priority Level:	Medium
Non-Compliance Level:	2
Description:	Periodical Insulation Resistance Measurement Program is not established and recorded as per Alliance Standard Part 10 Section 10.13.4 Insulation Tests and 10.13.8 Electrical Inspections
Source of Findings:	Document Review: No records of Periodical Insulation Resistance Measurement Program
Suggested Plan of Action:	Develop an Insulation Resistance Measurement Program that ensures deterioration of insulation resistance will be identified quickly. Testing should be in compliance with InterNational Electrical Testing Association (NETA). All transformers, switchgears etc. shall be subject to an insulation resistance measurement test to ground after installation but before any wiring is connected. Insulation tests shall be made between open contacts of circuit breakers, switches etc. and between each phase and earth.
Suggested Deadline Date:	20 Jun 2014
Standard:	Alliance Standard Part 10 Section 10.13.4 Insulation Tests and 10.13.8 Electrical Inspections
Question:	Are thermographic scans of electrical equipment completed at least every three years?
Priority Level:	Medium
Non-Compliance Level:	1
Description:	Thermographic scans of electrical equipment are not completed at least every



	three years as per Alliance Standards Part 10 Section 10.13.8 Electrical Inspections
Source of Findings:	Document Review: No records of thermographic scans of electrical equipment
Suggested Plan of Action:	Complete thermographic scans at least on a three year cycle. 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:	20 Jun 2014
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:	2
Description:	The factory management confirmed that they have proper grounding but they could not show main grounding pit, they only showed some grounding cables go through the ground.
Source of Findings:	Document Review: No grounding system diagram available., Visual Assessment: Grounding pit could not be observed.
Suggested Plan of Action:	Provide a grounding riser diagram developed by a qualified engineer identifying proper grounding of all metal in building. Main grounding pit should be examined to assure proper installation of grounding.
Suggested Deadline Date:	20 Jun 2014
Standard:	Alliance Standard Part 10 Section 10.10 Earthing

Question:	Are switchboards and/or distribution boards free of dust and debris?
Priority Level:	Medium
Non-Compliance Level:	2
Description:	Panel boards at the generator room were not free of dirt and debris.
Source of Findings:	Photograph: Dusty Panel board in the factory.
Suggested Plan of Action:	Clean panel boards in generator room to remove dust and debris. Switchboards and/or distribution boards should be kept free of dirt and debris. Covers and doors should be kept closed to prevent entrance of dust. Institute maintenance schedule to ensure no or little dust collection on/in the panels. Summary of Maintenance records must be displayed in the panel and detailed maintenance record should be maintained in central office.





Suggested Deadline Date:	20 Apr 2014	
Standard:	Alliance Standard Part 10 Section 10.3.9.1 Enclosures	
Question:	Electrical connections at equipment, fixtures, etc are properly secured.	
Priority Level:	Medium	
Non-Compliance Level:	2	
Description:	The canopy of many ceiling-fans are open and coils are exposed.	
Source of Findings:	Visual Assessment: The canopy of many ceiling-fans are open and coils are exposed.	
Suggested Plan of Action:	Ceiling fan connections must be covered with incombustible plates. Plates must be larger than the openings to ensure no drippings from the sides (in case of flash or arcing).	
Suggested Deadline Date:	20 May 2014	
Standard:	Alliance Standards Part 10 Section 10.3.1 Electrical Connections	
Question:	The substation room is clean and free from dirt, lint, water, oil, and debris.	
Priority Level:	Medium	
Non-Compliance Level:	1	
Description:	No arrangement to prevent storm or flood water into the substation area.	
Source of Findings:	Visual Assessment: No arrangement to prevent storm or flood water into the substation area observed.	
Suggested Plan of Action:	Arrangement shall be made to prevent storm water entering the transformer and switch rooms through the soak pits, if floor level of the substation is low. Substation should always be kept free from dirt, lint, water, oil, and debris.	
Suggested Deadline Date:	20 May 2014	
Standard:	Alliance Standard Part 13 Section 13.6.2	
Question:	Do switchboards and/or distribution boards have capacity information labels?	
Priority Level:	Medium	
Non-Compliance Level:	1	
Description:	Switchboards and/or distribution boards have no capacity information labels or ratings as per BNBC Part 8.	
Source of Findings:	Photograph: DB cover have no voltage rating in the factory.	



Suggested Plan of Action:	Switchboards and/or distribution boards must be labeled with capacity information labels or ratings. Retain an electrical engineer to determine the ratings and provide proper labels. The permanent label should identify the maximum voltage present in an item of equipment or within the enclosure.	
Suggested Deadline Date:	20 Apr 2014	
Standard:	Alliance Standard Part 10 Section 10.7 Main Switch, Switchboards And Metal Clad Switchgear and 10.13.7 Inspection of the Installation	
Question:	Are electrical insulation mats provided in front of substation, switchboards and/or distribution boards?	
Priority Level:	Low	
Non-Compliance Level:	1	
Description:	There was no mat in front of substation, switchboards and/or distribution boards.	
Source of Findings:	Visual Assessment: There was no mat observed in front of substation, switchboards and/or distribution boards.	
Suggested Plan of Action:	Provide electrical insulation mats in front of all live front switchboards, panels, and distribution boards. As per NFPA 70e, mats of insulating rubber or other suitable floor insulation shall be provided for the operator where the voltage to ground exceeds 150 (Sumerra recommends for 50 Volts).	
Suggested Deadline Date:	20 Apr 2014	
Standard:	Alliance Standard Part 10 Section 10.13.7 Inspection of the Installation.	
Question:	An instruction board for first aid and artificial respiration is located in the generator room and substation room.	
Priority Level:	Low	
Non-Compliance Level:	1	
Description:	There was no instruction board for first aid and artificial respiration in the substation room.	
Source of Findings:	Visual Assessment: There was no instruction board for first aid and artificial respiration observed in the substation room.	
Suggested Plan of Action:	Instruction board for first aid and artificial respiration should be installed in substation room. Reference NFPA 70e.	
Suggested Deadline Date:	20 Apr 2014	
Standard:	A sign detailing electrical shock first aid procedures should be installed in these rooms.	

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