

Summary of Preliminary Assessment on Structural, Fire and Electrical Safety

Name of the Factory	: SOUTHERN KNITWEAR LTD.
Address of the Factory	: Hizolhati, Baroipara, Kaliakoir, Gazipur
Dhaka Present Status of the Factory	: Under Operation
Structural assessment conducted by	: Accord (Full report available at bangladeshaccord.org)
Date of Structural Inspection	: 17 April, 2014
Fire & Electrical assessment conducted by	: Accord (Full report available at bangladeshaccord.org)
Date of Fire & Electrical Inspection	: 6 May, 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	: R.C. Beam and column frame with a 2- way solid slab
iii.	Floor System	: Beam slab
iv.	Floor Area	: The total floor area of the building is 17,000 sq. ft.
v.	No. of Stories	: 5 storied
vi.	Construction Year	: 2011
vii.	Foundation Type	: Unavailable
viii.	Design Drawings	: Available
ix.	Soil investigation Report	: Available
x.	Construction Materials	: Unavailable
xi.	Generator	: Ground floor

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. A Detailed Engineering Assessment to be completed concentrating on the dining area.
2. Begin work required by the Detailed Engineering Assessment.
3. Survey and update all record drawings so that they represent the true as-built conditions.

Long Term (Within 6 Months):

1. Implement and complete any works deemed necessary by the detailed engineering assessment.
2. Produce and actively manage a loading plan for all floors within the factory giving consideration to slab, beam and column capacities.

The recommendations for Fire Safety corrective actions are:

Immediate (Within 1 month):

1. Remove locking features from all egress doors and gates. If locks are required for security reasons, utilize special door locking features complying with NFPA 101.

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2. 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.
3. Provide exit signs above all exits to the exterior and all doors to the exit stairs.
4. Regularly test the emergency lighting system on each floor and replace/repair lights as needed.
5. Regularly inspect all exit signage and replace/install lights as needed to illuminate signs.

Short Term (Within 3 Months):

1. Separate the boiler, generator and transformer rooms by a minimum 2-hr fire-rated construction. Seal and/or protected all openings to maintain the required fire separations.
2. Provide dedicated storage rooms separated by minimum 1-hr fire-rated construction.
3. Provide minimum 1.5-hr fire rated doors and seal all unprotected openings to separate the exit stairs from work areas and other building spaces on all floor levels. Ensure that the fire doors are self-closing and positive latching and that they are provided with fire exit (panic) hardware where serving production floors. If fire doors are required to be held open for functional reasons, provide automatic closing devices tied to the fire alarm system.
4. Seal all penetrations and openings in exit stair enclosure walls to maintain the fire separation.
5. Provide a minimum 2-hr fire rated shaft to separate the utility risers from each floor level. And Seal all penetrations and openings in floor/ceiling assemblies to maintain the fire separation.
6. Inspect, test and maintain the fire alarm system, and keep written records on-site, in accordance with NFPA 72.
7. Inspect, test and maintain the emergency lighting system in accordance with The ACCORD standard. Keep written records on-site.
8. Test the emergency lighting system on each floor and provide additional emergency fixtures to provide adequate illumination along the means of egress. Provide a minimum illumination of 10 lux at the floor level within exit stairs and exit discharge paths and minimum 2.5 lux along exit access aisles.

Mid Term (within 6 Months):

1. Modify stair to discharge directly outside. Or provide 2-hr fire-rated exit passageway leading directly outside (vestibules to separate any storage areas). Or provide sprinkler protection for discharge floor in accordance with NFPA 13.
2. 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):

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1. Conservator tank (on transformer) must be checked and required oil level must be maintained.
2. Cable must be supported at the panel base plate and terminated without stressing at the termination point.
3. HT cable dropping from 11kV pole must be protected in steel pipe of required size at least 2m from the ground level to protect from physical injury by moving objects.
4. HT cable dropping from 11kV pole must be firmly fixed to the pole with supports and clamps.
5. Cables behind panel must be supported and arranged on cable trays or ladder.
6. Conduits protecting cables must be fixed firmly to the panel base with conduit sockets and check nuts.
7. Cables inside panel must be securely fastened, through ducts or by ties, to avoid crossing live parts.
8. Base plate remove for the cable entry must be reinstalled.
9. Install separators between different phases of MCCB. Standard separators provided by the MCCB manufacturer must be used.
10. Panel door(s) must be connected with earth bond connecting frame and door.
11. Wirings drawn in flexible PVC conduit must be installed on supports to prevent conductors touching hot areas/components.
12. MCB, contactor and other devices used in panel must be firmly fixed and protected from touching unintentionally to other live parts.
13. Clean the transformer(s) periodically as part of routine maintenance.
14. Transformer room must be cleaned regularly.

Short Term (Within 3 Months):

1. Cables supported on external walls must be laid horizontal/vertical to the wall, supported in cable trays/ladder.
2. Cable trenches inside building may be covered with protective covers (concrete slabs or checkered plates).
3. Rear of the panel(s), installed close to wall must be moved forward to provide minimum working space.
4. Panel base plates must be installed, at all time, and cable(s) entering panel must be firmly fixed with cable gland.
5. Additional panels may be installed by redesigning the electrical distribution systems to ease crowding inside panel.
6. Multiple cables connecting at a MCCB terminal must be disconnected. Multiple cables may be connected if the MCCB terminals selected (installed) is designed for multi-cable connection.

Mid Term (Within 6 months):

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1. Increase the height of the existing brick wall around the transformer(s) to provide barrier to surrounding areas.

Long Term (More than 6 months): NA