

Summary of Preliminary Assessment on Structural, Fire and Electrical Safety

Name of the Factory	: A-ONE POLAR LTD.
Address of the Factory	: Vulta, Rupgonj, Narayangonj
Dhaka Present Status of the Factory	: Under Operation
Structural assessment conducted by	: Accord (Full report available at bangladeshaccord.org)
Date of Structural Inspection	: 27 April, 2014
Fire & Electrical assessment conducted by	: Accord (Full report available at bangladeshaccord.org)
Date of Fire & Electrical Inspection	: 3 June, 2014

Basic Information: The present garment factory is a commercial building with beam-column frame system. The following general information was noted:

i.	Building Usage Type	: Garment factory
ii.	Structural System	: The 1st floor structure is a RC beam and two way spanning slab structure with RC columns
iii.	Floor System	: Beam slab
iv.	Floor Area	: The total floor area covered by building is 783370.88 sqft
v.	No. of Stories	: 2 storied
vi.	Construction Year	: 2007
vii.	Foundation Type	: Pad footings
viii.	Design Drawings	: Available (Approved by the Local Authority)
ix.	Soil investigation Report	: Available (Dated November, 2006)
x.	Construction Materials	: Brick aggregated
xi.	Generator	: Separate Utility Shed

Recommendations for Corrective Action: The recommendations of corrective action for both Structural and Fire & Electrical Safety are as follows:

The recommendations for Structural Safety corrective actions are:

Immediate (Now): NA

Mid Term (Within 6 Weeks):

1. Building engineer to check, collect information and produce accurate and complete as-built documentation.
2. Building Engineer to assess what impact these differences have on the structural integrity of the building.
3. Building engineer to review lateral stability of steel roof structure.
4. Building engineer to design any additional structure deemed necessary.
5. Engineer to analysis and design using verified material strengths and as built structural arrangement (E.g. reinforcement grade, concrete compression capacity for the structure prior to any loading of the building).

Long Term (Within 6 Months):

1. Loading of current constructed floor plates not to exceed the above analysis and justified design.

The recommendations for Fire Safety corrective actions are:

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Immediate (Within 1 month):

1. Remove locking features from all egress doors / gates. If locks are required for security reasons, utilize special door locking features complying with NFPA 101.
2. Remove all storage from exit stairs and egress paths.
3. Replace all gates / sliding doors along the means of egress with side-hinged, swinging egress doors. If locks are required for security reasons, utilize special door locking features complying with NFPA 101.

Short Term (Within 3 Months):

1. Either remove combustibile storage from warehouse area, or provide dedicated storage rooms separated by minimum 1-hr fire-rated construction.
2. Provide dedicated storage rooms separated by minimum 1-hr fire-rated construction. Where separate storage rooms may not be feasible, provide defined storage areas and limit the storage arrangement as follows:

-Maximum height of 2.4m and maximum area of 23m²

-If sprinkler protected: maximum height of 3.66m and maximum area of 93m².

Separate areas of unenclosed combustibile storage by a minimum clear distance of 3m.

3. Provide minimum aisle widths of 36-in.
4. Reduce occupant load to not more than 1330 immediately. In the future, if a greater occupant load is desired, provide additional exits.
5. Add an additional exit near the center of the North wall to provide an exit travel distance of no more than 60 m.
6. Reconfigure the work table arrangement to provide North- South oriented aisles leading directly to each exterior stair from the opposite side of the South 1st floor work area.
7. Inspect, test and maintain the fire alarm system, and keep written records on-site, in accordance with NFPA 72.
8. Inspect, test and maintain the emergency lighting system in accordance with The ACCORD standard. Keep written records on-site.

Mid Term (within 6 Months):

1. Remove single-station smoke alarms. Provide automatic smoke detection throughout the building in accordance with NFPA 72.

Long Term (More than 6 months):

1. Replace the fire alarm system with a new, listed addressable fire alarm system in accordance with NFPA 72.

The recommendations for Electrical Safety corrective actions are:

Immediate (Within 1 month):

1. Remove the jumper wire and replace it with appropriate sized DO fuse.
2. Connect the single line earth wire to the neutral of the transformer.

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3. Provide earth connection for body and doors of metallic distribution boards using green cables preferably braid so that the metallic door remains at zero potential all the time.
4. Check and seal the oil leakage from conservator tank. Install transformer breather.

Short Term (Within 3 Months):

1. Seal the penetrations using appropriate fire rated material and the cables are not stressed while in touch of concrete.
2. Install a cable tray/ladder made of non-combustible material for supporting the cables. Ensure the cables are tightly attached with the ladder and provide covers made of non-combustible material preferably metallic sheet to protect the cables' insulation from physical damages.
3. In order to avoid the effects of heat from external sources for the wiring system some provision can be provided, such as: shielding, placing sufficiently far from source of heat.

Mid Term (Within 6 months):

1. Enlarge the transformer room as per standard (BNBC table 8.2.8) or maintain sufficient working space (preferably 1 meter) around the transformer.

Long Term (More than 6 months): NA