

INITIAL ELECTRICAL ASSESSMENT REPORT (EAR)

Factory Name: **Needle Art Embroidery Ltd (New Location)**
Address: **Neelnagar, Konabari, Gazipur Gazipur Dhaka
Bangladesh**
Assessor: **Uttaron Technologies**
Date: **19 Jan 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.



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ALLIANCE
 FOR BANGLADESH WORKER SAFETY

GENERAL INFORMATION

General Information	
Factory Name:	Needle Art Embroidery Ltd (New Location)
Address:	Neelnagar, Konabari, Gazipur Gazipur Dhaka Bangladesh
Country:	Bangladesh
Province:	Dhaka
City:	Gazipur
Zip Code:	1346
Audit Duration:	1 Days
Re-Audit:	Re-Audit After 0 Months
Draft Report Date :	19-Jan-2014
Final Report Date :	Update once final report is complete (after all comments incorporated).
Are all action items from previous assessment complete? :	N/A
Buildings in Complex :	One
Is the building(s) owned or rented by the Factory?:	Owned
Number of Building Levels (Stories) :	One
Approximate Building Area (SF) :	7200 sq ft
Date of Building Construction :	Constructed three years ago (2011)
Date of Last Building Renovation/Addition :	N/A
Ancillary Structures in Complex :	No
Approximate Ancillary Structures Area (SF) :	N/A
Number of Occupants :	95 people

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ASSESSMENT FINDINGS

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:	1	
Description:	Workers that operate and maintain the electrical system received no electrical safety training and no documents were found at site in connection with training.	
Source of Findings:	Photograph: NFPA 70E Guide Lines, Visual Assessment: No record found.	
Suggested Plan of Action:	Develop and implement an electrical safety program; maintain documentation on site.	
Suggested Deadline Date:	15 Sep 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:	Such programs have not been witnessed in this factory.	
Source of Findings:	Visual Assessment: No previous thermographic scan report was found.	
Suggested Plan of Action:	Complete thermographic scans at least on a three year cycle and maintain documentmation. 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:	15 Sep 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:	1	



Description:	Periodic electrical maintenance inspections were not observed.
Source of Findings:	Visual Assessment: No records found.
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:	15 Sep 2014
Standard:	Alliance Standard Part 10 Section 10.13.4 Insulation Tests and 10.13.8 Electrical Inspections
Question:	A transformer oil analysis is routinely completed on main service transformers.
Priority Level:	Low
Non-Compliance Level:	1
Description:	Transformer oil analysis is not known to have been preformed.
Source of Findings:	Visual Assessment: Oil test record was not found.
Suggested Plan of Action:	Complete an oil analysis on applicable transformers at appropriate intervals based on voltage and power and maintain documentation.
Suggested Deadline Date:	15 Sep 2014
Standard:	Alliance Standard Part 10 Section 10.13.8 Electrical Inspections

Electrical System Conditions

Question:	Indications of overheating, overloading, or signs of burning were not observed.
Priority Level:	High
Non-Compliance Level:	3
Description:	Details are in the thermographic scan report.
Source of Findings:	Uploaded Document: Thermographic scan report.
Suggested Plan of Action:	Recommend you engage a licensed electrician or electrical contracting firm to rectify all non conforming and unsafe electrical works throughout the entire complex
Suggested Deadline Date:	15 Sep 2014
Standard:	Alliance Standard Part 10 Section 10.3.5





