

FIRE SAFETY INSPECTION REPORT

MULTIFABS LTD

ACCORD ID: 9450

KASHIMPUR, NAYAPARA, GAZIPUR

OTHER FACTORIES: NONE



ACCORD
on Fire and Building Safety in Bangladesh

March 28, 2015

SUMMARY

Multifabs Ltd was surveyed for fire safety on 3/28/2015 by Jensen Hughes. This summary identifies the major deficiencies that were identified during the inspection.

The purpose of this survey was to identify significant fire safety issues and to provide recommendations for remediation based on applicable standards specified by the Accord. The scope of this initial fire safety inspection was limited to the review and identification of major fire safety issues. The inspection did not include identification of minor deficiencies, which will be further addressed as part of follow-up inspections.

Tables 1 - 3 summarizes the major fire 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.

Table 1. Findings And Recommendations - Ten Story Building

No.	Category	Finding	Recommendation	Remediation Timeframe
F-1	Fire Rated Construction	Diesel fuel storage was located inside the generator room.	Remove all diesel fuel storage from the generator room and relocate to the exterior such that the diesel fuel storage is at least 10 ft. from required egress paths. If located along egress paths or in a utility building, provide the diesel fuel storage with 2-hr fire rated construction. There shall be no diesel fuel storage in a factory production building.	Immediately



F-2	Fire Rated Construction	Rooms used for combustible storage are not separated by fire-rated construction on basement, ground, first, fourth, fifth, sixth and ninth floors.	Provide dedicated storage rooms separated by minimum 1-hr fire-rated construction. Where separate storage rooms are not feasible, provide defined storage areas and limit the storage arrangement as follows: - Maximum height of 2.45m (8ft.) and maximum area of 23m² (250 ft²) - If sprinkler protected: maximum height of 3.66m (12ft.) and maximum area of 93m² (305ft²) Separate areas of unenclosed combustible storage by a minimum clear distance of 3m (10ft.).	Within 3 months
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F-3	Fire Rated Construction	The exit stairs are not separated from work areas and other spaces on each floor by fire-rated construction.
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Provide minimum 1.5-hr fire rated doors for buildings that are 4 or more stories. 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.

Within 3 months

If fire doors are required to be held open for functional reasons, provide automatic-closing devices tied to the fire alarm system.

Once fire doors are installed, every door in a stair enclosure serving more than 5 stories shall be provided with re-entry unless it meets ACCORD standard 6.8.3.1.





