

ELECTRICAL SAFETY INSPECTION REPORT

ESSENTIAL CLOTHING LTD. (EXTENSION)

Akulichala, Sakashor, Maddha Para, Kaliakoir, Gazipur

GPS Coordinates:24.063326 90.314957



Factory List: Essential Clothing Ltd. (Extension), ID:24541
Essential Clothing Ltd., ID: 12289

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Reviewed by : Banna Kasemi
Approved by : Banna Kasemi

Inspected on: January 23, 2023

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1. INTRODUCTION

The Factory was surveyed for electrical safety by RMG Sustainability Council. The purpose of the survey was to identify significant electrical safety issues and to provide recommendations for remediation based on applicable standards specified by the RSC.

Electrical Safety Audit is a methodical approach to evaluate potential electrical hazards and to recommend suggestions for improvement. The scope of this initial electrical safety inspection was limited to the review and identification of major electrical safety issues. The inspection did not include identification of minor deficiencies, which would be further dealt with as part of follow-up inspections.

2. LIMITATIONS

The information in this electrical safety inspection report was obtained during a visit to the facility and during discussion with local factory management. Services performed by the auditors are conducted in a manner consistent with that level of care and skill generally exercised by members of the engineering and auditing profession. However, an effort has made to discover all meaningful areas under the stipulated time available.

In evaluating subject site, Inspector relies in good faith on information provided by factory management or employees. The Inspector assumes that the information provided is factual, accurate and accepts no responsibility for any deficiency, misstatement or inaccuracies contained in this report as a result of omission or misrepresentation of any person interviewed or contacted.

The findings and recommendations in this report are not intended to imply, guarantee, ensure or warrant compliance with any government regulations. Additionally, the results do not imply in any way that compliance with the findings or recommendations as stated in this report will eliminate all risks or exposures not referred to in this report do not exist. Compliance with the findings and recommendations stated in this report does not relieve the factory owner from obligation to comply with specific project requirements, industry standards, or the provisions of any local government regulations.

3. DEFINITION

3.1. TIME FRAME

The amount of time being allocated based on the remediation work volume of the electrical issues considering the feasibility and ideal status of materials, capital and working condition. Criticality and priority level of the issue is not taken into consideration. It is bound only for the particular finding unless mentioned 'typical', shall include the whole typical findings.

3.2. PRIORITY LEVEL

- 3.2.1. Electrical issues related to code violation and/or non-conformity with codes possessing immediate fire hazard, direct threat to human safety, shall be considered as **P1** Level of priority. The execution of remediation works shall commence immediately without compromising with any other issues and must strictly complete within the allocated remediation time frame. It shall include only the critical issues
- 3.2.2. Electrical issues related to code violation and/or non-conformity with codes, protection of electrical switchgears and equipment, spatial arrangement and location of switchgears and equipment, design and drawings, shall be considered as **P2** Level of priority. The execution of remediation work of **P2** shall commence along with or soon after the **P1** level remediation work has commenced. It shall include only the moderately-critical issues.
- 3.2.3. Electrical issues related to violation of code and/or non-conformity with codes, workmanship of operation and maintenance and obsolete technology of electrical system, shall be considered as **P3** Level of priority. The execution of remediation work of **P3** shall commence along with or soon after the **P2** level remediation work has commenced. It shall include only the non-critical issues.
- 3.2.4. It doesn't take into consideration the remediation time frame and feasibility of remediation. It doesn't take into consideration the capital, materials and working environment.

4. GENERAL BUILDING INFORMATION

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|-----------------------------------|---|--|
| 1. Factory Name | : | Essential Clothing Ltd. (Extension) |
| 2. Factory Address | : | Akulichala, Sakashor, Maddha Para, Kaliakoir, Gazipur |
| 3. ID | : | 24541 |
| 4. Inspection participates | : | <p>Md. Matiur Rahman Robin
 Director
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5. BUILDING DATA

A. General

Essential Clothing Ltd. (Extension) is established in its 5 single storied Sheds (Printing Shed With Security Building, Dining Shed, Diesel Storage Room, ETP Blow Room Over Head Water Reservoir). As reported by the Factory Management, Building 4, 5 & 13 were constructed in around February 2017 and the production began in around March 2017. Building 10 & 11 were constructed in around November 2022 and the production began in around December 2022. During the time of the Inspection, the factory accommodated a total of 330 workers working in this factory.