Question:	Is electrical wiring/cables sized according to capacity of circuit breakers (No higher rated circuit breakers with lower rated wiring)?	
Priority Level:	High	
Non-Compliance Level:	3	
Description:	Cabel is not sized according to capacity of CBS. Location: MDB-01/NAEL, SDB-01/NAEL, SDB-02/NAEL, SDB-03/NAEL	
Source of Findings:	Visual Assessment: Higher rated circuit breakers with lower rated wiring was found.	
Suggested Plan of Action:	Consult with a qualified Electrical Engineer and ensure electrical cables are sized according to capacity of circuit breakers.	
Suggested Deadline Date:	30 Sep 2014	
Standard:	Alliance Standard Part 10 Section 10.3.1 Electrical Connections.	
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:	3	
Description:	All metal in the building is not properly earthed.	
Source of Findings:	Visual Assessment: All metal in the building is not connected to the building earthing/grounding system.	
Suggested Plan of Action:	Provide earthing/grounding system for all metal in the building.	
Suggested Deadline Date:	15 Sep 2014	
Standard:	Alliance Standard Part 10 Section 10.10 Earthing	
Question:	All equipment is efficiently earthed and properly connected to the required number of earth electrodes.	
Priority Level:	High	
Non-Compliance Level:	2	
Description:	Equipment is not earthed properly. Location: MDB-01/NAEL	
Source of Findings:	Visual Assessment: All equipment is not efficiently earthed.	
Suggested Plan of Action:	Provide earthing of equipment at required locations and connect to required number of electrodes. Refer to the BNBC for required number of electrodes.	



Suggested Deadline Date:	15 Sep 2014	
Standard:	Alliance Standard Part 10 Section 10.13.7.1 Inspection of Substation Installations.	
Question:	Shielding or additional insulation is provided for wiring exposed to external heat sources.	
Priority Level:	High	
Non-Compliance Level:	1	
Description:	Shielding or additional insulation was not provided for wiring exposed to external heat sources.	
Source of Findings:	Visual Assessment: Insulation is not provided for the cables and wiring where needed.	
Suggested Plan of Action:	Provide insulation/sheilding for the cables and wiring where needed.	
Suggested Deadline Date:	31 Aug 2014	
Standard:	Alliance Standards Part 10 Section 10.3.4.2 External heat sources.	
Question:	Are all switchboards and/or distribution boards properly grounded (earthed)?	
Priority Level:	Medium	
Non-Compliance Level:	3	
Description:	Switchboards and/or distribution boards are not properly grounded (earthed). Location: MDB-01/NAEL, SDB-01/NAEL, SDB-02/NAEL, SDB-03/NAEL	
Source of Findings:	Photograph: All switchboards and/or distribution boards are not properly grounded (earthed).	
Suggested Plan of Action:	Provide grounding (earthing) for distribution boards as per BNBC section 2.8.1	
Suggested Deadline Date:	15 Sep 2014	
Standard:	Alliance Standard Part 10 Section 10.10.2 Circuit and System Earthing	
Question:	Do switchboards and/or distribution boards have capacity information labels?	
Priority Level:	Medium	
Non-Compliance Level:	3	
Description:	Switchboards and/or distribution boards have no capacity information labels. Location: ALL LT,MDB,DB,SDBs	





Source of Findings:	Visual Assessment: Switchboards and/or distribution boards have no capacity information labels.	
Suggested Plan of Action:	Provide capacity information labels (Maximum current rating, no of circuit breakers etc.) for switchboards and distribution boards.	
Suggested Deadline Date:	31 Aug 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 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:	3	
Description:	No physical means were found to limit the installation of additional over current protective device. Location: All DBs.	
Source of Findings:	Visual Assessment: No physical means were found.	
Suggested Plan of Action:	Ensure 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 following NFPA 70 section 408.54.	
Suggested Deadline Date:	15 Sep 2014	
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:	3	
Description:	Circuits are not provided with a dedicated neutral for each load. Location: MDB-01/NAEL, SDB-01/NAEL, SDB-02/NAEL, SDB-03/NAEL	
Source of Findings:	Visual Assessment: Circuits are not provided with a dedicated neutral for each load.	
Suggested Plan of Action:	Provide dedicated neutral for each circuit.	
Suggested Deadline Date:	15 Sep 2014	
Standard:	Alliance Standards Part 10 Section 10.3 Electrical Wiring and Cabling	