F-4	Fire Rated Construction	The EMR room is not separated by fire-rated construction due to non-rated door and opening in the north exit stair enclosure.	Separate the EMR room by a minimum 2-hr fire rated construction for high rise. Seal and protect all openings to maintain the required fire separations. Provide proper ventilation and consult a qualified engineer.	Within 3 months
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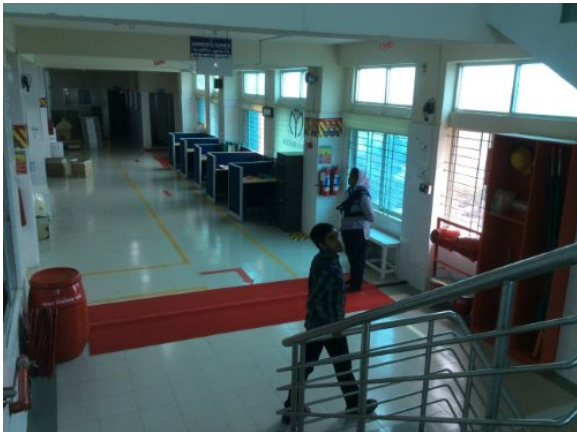
F-5	Fire Rated Construction	Unsealed electrical shafts are located in the fire-rated floor/ceiling assemblies.	Provide a minimum 2-hr fire-rated shaft to separate the utility risers from each floor level and seal all penetrations in floor/ceiling assemblies to maintain the fire separation.	Within 3 months
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F-6	Fire Rated Construction	Areas used for combustible storage open to the factory are not separated by fire-rated construction on ground, second and third floors.	Provide defined storage areas and limit the storage arrangement as follows: - Maximum height of 2.45m (8ft.) and maximum area of 23m² (250 ft²) - If sprinkler protected: maximum height of 3.66m (12ft.) and maximum area of 93m² (305ft²) Separate areas of unenclosed combustible storage by a minimum clear distance of 3m (10ft.).	Within 3 months
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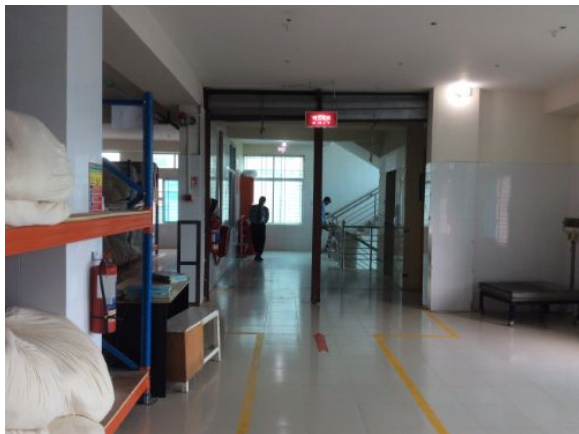
F-7	Fire Rated Construction	The exit stair enclosures are not separated from work areas and other spaces on each floor by fire-rated construction.	The exit stair enclosure shall be provided with a minimum 2-hr fire resistance rating for buildings 4 or more stories.	Within 3 months
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F-8	Fire Rated Construction	Exit access corridors are not provided with 1 hr. fire resistance rating or approved NFPA 13 sprinkler system on the ninth floor.	Provide exit access corridors with 1 hr. fire resistance rating or approved NFPA 13 sprinkler system.	Within 3 months
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F-9	Fire Rated Construction	Storage rooms discharge directly into all exit stair enclosures.	Openings from exit enclosure to storage spaces shall be provided with a vestibule with fire rated construction and openings. Provide a 1.5 hr. fire rated door on the exit stair side and a 1-hr. fire rated door on the storage room side. Ensure that the fire rating of the vestibule construction matches that of the exit stair enclosure.	Within 3 months
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F-10	Fire Rated Construction	Unsealed penetrations and openings are located in the south exit stair enclosure.	Seal all penetrations and openings in exit stair enclosure walls to maintain the fire separation.	Within 3 months
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F-11	Fire Rated Construction	The fire pump room is not provided with adequate fire rated separation on the ground floor.	Provide fire pump room with 2 hr. rated fire separation when not sprinklered and 1 hr. rated fire separation when provided with automatic sprinklers, in accordance with NFPA 20.	Within 3 months
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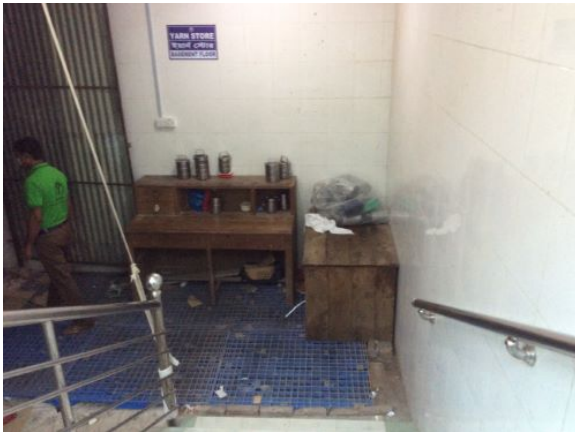
F-12	Fire Rated Construction	Existing atrium in factory connecting ground and first floors is not properly protected.	Provide proper fire protection in accordance with ACCORD standard 3.7.	Within 6 months
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F-13	Egress	Egress doors with locking features are provided at exit stairs. Egress gates with locking features exit stairs and exit discharge.	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 and ACCORD standard 6.8.2.	Immediately
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F-14	Egress	Storage was located in all exit stairs on the basement.	Remove all storage from exit stairs and egress paths.	Immediately
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F-15	Egress	Building did not have stair designation signs at exit stairs. Building did not have occupant load signs on the floors.	Provide stair designation signs, occupant load signs and emergency evacuation plans at required locations.	Immediately
F-16	Egress	Storage was located in the egress paths on the basement. Obstructions were located in the egress paths on the fourth floor.	Keep egress paths and stairs clear of storage and obstruction.	Immediately