The floor wise utilization of the buildings are as detailed below:

Building-4: Printing Shed With Security Building (1624.53 m2):

Ground Floor	:	Warehouse, Printing, Doctors & Daycare Room, HR & Security
Mezzanine Floor	:	Office

Building-5: Dining Building (394.64 m2):

Ground Floor	:	Dining
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Building-10: Diesel Storage Room (12.37 m2):

Ground Floor	:	Diesel Storage
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Building-11: ETP Blow Room (6.77 m2):

Ground Floor	:	ETP Blow Room
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Building-13: Over Head Water Reservoir (18.2 m2):

Ground Floor	:	Water Reservoir
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FLOOR LAYOUT INFORMATION

The single storied (M+G) i.e. Building-4 is 23 feetsl tall and has a total floor area of approx. 1624.53 m2. Figure 1 shows the ground floor layout plan of the factory:



Figure 1: Floor layout plan

ELECTRICAL SYSTEM & UTILITY INSTALLATION INFORMATION

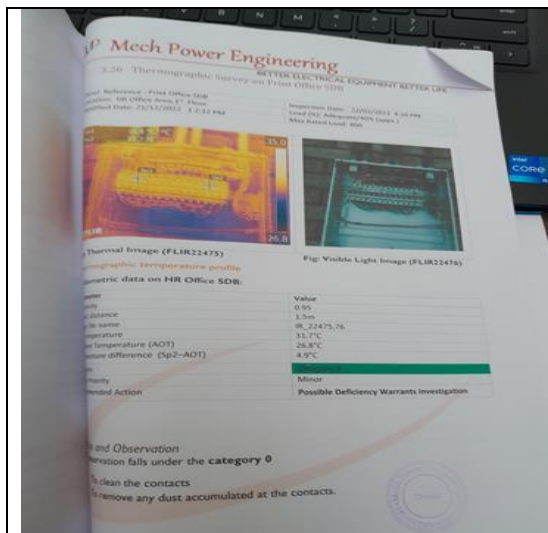
Essential Clothing Ltd. (Extension) premise is connected to grid (REB) supply, the connection is supplied from Substation of Essential Clothing Ltd. (ID:12289), which is already covered by RSC inspection previously.

The whole utility system including Generators, Transformers, Boilers and Compressor is shared with previously mentioned factory.

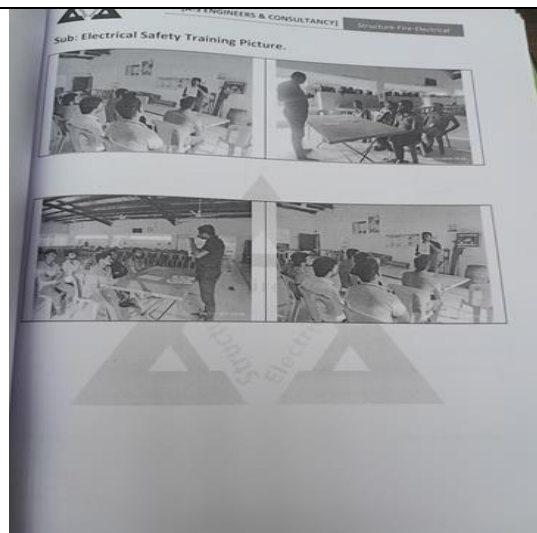
B. ELECTRICAL PRACTICES IN OPERATION AND MAINTENANCE

Maintenance and Operations is done by in-house electrical and maintenance team of the factory. However, the maintenance of major equipment like transformer, generator and boilers are sometimes outsourced to the service centers.

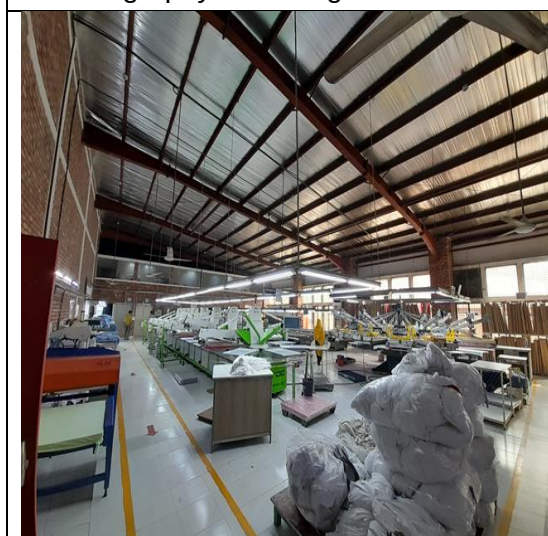
Inspecting teams were presented with the maintenance programs, logs and maintenance schedule of the factory's electrical facilities; Some typical practices are shown below.



