

# ELECTRICAL SAFETY INSPECTION REPORT

## YOUNGONE HI-TECH SPORTSWEAR INDUSTRIES LTD

Dhaka Export Processing Zone (DEPZ), Savar, Dhaka-1349, Bangladesh



### Factory List:

1. Youngone Hi-Tech Sportswear Industries Ltd.

Inspected by: Pema Wangdi & Sherab Tenzin

Report Generated by: Pema Wangdi & Sherab Tenzin

**Inspected on August 19<sup>th</sup> 2014**

## SUMMARY

The Youngone Hi-Tech Sportswear Industries Ltd. factory is established in a five storied (G+4) building. The factory shares the generator room and the transformer room with sister concern factory (Savar Dyeing & Finishing) which are established in two different buildings.

The construction of the building began in 1993 and was completed in 1996. The production has also started in early 1996. The buildings were formally approved for industrial purpose. During the time of the inspection the factory accommodated a total of about 9248 workers, working on regular basis.


The Factory was surveyed for electrical safety by Woosun Energy and Construction Co., Ltd. (WEC). 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 Accord. 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 will be further addressed as part of follow-up inspections.


Table below summarizes the major electrical safety issues identified during the inspection. Recommendations have been provided to address each issue.


An 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 Accord for approval.


## FINDINGS AND RECOMMENDATIONS



<b>FINDING NO: E- 1</b>
<b>CATEGORY: DESIGN, DRAWINGS &amp; RECORDS</b>
<b>FINDING:</b> 1. Thermo graphic scanning of the entire electrical system has not been performed 2. Insulation resistance test of electrical equipment is not performed 3. Electric safety program is not initiated
<b>RECOMMENDATION:</b> 1. Thermo graphic scanning of the entire electrical system must be performed on tri-annual basis and recorded 2. Insulation resistant test of all the cables must be performed once every 5 year cycle and recorded 3. Electrical safety training and awareness program for the electrical personal and workers must be initiated and recorded
<b>PRIORITY: P1</b>
<b>REMEDIATION TIME FRAME: 25 WEEKS</b>

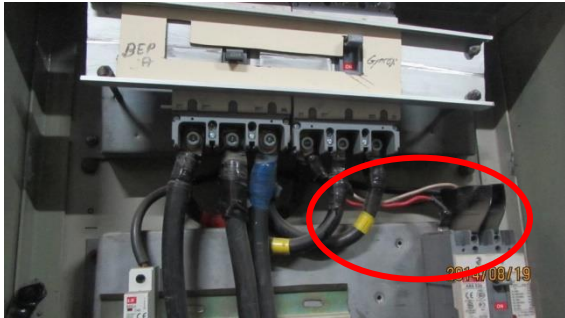

<b>FINDING NO: E- 2</b>	
<b>CATEGORY: CABLE AND SUPPORT</b>	
<b>FINDING:</b> Cables not protected while transferring from trench to ladder.	
<b>RECOMMENDATION:</b> Provide rigid protective cover while transferring the cables to ladder. Cables protected in flexible PVC pipe must be replaced and protected in steel pipe laid on the floor/supported on the ladder.	
<b>PRIORITY: P2</b>	
<b>REMEDIATION TIME FRAME: 12 WEEKS</b>	Cables in generator room.

<b>FINDING NO: E- 3</b>	
<b>CATEGORY: GENERATOR ROOM</b>	
<b>FINDING:</b> Panel baseplates removed to allow cable entry.	
<b>RECOMMENDATION:</b> Install baseplate of panel to fix the cable on it with glands of required size. Cables at short distance may be protected in rigid/PVC flexible pipe properly supported.	
<b>PRIORITY: P2</b>	
<b>REMEDIATION TIME FRAME: 12 WEEKS</b>	Generator output terminal box



<b>FINDING NO: E- 4</b>	
<b>CATEGORY: GENERATOR ROOM</b>	
<b>FINDING:</b> Inadequate illumination and working space around the generators and storage in the room.	
<b>RECOMMENDATION:</b> Illumination inside generator should be provided for easy maintenance and inspection. Combustible material storage must be removed from the room.	
<b>PRIORITY: P1</b>	
<b>REMEDIATION TIME FRAME: 1 WEEK</b>	Gas generator room in the ground floor.