F-17	Egress	Sliding doors are provided at building exit, exit stairs, along egress routes and exit discharges.	Replace all gates and sliding doors along the means of egress with side-hinged, swinging egress doors in accordance with ACCORD standard 6.8.1.	Within 1 month
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F-18	Egress	Handrails are not provided on both sides of all exit stairs.	Provide handrails on both sides of the exit stairs. New handrails shall have a minimum height of 865 mm (34 in.) and a maximum height of 965 mm (38 in.) as measured from the leading edge of the tread. Intermediate handrails shall be provided when the stair width exceeds 2.2 m (87 in.)	Within 3 months
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F-19	Egress	The occupiable roof was not provided with an adequate parapet / guard rail.	All occupiable roofs shall be provided with parapets or guards with a minimum height of 1067 mm (42 in.)	Within 3 months
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F-20	Egress	The width of egress aisles is less than 36-in. on the eighth floor.	Provide minimum aisle widths of 36-in.	Within 3 months
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F-21	Egress	A single means of egress is provided from roof top where the occupant load and travel distance is exceeded.	Provide additional means of egress in accordance with the Accord Standard.	Within 3 months
F-22	Egress	North exit stair discharges inside the building on the ground floor. The exit discharge is open to parking area.	Provide 2-hr fire-rated exit passageway leading directly outside (vestibules to separate any storage areas).	Within 6 months

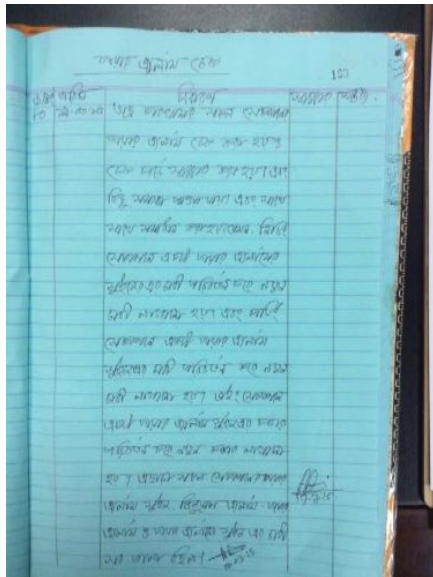


F-23	Fire Protection	The fire alarm system is antiquated, not a listed system and does not provide alarm and notification features consistent with acceptable standards.	Replace the fire alarm system with a new, listed addressable fire alarm system in accordance with NFPA 72.	Design within 4 months, install within 9 months
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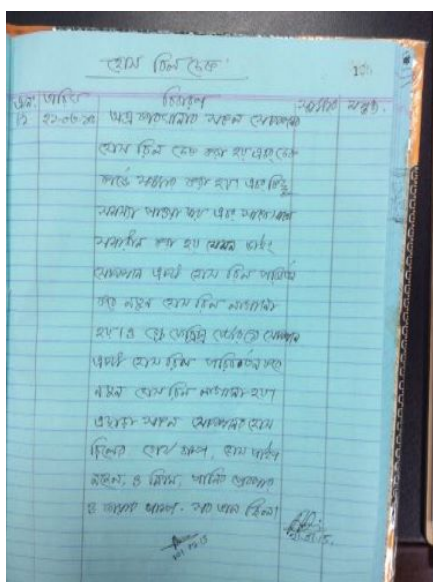