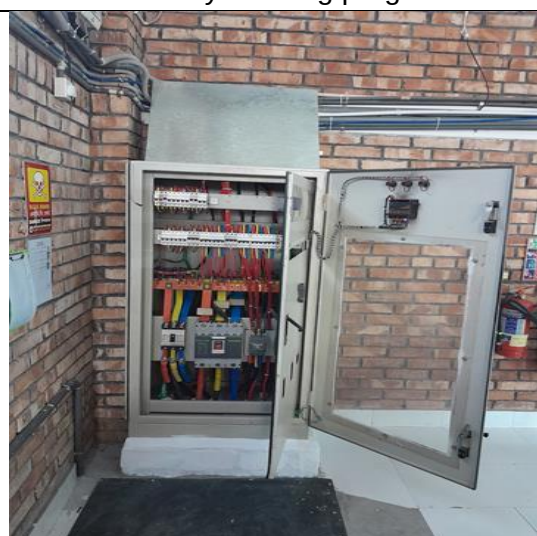
Thermography Scanning Test



Electrical Safety Training program



Electrical wiring duct with LED tube light shed.



Typical electrical panel in production floors.

6. LIGHTNING PROTECTION RISK ASSESSMENT

Calculation of Risk Index Factor (BNBC 2006) for Building-4			
Index A	Use of Structure	Small and medium size factories, workshops and laboratories	6
Index B	Type of Construction	Steel framed encased or reinforced concrete with metal roof	5
Index C	Contents or Consequential Effects	Industrial and agricultural buildings with specially susceptible contents	5
Index D	Degree of Isolation	Structure located in an area with a few other structures or trees of similar height	5
Index E	Type of Terrain	Flat terrain at any level	2
Index F	Height of Structure	Up to 9 m	2
Index G	Lightning Prevalence	Over 21	21
	Total Risk Index of the building		46
Requirement of installing LPS		Yes	

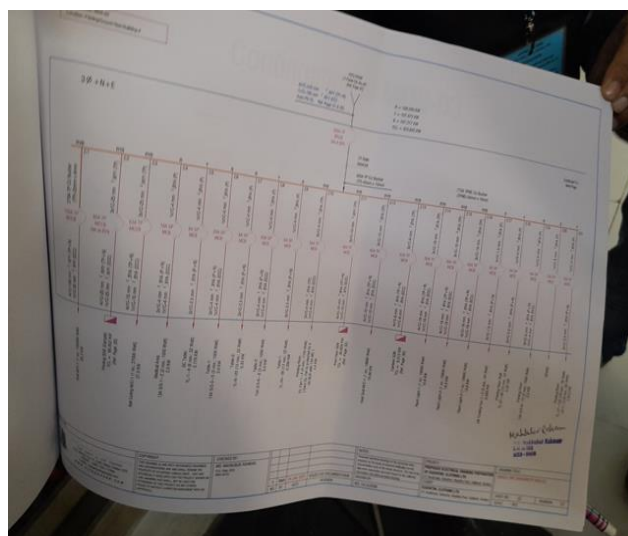
It is required to calculate risk index for all structures, design LPS as per standard and install it properly.

7. FINDINGS AND RECOMMENDATIONS

The table below summarizes the major electrical hazards identified during the walk through inspection. Recommendations have been provided to each finding.

The implementation schedule shall be developed by the factory to remediate each of the findings. The specific timing of improvements, including any requested extensions due to design / installation constraints, shall be submitted to the RSC for an approval.

FINDING NO:	E - 1
CATEGORY:	DOCUMENTATION
FINDING:	Field information has less reflection in existing SLD.
RECOMMENDATION:	Draw as built electrical SLD mentioning all required information by qualified engineer and get it reviewed by RSC. Electrical SLD must be updated properly when electrical system is modified.
PRIORITY:	P2
REMEDIATION TIME FRAME:	3 MONTHS



FINDING NO:	E - 2
CATEGORY:	LIGHTNING PROTECTION SYSTEM
FINDING:	Zone protection Calculation of Lightning Protection System is not mentioned for Dinning Shed.
RECOMMENDATION:	Factory shall calculate the Zone protection calculation for dinning shed and LPS is designed properly, installation must be done accordingly if required or keep the updated drawing in factory for next follow-up.
PRIORITY:	P2
REMEDIATION TIME FRAME:	1 MONTH