Question:	Are electrical wiring/cables properly identified?
Priority Level:	Medium
Non-Compliance Level:	3
Description:	Electrical wiring/cables are not properly identified. Location: MDB-01/NAEL, SDB-01/NAEL, SDB-02/NAEL, SDB-03/NAEL
Source of Findings:	Photograph: Electrical wiring/cables are not properly identified.
Suggested Plan of Action:	Provide color code identification for all cables. For phase conductors use Red , Yellow, Blue, For Neutral conductors use black and For Grounding cable use green dotted yellow.
Suggested Deadline Date:	15 Sep 2014
Standard:	Bangladesh Electricity Rules 1937 Rule 51 and 56
Question:	Stranded conductors having a nominal cross-sectional area 6mm ² or greater are provided with cable sockets. Conductors below 6 mm ² without cable sockets, all strands at the exposed ends are soldered together or are crimped using suitable sleeve or ferrules.
Priority Level:	Medium
Non-Compliance Level:	3
Description:	In MDB/DB/SDBs cables were not found to be attached using splicing joint at their busbar with using cable lugs. Location:SDB-01/NAEL, SDB-02/NAEL, SDB-03/NAEL
Source of Findings:	Photograph: Cable sockets not used to terminate the cables in MCCB for some of the distribution boards.
Suggested Plan of Action:	Reconnect cables with properly sized cable sockets.
Suggested Deadline Date:	15 Sep 2014
Standard:	Alliance Standards Part 10 Section 10.3.8.3 Cable Ends
Question:	Is all electrical wiring/cable properly terminated at its point of termination (No un-terminated wires, lugs are provided at terminals, etc)?
Priority Level:	Medium
Non-Compliance Level:	3
Description:	Electrical wiring/cable is not properly terminated. Location:SDB-01/NAEL, SDB-02/NAEL, SDB-03/NAEL
Source of Findings:	Photograph: Cable is connected without lugs.





Suggested Plan of Action:	Ensure all electrical wiring/cable properly terminated at its point of termination.	
Suggested Deadline Date:	15 Sep 2014	
Standard:	Alliance Standards Part 10 Section 10.3.9.2 Wiring of Sub-distribution Boards	
Question:	Phase separators are provided between terminals on circuit breakers.	
Priority Level:	Low	
Non-Compliance Level:	3	
Description:	Phase separators not found for circuit breakers. Location: MDB-01/NAEL	
Source of Findings:	Photograph: Phase Separator is not fixed on circuit breakers.	
Suggested Plan of Action:	Install phase separators between terminal connections at the noted locations.	
Suggested Deadline Date:	15 Sep 2014	
Standard:	Alliance Standard Part 10 Section 10.3.1 Electrical Connections	
Question:	Are meters and other electrical devices (Ammeter, Voltmeter, PFI Auto Controller, etc) installed on the main electrical equipment operational?	
Priority Level:	Low	
Non-Compliance Level:	2	
Description:	Ammeters and voltmeter are not working in this factory. Location: MDB-01/NAEL	
Source of Findings:	Photograph: Meters and other electrical devices (Ammeter, Voltmeter, PFI Auto Controller, etc) are not installed.	
Suggested Plan of Action:	Ensure meters and other electrical devices are installed on the main electrical equipment and are operational.	
Suggested Deadline Date:	31 Aug 2014	
Standard:	Alliance Standard 10.13.7 Inspection of the Installation	
Question:	Signage indicating the prohibition of light fixtures without protective covers is installed at required locations.	
Priority Level:	Low	
Non-Compliance Level:	1	
Description:	Signage is not provided indicating the prohibition of light fixtures without protective covers in required areas.	



Source of Findings:	Visual Assessment: No indication of prohibition of light fixtures with protective covers.
Suggested Plan of Action:	Install signs posted in Bengali and English, indicating this prohibition at all entrances to the prohibited areas.
Suggested Deadline Date:	15 Aug 2014
Standard:	Alliance Standards Part 10 Section 10.15 Naked Lights

Emergency Power System

Question:	Are emergency power switchboards, distribution boards, and circuits properly identified?
Priority Level:	High
Non-Compliance Level:	3
Description:	No identification evident for emergency power switchboards, distribution boards and circuits.
Source of Findings:	Visual Assessment: No identification evident here in all areas.
Suggested Plan of Action:	Provide permanent and proper identification for emergency power switchboards, distribution boards and circuits for the system.
Suggested Deadline Date:	15 Aug 2014
Standard:	NFPA 70 Chapter 7 Article 700.10 Wiring, Emergency System