F-24	Fire Protection	The high-rise building has an occupied floor greater than 23m (75 ft.) and is not provided with automatic sprinkler protection. The large occupant loads, heavy fuel loading and anticipated extended egress times warrant sprinkler protection.	Provide automatic sprinkler protection throughout the building in accordance with NFPA 13.	Design within 6 months, install within 12 months
F-25	Fire Protection	The required no smoking signs are not present in the factory.	Smoking is prohibited in any garment factory building or separate storage building. Signs shall be posted in Bengali and English at all building entrances. If the factory creates a designated smoking area outside the building, information of these areas will be posted on the signs.	Within 1 months

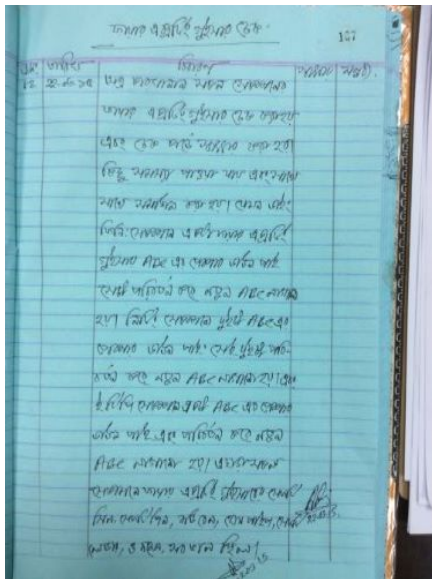
F-26	Fire Protection	Inspection, testing and maintenance for the fire alarm system is not in accordance with NFPA 72.	Inspect, test and maintain the fire alarm system and keep written records on-site, in accordance with NFPA 72.	Within 3 months
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F-27	Fire Protection	Inspection, testing and maintenance of the standpipe system is not in accordance with NFPA 14.	Inspect, test and maintain the standpipe system and keep written records on-site, in accordance with NFPA 14.	Within 3 months
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F-28	Fire Protection	Fire department connection is not provided.	Provide fire department connection in accordance with ACCORD standard 5.5.4.	Within 3 months
F-29	Fire Protection	Inspection, testing and maintenance of portable fire extinguishers is not in accordance with NFPA 10.	Inspect, test and maintain the portable fire extinguishers and keep written records on-site, in accordance with NFPA 10.	Within 3 months



F-30	Fire Protection	Inspection, testing and maintenance of the fire pump system is not in accordance with NFPA 20.	Inspect, test and maintain the fire pump system and keep written records on-site, in accordance with NFPA 20.	Within 3 months
F-31	Fire Protection	Visible notification was not provided for the building in accordance with NFPA 72.	Provide visible notification for the building in accordance with NFPA 72.	Within 3 months



F-32	Fire Protection	The required standpipe system is not installed in accordance with the ACCORD standard.	Install a new standpipe system in accordance with ACCORD standard 5.4 and NFPA 14.	Within 6 months
			A class III system shall be installed in buildings with the highest occupiable floor 10 m (33 ft.) above grade or more. A class I system shall be permitted in buildings protected throughout by an approved automatic sprinkler system.	