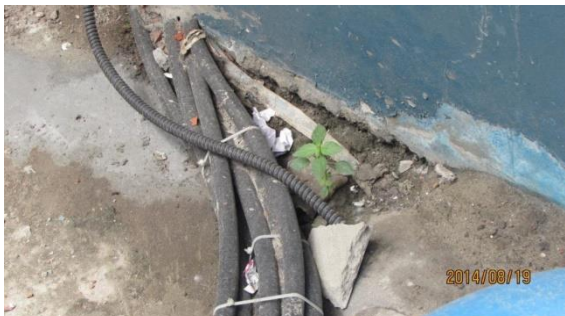
<b>FINDING NO: E- 5</b>	
<b>CATEGORY: CABLE AND SUPPORT</b>	
<b>FINDING:</b> Cables are laid on the floor without mechanical guard.	
<b>RECOMMENDATION:</b> Install cable tray/trench to lay the existing cables by covering with noncombustible covers. Layers of cable tray may be installed to arrange the cables for proper termination at respective panels.	
<b>PRIORITY: P2</b>	
<b>REMEDIATION TIME FRAME: 12 WEEKS</b>	Cables are laid on the floor.


<b>FINDING NO: E- 6</b>	  <p>The cable entry/exit point is not sealed.</p>
<b>CATEGORY: DISTRIBUTION PANEL</b>	
<b>FINDING:</b> Baseplate/top cover removed for cable entry.	
<b>RECOMMENDATION:</b> Install the baseplate/top cover to fix the cables entering the panel with glands of required size. Cables must be fixed with glands to prevent insulation damage.	
<b>PRIORITY: P3</b>	
<b>REMEDiation TIME FRAME: 3 WEEKS</b>	


<b>FINDING NO: E- 7</b>	 
<b>CATEGORY: CABLE AND SUPPORT</b>	
<b>FINDING:</b> Supply looping done on MCCB inside the panel.	
<b>RECOMMENDATION:</b> Individual connection should be taken from bus bar for individual circuit breaker.	
<b>PRIORITY: P3</b>	
<b>REMEDiation TIME FRAME: 3 WEEKS</b>	





<b>FINDING NO: E- 8</b>	
<b>CATEGORY: CABLE AND SUPPORT</b>	
<b>FINDING:</b> Storage near the panels.	
<b>RECOMMENDATION:</b> Remove away all the storage materials from the panel.	
<b>PRIORITY: P3</b>	
<b>REMEDATION TIME FRAME: 1 WEEK</b>	 <p>Combustible materials near the panel board.</p>


<b>FINDING NO: E- 9</b>	
<b>CATEGORY: CABLE AND SUPPORT</b>	
<b>FINDING:</b> Cables are laid on the ground without protection and support.	
<b>RECOMMENDATION:</b> Cables laid on the ground may be protected in metallic conduit laid over the ground/ the cables may be buried underground at least 600 mm depth.	
<b>PRIORITY: P2</b>	
<b>REMEDATION TIME FRAME: 12 WEEKS</b>	 <p>Cables from distribution panel entering compressor room.</p>


<b>FINDING NO: E- 10</b>	
<b>CATEGORY: TRANSFORMER ROOM</b>	
<b>FINDING:</b> Silica gel in transformer breather becomes discolor.	
<b>RECOMMENDATION:</b> Need to replace by fresh silica-gel (blue color).	
<b>PRIORITY: P3</b>	
<b>REMEDIATION TIME FRAME: 3 WEEKS</b>	Discolored silica gel.

<b>FINDING NO: E- 11</b>	
<b>CATEGORY: CABLE AND SUPPORT</b>	
<b>FINDING:</b> Wooden cable duct protecting electrical shaft.	
<b>RECOMMENDATION:</b> Remove and replace the existing wooden duct by metallic ladder/duct to properly support the cables entering various floors. Cables must be arranged and properly latched to ladder for support.	
<b>PRIORITY: P2</b>	
<b>REMEDIATION TIME FRAME: 12 WEEKS</b>	Electrical shaft entering main distribution room.

