INITIAL ELECTRICAL ASSESSMENT REPORT (EAR)

Factory Name:	**GLOBAL SHIRTS LIMITED**
Address:	**49 (NP) Kalurghat Heavy Industrial Area Kalurghat, Chittagong Chittagong Chittagong Bangladesh**
Assessor:	**Sumerra**
Date:	**11 May 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:	GLOBAL SHIRTS LIMITED
Address:	49 (NP) Kalurghat Heavy Industrial Area Kalurghat, Chittagong Chittagong Chittagong Bangladesh
Country:	Bangladesh
Province:	Chittagong
City:	Chittagong
Zip Code:	
Audit Duration:	2 Days
Re-Audit:	Re-Audit After 0 Months
Draft Report Date :	28-Jun-14
Final Report Date :	July 3, 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) :	8 storied RCC building
Approximate Building Area (SF) :	105,588 Sft. out of this 68,288 Sft. Is used by Mens Fashion Ltd., Rest area commonly used by other four sister concern companies.
Date of Building Construction :	1980
Date of Last Building Renovation/Addition :	2006
Ancillary Structures in Complex :	2
Approximate Ancillary Structures Area (SF) :	3100
Number of Occupants :	1650

Provide brief description of the electrical system for each building.:	This factory is using 3 phase 440 volt commercial power from BPDB. Power has drawn by 300rm cable through energy meter to main CB. A standby 8nos diesel generator, installed north-east side at ground floor, is available to serve AC power in absence of com
Physical location of Substation? :	Substation located at the Ancillary Utilities Building ground floor (North-east side) of the factory.
What equipment/loads does the UPS serve? :	UPS serves emergency lights/exits

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:	1	
Description:	Every DB & SDB has one-line diagram, however, no equipment/electrical layout drawings or grounding layout drawings are available.	
Source of Findings:	Document Review: The factory authority could not provide any kind of electrical layout or drawing.	
Suggested Plan of Action:	Have a qualified electrical engineer develop electrical/equipment layout drawings or grounding layout drawings to supplement the current one-line diagrams	
Suggested Deadline Date:	24 Aug 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:	2	
Description:	The management team informed they have been provided electrical safety trainings with fire training, but could not provide training documentation on site	
Source of Findings:	Document Review: No documented electrical safety training was available for review.	
Suggested Plan of Action:	Develop an electrical safety training program for all workers that may be exposed to electrical safety hazards. Training program should be in line with NFPA 70E: STANDARD FOR ELECTRICAL SAFETY IN THE WORKPLACE or equivalent standard. Agenda, materials, and attendance should be documented and kept on file for review.	
Suggested Deadline Date:	23 Aug 2014	
Standard:	Reference NFPA 70e for example	
Question:	Are thermographic scans of electrical equipment completed at least every	

	three years?
Priority Level:	Medium
Non-Compliance Level:	3
Description:	Thermographic scans have not been conducted.
Source of Findings:	Document Review: No thermographic scans available.
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:	23 Aug 2014
Standard:	Alliance Standards Part 10 Section 10.13.8 Electrical Inspections

Electrical System Conditions

Question:	Shielding or additional insulation is provided for wiring exposed to external heat sources.
Priority Level:	High
Non-Compliance Level:	2
Description:	Power cable pass through very near to the hot steam pipe line without appropriate shielding
Source of Findings:	Photograph: Photo of cabling near steam piping.
Suggested Plan of Action:	In order to avoid the effects of heat from external sources one of the following methods shall be used to protect wiring systems: (1) shielding; (2) placing 900 mm (36 in.) from the source of heat; (3) selecting a system with due regard for the additional temperature rise which may occur; (4) local reinforcement or substitution of insulating material.
Suggested Deadline Date:	23 Aug 2014
Standard:	Alliance Standards Part 10 Section 10.3.4.2 External heat sources.

Question:	The substation room has the required fire rating/protection and is physically separated from the remainder of the building.
Priority Level:	High
Non-Compliance Level:	1
Description:	Transformer/Generator Room: Generator and transformer with sub-station room is in the same room at GF. It is separated by a fire rated wall, however, there is no fire rated door assembly.

Source of Findings:	Visual Assessment: Transformer room not separated with fire rated door assembly.	
Suggested Plan of Action:	It is recommended to retain the services of a qualified fire engineer to design segregations as follows: Generator Room: Generator sets shall be separated from all other occupancy areas by a minimum 2 hour construction.Transformer: Rooms used for the housing of oil-filled transformers shall be in compliance with BNBC Part 4 Section D 15 for high-rise buildings.	
Suggested Deadline Date:	24 Nov 2014	
Standard:	Alliance Standard Part 3 Section 3.4.2.1.4	
Question:	A wire/cable shaft is provided for the whole building. Wiring and cables are arranged in shaft for ease of inspection and maintenance.	
Priority Level:	Medium	
Non-Compliance Level:	3	
Description:	Main cable coming from LT panel to floor DB, SDB is located on uncovered/unprotected cable ladder at exterior of building.	
Source of Findings:	Photograph: Main cable coming from LT panel to floor DB, SDB.	
Suggested Plan of Action:	Recommend that cables from LT panel to floor DB and SDB be protected from elements and interior wire/cable shaft be installed for transfer of cabling between floors. Buildings over six-story or 20 m (65 ft) high shall have a minimum of one vertical shaft of 200 mm x 400 mm size for every 1500 m2 floor areas.	
Suggested Deadline Date:	25 Nov 2014	
Standard:	BNBC Part 8 Section 2.5.6.1	
Question:	Are junction boxes and other electrical devices provided with covers?	
Priority Level:	Medium	
Non-Compliance Level:	3	
Description:	Covers are not provided for cable trays.	
Source of Findings:	Photograph: Photo of uncovered cable tray	
Suggested Plan of Action:	Clean dust from cable trays and install fitted covers.	
Suggested Deadline Date:	28 Sep 2014	
Standard:	Alliance Standard Part 10 Section 10.3.5 and 13.6.2	