F-33	Fire Protection	Fire pump did not meet ACCORD standard 5.5.1 and 5.5.1.1.	Update current fire pump or provide a new fire pump that meets ACCORD standard 5.5.	Within 6 months
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F-34	Fire Protection	The building is equipped with single-station smoke alarms. Smoke alarm activation sounds only a local alarm and does not provide automatic fire alarm notification of occupants.	Remove single-station smoke alarms. Provide automatic smoke detection throughout the building, tied into the fire alarm system, in accordance with NFPA 72.	Within 9 months
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F-35	Egress Lighting	Exit signage was not provided at building exits.	Provide exit signs above all building exits to the exterior, all doors to the exit stairs and along all paths of travel where a change of direction is not obvious.	Within 1 month
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F-36	Egress Lighting	Exit signage not illuminated on the third floor.	Regularly inspect all exit signage and replace/install lights as needed to illuminate signs. The source of illumination shall provide not less than 50 lux at the illuminated surface with a contrast of not less than 0.5. Approved self luminous signs which provide evenly illuminated letters having a minimum luminance of 0.2 cd/m ² may also be used.	Within 1 month
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F-37	Egress Lighting	Based on the number and location of emergency lights observed, adequate illumination levels are not anticipated along egress routes on factory floors.	Test the emergency lighting system on each floor and provide additional emergency fixtures to supply adequate illumination along the means of egress. Provide a minimum illumination of 10 lux at the floor level within exit stairs and along exit discharge paths and a minimum 2.5 lux along exit access aisles.	Within 3 months
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F-38	Egress Lighting	Inspection, testing and maintenance for the emergency lighting system was not in accordance with The ACCORD standard.	Inspect, test and maintain the emergency lighting system in the accordance with The ACCORD standard. Keep written records on-site.	Within 3 months
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Table 2. Findings And Recommendations - Dyeing Shed

No.	Category	Finding	Recommendation	Remediation Timeframe
F-1	Fire Rated Construction	Areas used for combustible storage open to the factory are not separated by fire-rated construction on the factory floor.	Provide defined storage areas and limit the storage arrangement as follows: - Maximum height of 2.45m (8ft.) and maximum area of 23m² (250 ft²) - If sprinkler protected: maximum height of 3.66m (12ft.) and maximum area of 93m² (305ft²) Separate areas of unenclosed combustible storage by a minimum clear distance of 3m (10ft.).	Within 3 months



F-2	Fire Rated Construction	The boiler room is not separated by fire-rated construction due to openings and penetrations from the dyeing shed.	Separate the boiler room by a minimum 2-hr fire-rated construction for high rise building. Seal and protect all openings to maintain the required fire separations. When located to the exterior of a building, 3m (10 ft.) separation is required. Provide proper ventilation and consult a qualified engineer.	Within 3 months
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F-3	Egress	Egress doors with locking features are provided at building exits.	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 and ACCORD standard 6.8.2.	Immediately
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F-4	Egress	Collapsible gates are provided at building exits.	Replace all gates along the means of egress with side-hinged, swinging egress doors in accordance with ACCORD standard 6.8.1.	Within 1 month
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F-5	Fire Protection	The fire alarm system is antiquated, not a listed system and does not provide alarm and notification features consistent with acceptable standards.	Replace the fire alarm system with a new, listed addressable fire alarm system in accordance with NFPA 72.	Design within 4 months, install within 9 months
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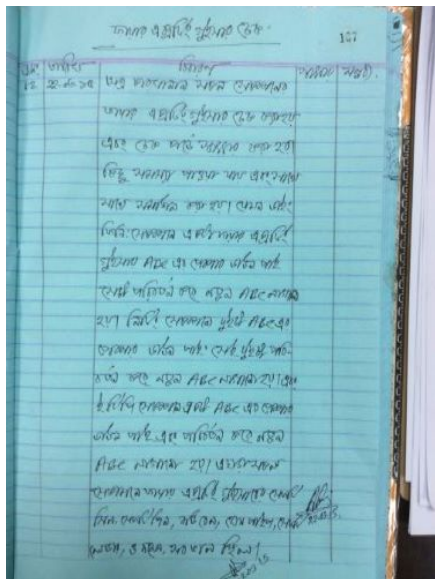