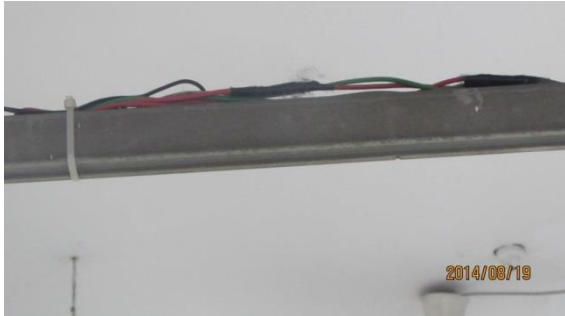
<b>FINDING NO: E- 12</b>	
<b>CATEGORY: CABLE AND SUPPORT</b>	
<b>FINDING:</b> Cables inside open cable trench.	
<b>RECOMMENDATION:</b> Cable trench must be covered by concrete slab/checkered plate to protect the cables and to prevent ingress of dust and lint.	
<b>PRIORITY: P2</b>	
<b>REMEDIATION TIME FRAME: 12 WEEKS</b>	Open cable trench inside the transformer room.


<b>FINDING NO: E- 13</b>	
<b>CATEGORY: SWITCHBOARD AND PANEL</b>	
<b>FINDING:</b> Hot spots detected at terminal of changeover switch due to overloading and loose connection.	
<b>RECOMMENDATION:</b> Inspection is needed to identify exact reason for creating high temperature. In case of overloading; select the power cables by calculating the connected load or in case of loose connection; tighten the loose connection.	
<b>PRIORITY: P1</b>	
<b>REMEDIATION TIME FRAME: 1 WEEK</b>	Changeover switches connecting REB and Generator line.


<b>FINDING NO: E- 14</b>	
<b>CATEGORY: SWITCHBOARD AND PANEL</b>	
<b>FINDING:</b> Multiple cables are terminating to the MCCB terminal.	
<b>RECOMMENDATION:</b> Multiple cables connecting at a MCCB terminal must be removed. Individual circuit breaker must be used for each load according to the respective cable-size.	
<b>PRIORITY: P2</b>	
<b>REMEDIATION TIME FRAME: 3 WEEKS</b>	Bunching at MCCB terminal.

<b>FINDING NO: E- 15</b>	
<b>CATEGORY: CABLE AND SUPPORT</b>	
<b>FINDING:</b> Cables supported on steam pipe line.	
<b>RECOMMENDATION:</b> Install cable tray to separately support and protect the cables terminating to distribution panel. Maintain safe distance (900 mm) between the steam line and the cable support.	
<b>PRIORITY: P2</b>	
<b>REMEDIATION TIME FRAME: 3 WEEKS</b>	Cables protected in sanitary near the main building.



<b>FINDING NO: E- 16</b>	
<b>CATEGORY: CABLE AND SUPPORT</b>	
<b>FINDING:</b> No cover on cable duct.	
<b>RECOMMENDATION:</b> Provide cover made of noncombustible material on the channel for preventing ingress of dust and debris in future.	
<b>PRIORITY: P2</b>	
<b>REMEDIATION TIME FRAME: 12 WEEKS</b>	Open cable duct in production floor.

<b>FINDING NO: E- 17</b>	
<b>CATEGORY: CABLE AND SUPPORT</b>	
<b>FINDING:</b> Instant Power Supply (IPS) batteries supported on wooden stand.	
<b>RECOMMENDATION:</b> Provide separate room to charge the battery and the charger, both the charger and battery must be supported on the acid resistant metallic stand.	
<b>PRIORITY: P2</b>	
<b>REMEDIATION TIME FRAME: 1 WEEK</b>	Battery being charged in transformer room.

<b>FINDING NO: E- 18</b>	
<b>CATEGORY: TRANSFORMER ROOM</b>	
<b>FINDING:</b> Loose transformer frame earth.	
<b>RECOMMENDATION:</b> Transformer earthing connection must be connected to the body in such a way that better earth continuity should be remaining.	
<b>PRIORITY: P2</b>	
<b>REMEDIATION TIME FRAME: 1 WEEK</b>	Transformer outside the utility room.