Question:	Power and telecommunication or antenna cables are led in separately.
Priority Level:	Medium
Non-Compliance Level:	2
Description:	Power and telephone cable are led in together.
Source of Findings:	Photograph: Photo of power and telephone cable are led along
Suggested Plan of Action:	Led telecommunication or antenna cables separately to the main point of service. Power and telecommunications cables must have separate entrance.
Suggested Deadline Date:	23 Aug 2014
Standard:	Alliance Standards Part 10 Section 10.3.10 Service Entry

Question:	Do switchboards and/or distribution boards have clear identification markings?
Priority Level:	Medium
Non-Compliance Level:	1
Description:	Most of the DB and main switches are already labeled/marked. However labeling or marking is not indicated at embroidery room & boiler room. Switch board at 1st floor dining room (beside compressor room)do not have labeling & marking.
Source of Findings:	Photograph: Photo of DB in boiler room
Suggested Plan of Action:	DB and Main switches in the embroidery room, boiler room and 1st floor dining room shall be marked "Lighting" or "Power", as the case may be, provided a unique ID number (e.g. MDB-1) and also be marked with the voltage and number of phases of the supply. Each shall be provided with a circuit list giving diagram of each circuit which it controls and the current rating for the circuit and size of fuse element (panel schedule).
Suggested Deadline Date:	26 Jul 2014
Standard:	Alliance Standard Part 10 Section 10.7 BNBC Part 8 Section 2.11.5.4

Question:	Electrical wiring and conduit is properly supported.
Priority Level:	Medium
Non-Compliance Level:	1
Description:	Embroidery room has cable that is not secured/supported and may put stress on terminal junction.
Source of Findings:	Photograph: Photo of conduit in embroidery room
Suggested Plan of Action:	Flexible conduits such as found in embroidery room must be firmly affixed to the walls. Secure conduit with saddles or other secure connections.

Suggested Deadline Date:	23 Aug 2014	
Standard:	Alliance Standard Part 10 Section 10.3.2, 10.3.4.3, and 10.3.5	
Question:	Electrical connections at equipment, fixtures, etc are properly secured.	
Priority Level:	Medium	
Non-Compliance Level:	1	
Description:	Poor electric wiring for welding machine at accessories store beside fire water pump. Welding machine is improperly connected to switch box.	
Source of Findings:	Photograph: Photo of poor electical connnection for welding machine	
Suggested Plan of Action:	Immediately remove welding connection. Welding machine should be connected through plug and socket connection or permenant connection can be made with dedicated circuit and junction box.	
Suggested Deadline Date:	26 Jul 2014	
Standard:	Alliance Standards Part 10 Section 10.3.1 Electrical Connections	
Question:	Mechanical guards are provided for electrical equipment and wiring where necessary.	 
Priority Level:	Medium	
Non-Compliance Level:	1	
Description:	Power cable passing through window at washing unit Power cable pass through unrepaired wall.	
Source of Findings:	Photograph: Photo of power cable passing through window at washing unit Photo of power cable pass through unrepaired wall.	
Suggested Plan of Action:	Remove any flexible cords passing through holes, doorways, windows. Flexible cords should not run through building penetrations without proper protection (conduit - PVC or GI pipe)	
Suggested Deadline Date:	23 Aug 2014	
Standard:	Alliance Standard Part 10 Section 10.3 Electrical Wiring and Cabling, 10.6.5 Cables, and 10.7 Main Switch, Switchboards And Metal Clad Switchgear	
Emergency Power System		
Question:	Is the generator exhaust discharged to the exterior of the building in a safe location	
Priority Level:	High	

Non-Compliance Level:	3	
Description:	Exhaust from generator is not discharged to exterior area.	
Source of Findings:	Visual Assessment: Exhaust observed to be released into generator room	
Suggested Plan of Action:	All exhaust systems shall discharge to the exterior of the building in a safe location. Exhaust shall be in accordance with NFPA 37.	
Suggested Deadline Date:	23 Aug 2014	
Standard:	Alliance Standards Part 3 Section 3.4.2.1.3 Generators	
Question:	Are emergency power switchboards, distribution boards, and circuits properly identified?	
Priority Level:	High	
Non-Compliance Level:	3	
Description:	Emergency switchboards, distribution boards and circuits are not properly identified as part of emergency power system.	
Source of Findings:	Visual Assessment: No identification as part of emergency system.	
Suggested Plan of Action:	All boxes and enclosures (including transfer switches, generators, and power panels) for emergency circuits shall be permanently marked so they will be readily identified as a component of an emergency circuit or system. The required marking can be by color code, the words “emergency system,” or any other method that identifies the box or enclosure as a component of the emergency system.	
Suggested Deadline Date:	26 Jul 2014	
Standard:	NFPA 70 Chapter 7 Article 700.10 Wiring, Emergency System	
Question:	Are inspection, maintenance, and testing procedures of the emergency generator being completed and documented?	
Priority Level:	Low	
Non-Compliance Level:	2	
Description:	As per electrical engineer of the factory, inspection, maintenance and testing are being completed, but no documentation found (Only refueling log is found).	
Source of Findings:	Document Review: No generator testing records were available for review.	
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 Generator testing and maintenance should be fully documented and available for review.	

Suggested Deadline Date:	23 Aug 2014	
Standard:	NFPA 110 Chapter 8	