F-6	Fire Protection	The required no smoking signs are not present in the factory.	Smoking is prohibited in any garment factory building or separate storage building. Signs shall be posted in Bengali and English at all building entrances. If the factory creates a designated smoking area outside the building, information of these areas will be posted on the signs.	Within 1 months
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F-7	Fire Protection	Inspection, testing and maintenance for the fire alarm system is not in accordance with NFPA 72.	Inspect, test and maintain the fire alarm system and keep written records on-site, in accordance with NFPA 72.	Within 3 months
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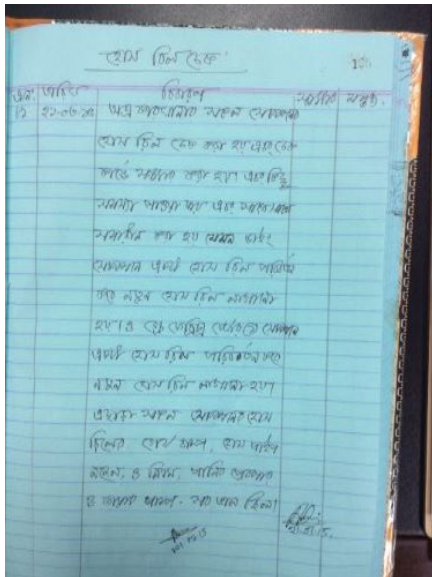


F-8	Fire Protection	Inspection, testing and maintenance of portable fire extinguishers is not in accordance with NFPA 10.	Inspect, test and maintain the portable fire extinguishers and keep written records on-site, in accordance with NFPA 10.	Within 3 months
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F-9	Fire Protection	Fire department connection is not provided.	Provide fire department connection in accordance with ACCORD standard 5.5.4.	Within 3 months
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F-10	Fire Protection	Inspection, testing and maintenance of the standpipe system is not in accordance with NFPA 14.	Inspect, test and maintain the standpipe system and keep written records on-site, in accordance with NFPA 14.	Within 3 months
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F-11	Fire Protection	The building is equipped with single-station smoke alarms. Smoke alarm activation sounds only a local alarm and does not provide automatic fire alarm notification of occupants.	Remove single-station smoke alarms. Provide automatic smoke detection throughout the building, tied into the fire alarm system, in accordance with NFPA 72.	Within 9 months
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F-12	Egress Lighting	Inspection, testing and maintenance for the emergency lighting system was not in accordance with The ACCORD standard.	Inspect, test and maintain the emergency lighting system in the accordance with The ACCORD standard. Keep written records on-site.	Within 3 months
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Table 3. Findings And Recommendations - Seven Story Building

No.	Category	Finding	Recommendation	Remediation Timeframe
F-1	Fire Rated Construction	Rooms used for combustible storage are not separated by fire-rated construction on the sixth floor.	Provide dedicated storage rooms separated by minimum 1-hr fire-rated construction. Where separate storage rooms are not feasible, provide defined storage areas and limit the storage arrangement as follows: - Maximum height of 2.45m (8ft.) and maximum area of 23m² (250 ft²) - If sprinkler protected: maximum height of 3.66m (12ft.) and maximum area of 93m² (305ft²) Separate areas of unenclosed combustible storage by a minimum clear distance of 3m (10ft.).	Within 3 months



F-2	Fire Rated Construction	The exit stairs are not separated from work areas and other spaces on each floor by fire-rated construction.	Provide minimum 1.5-hr fire rated doors for buildings that are 4 or more stories. 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. Once fire doors are installed, every door in a stair enclosure serving more than 5 stories shall be provided with re-entry unless it meets ACCORD standard 6.8.3.1.	Within 3 months
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F-3	Fire Rated Construction	Unsealed electrical shafts are located in the fire-rated floor/ceiling assemblies.	Provide a minimum 2-hr fire-rated shaft to separate the utility risers from each floor level and seal all penetrations in floor/ceiling assemblies to maintain the fire separation.	Within 3 months
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F-4	Fire Rated Construction	The industrial dryers are not separated by fire-rated construction on the sixth floor.	Separate the industrial dryer area by a minimum 2-hr fire-rated construction. Seal and protect all openings to maintain the required fire separations. Provide proper ventilation and consult with a qualified engineer.	Within 3 months
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F-5	Fire Rated Construction	Areas used for combustible storage open to the factory are not separated by fire-rated construction on multiple floors.	Provide defined storage areas and limit the storage arrangement as follows: - Maximum height of 2.45m (8ft.) and maximum area of 23m² (250 ft²) - If sprinkler protected: maximum height of 3.66m (12ft.) and maximum area of 93m² (305ft²) Separate areas of unenclosed combustible storage by a minimum clear distance of 3m (10ft.).	Within 3 months
F-6	Egress	Exit capacity (493) is not adequate for the occupant load (650, 710 and 830 respectively) on second, third and fourth floors.	Reduce occupant load immediately to not more than available exit capacity (493). Provide additional exits in the future to increase exit capacity.	Immediately

F-7	Egress	Egress doors and gates with locking features are provided at exit stairs.	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 and ACCORD standard 6.8.2.	Immediately
				
F-8	Egress	Storage was located in the north exit stair on the ground floor.	Remove all storage from exit stairs and egress paths.	Immediately
F-9	Egress	Collapsible gates and sliding doors are provided throughout the building.	Replace all gates and sliding doors along the means of egress with side-hinged, swinging egress doors in accordance with ACCORD standard 6.8.1.	Within 1 month



F-10	Egress	Handrails are not provided on both sides of the exit stairs.	Provide handrails on both sides of the exit stairs. New handrails shall have a minimum height of 865 mm (34 in.) and a maximum height of 965 mm (38 in.) as measured from the leading edge of the tread. Intermediate handrails shall be provided when the stair width exceeds 2.2 m (87 in.)	Within 3 months
F-11	Egress	The number of required exits is not present in factory on second, third and fourth floors.	The number of means of egress from any floor or story shall not be at less than 2 unless it meets ACCORD standard 6.6.2. When load exceeds 500 occupants the number of means of egress shall be at least 3. When load exceeds 1000 occupants the number of means of egress shall be at least 4.	Within 6 months

F-12	Egress	East exit stair discharges inside the building on the ground floor.	Provide 2-hr fire-rated exit passageway leading directly outside (vestibules to separate any storage areas).	Within 6 months
F-13	Fire Protection	The fire alarm system is antiquated, not a listed system and does not provide alarm and notification features consistent with acceptable standards.	Replace the fire alarm system with a new, listed addressable fire alarm system in accordance with NFPA 72.	Design within 4 months, install within 9 months

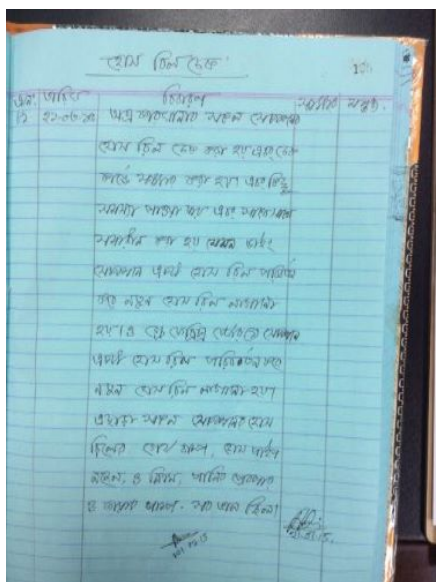


F-14	Fire Protection	The high-rise building has an occupied floor greater than 23m (75 ft.) and is not provided with automatic sprinkler protection. The large occupant loads, heavy fuel loading and anticipated extended egress times warrant sprinkler protection.	Provide automatic sprinkler protection throughout the building in accordance with NFPA 13.	Design within 6 months, install within 12 months
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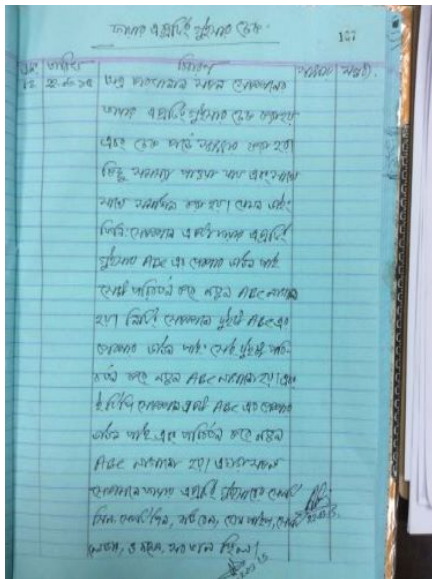
F-15	Fire Protection	Inspection, testing and maintenance for the fire alarm system is not in accordance with NFPA 72.	Inspect, test and maintain the fire alarm system and keep written records on-site, in accordance with NFPA 72.	Within 3 months
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F-16	Fire Protection	Inspection, testing and maintenance of the standpipe system is not in accordance with NFPA 14.	Inspect, test and maintain the standpipe system and keep written records on-site, in accordance with NFPA 14.	Within 3 months
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F-17	Fire Protection	Fire department connection is not provided.	Provide fire department connection in accordance with ACCORD standard 5.5.4.	Within 3 months
F-18	Fire Protection	Inspection, testing and maintenance of portable fire extinguishers is not in accordance with NFPA 10.	Inspect, test and maintain the portable fire extinguishers and keep written records on-site, in accordance with NFPA 10.	Within 3 months



F-19	Fire Protection	Visible notification was not provided for the building in accordance with NFPA 72.	Provide visible and audible notification for the building in accordance with NFPA 72.	Within 3 months
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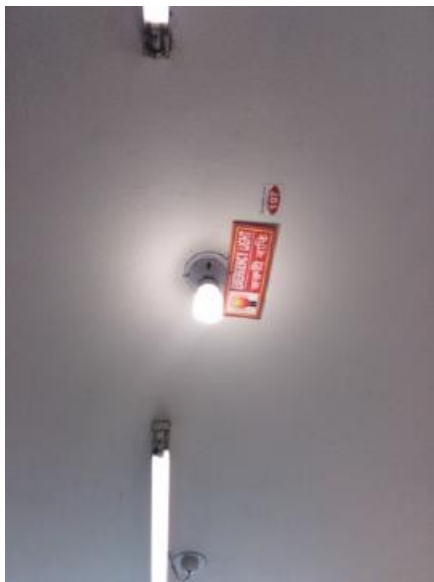
F-20	Fire Protection	The required standpipe system is not installed in accordance with the ACCORD standard.	Install a new standpipe system in accordance with ACCORD standard 5.4 and NFPA 14.	Within 6 months
			A class III system shall be installed in buildings with the highest occupiable floor 10 m (33 ft.) above grade or more. A class I system shall be permitted in buildings protected throughout by an approved automatic sprinkler system.	



F-21	Fire Protection	The building is equipped with single-station smoke alarms. Smoke alarm activation sounds only a local alarm and does not provide automatic fire alarm notification of occupants.	Remove single-station smoke alarms. Provide automatic smoke detection throughout the building, tied into the fire alarm system, in accordance with NFPA 72.	Within 9 months
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F-22	Egress Lighting	Based on the number and location of emergency lights observed, adequate illumination levels are not anticipated along egress routes on the ground floor.	Test the emergency lighting system on each floor and provide additional emergency fixtures to supply adequate illumination along the means of egress. Provide a minimum illumination of 10 lux at the floor level within exit stairs and along exit discharge paths and a minimum 2.5 lux along exit access aisles.	Within 3 months
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F-23	Egress Lighting	Inspection, testing and maintenance for the emergency lighting system was not in accordance with The ACCORD standard.	Inspect, test and maintain the emergency lighting system in the accordance with The ACCORD standard. Keep written records on-site.	Within 3 months
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