

FIRE SAFETY INSPECTION REPORT

ECHOTEX LTD

CHANDRA, PALLI BIDDUT, KALIAKOIR



ACCORD
on Fire and Building Safety in Bangladesh

March 30, 2014

SUMMARY

Echotex Ltd was surveyed for fire safety on 3/30/2014 by Hughes Associates, Inc. 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 - Building 1

No.	Category	Finding	Recommendation	Remediation Timeframe
F-1	Fire Rated Construction	Areas used for combustible storage are not separated by fire-rated construction. The 8th and 9th floor require fire rated doors to be fully protected. Ground, First and Second floor has combustible storage open to dining and production floors above the specified limits.	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 2.4m and maximum area of 23m² - If sprinkler protected: maximum height of 3.66m and maximum area of 93m² Separate areas of unenclosed combustible storage by a minimum clear distance of 3m.	Within 3 months





F-2	Fire Rated Construction	The exit stairs are not separated from work areas on each floor by fire-rated construction in the entire factory building at all exits.	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.	Within 3 months
-----	-------------------------	---	--	-----------------



F-3	Fire Rated Construction	Unsealed penetrations and openings are located in exit stair enclosures. Electrical shaft open to West stairwell and enters each floor plate. Elevator shaft not yet completed open to all floors on the South West most stairwell.	Seal all penetrations and openings in exit stair enclosure walls to maintain the fire separation.	Within 3 months
-----	-------------------------	---	---	-----------------





F-4	Fire Rated Construction	Flammable liquid storage area is not separated by fire-rated construction (openings, non-rated doors, penetrations). Diesel storage for Generators located in Generator room with no adequate separation.	Separate the flammable liquid storage room by a minimum 2-hr fire-rated construction. Seal and/or protected all openings to maintain the required fire separations.	Within 3 months
-----	-------------------------	---	---	-----------------



F-5	Fire Rated Construction	The boiler / generator and transformer room is not separated by fire-rated construction (openings, non-rated doors, penetrations).	Separate the boiler / generator and transformer room by a minimum 2-hr fire-rated construction. Seal and/or protected all openings to maintain the required fire separations	Within 6 months
-----	-------------------------	--	--	-----------------



F-6	Egress	Egress doors and gates with locking features are provided at all building exits, exit stairs, along egress routes and main exit discharge. All gates/doors were open and unlocked during the inspection.	Remove locking features from all egress doors / gates. If locks are required for security reasons, utilize special door locking features complying with NFPA 101.	Immediate
-----	--------	--	--	-----------



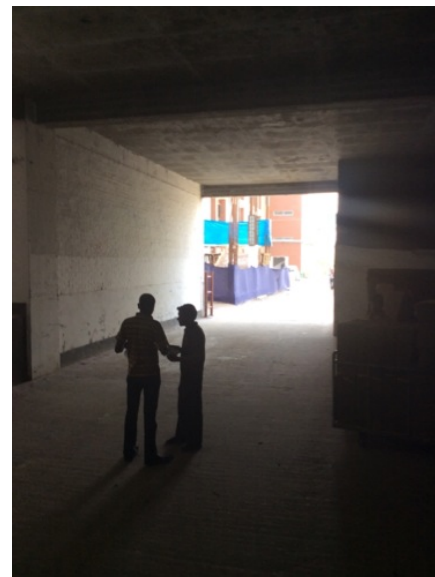
F-7	Egress	Storage was located in the exit stair elevator shaft, construction yet to be complete. Storage of combustibles was being removed once noted however combustible storage present at foot of North East stair open to safe egress to assembly points.	Remove all storage from exit stairs and egress paths.	Immediate
-----	--------	---	---	-----------



F-8	Egress	Collapsible gates and sliding doors are provided at all building exits, exit stairs, along egress routes and main exit discharge.	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.	Within 1 month
-----	--------	---	--	----------------



F-9	Egress	Exit stairs discharge inside the building.	- 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.	Within 6 months
		The North East most stair discharges into an area beneath the floor plate of the building, Combustable storage is present throughout this space providing inadequate safe egress from the building.		





F-10	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-11	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-12	Fire Protection	Inspection, testing, and maintenance for the fire alarms system were 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
F-13	Egress Lighting	Manual on-off switch is provided for emergency lighting / exit signage units.	Remove manual on/off switches from emergency lighting / exit signage units to prevent them from being switched off.	Within 1 month



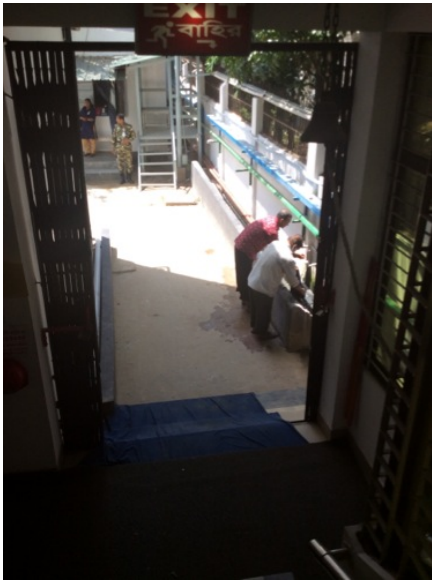
F-14	Egress Lighting	Inspection, testing, and maintenance for the emergency lighting system were not in accordance with The ACCORD Standard.	Inspect, test and maintain the emergency lighting system in accordance with The ACCORD standard. Keep written records on-site.	Within 3 months
------	-----------------	---	--	-----------------

Table 2. Findings And Recommendations - Building 3

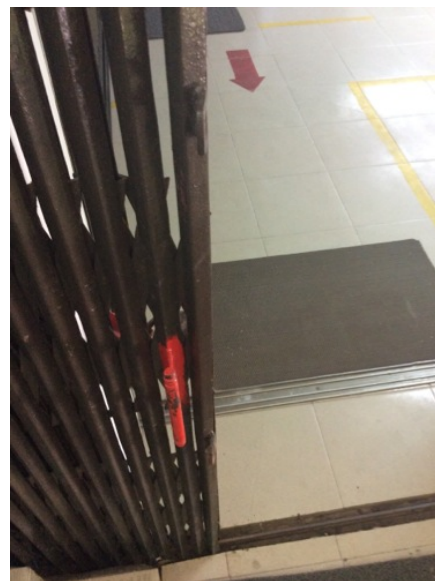
No.	Category	Finding	Recommendation	Remediation Timeframe
F-1	Fire Rated Construction	Hazardous materials / flammable liquid storage area is not separated by fire-rated construction. Openings, non-rated doors and penetrations were all noted.	Separate the hazardous materials / flammable liquid storage room by a minimum 2-hr fire-rated construction. Seal and/or protected all openings to maintain the required fire separations.	Within 3 months
				
F-2	Fire Rated Construction	The transformer room is not separated by fire-rated construction (openings, non-rated doors, penetrations are open to the the egress stairwell and ground level discharge.	Separate the transformer room by a minimum 2-hr fire-rated construction. Seal and/or protected all openings to maintain the required fire separations	Within 3 months



F-3	Fire Rated Construction	The exit stairs are not separated from all work areas and other spaces on each floor by fire-rated construction.	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.	Within 3 months
-----	-------------------------	--	--	-----------------



F-4	Egress	Egress doors/gates with locking features are provided at all building exits, exit stairs, along egress routes and main exit discharge. Gates/doors were open and unlocked during the inspection.	Remove locking features from all egress doors / gates. If locks are required for security reasons, utilize special door locking features complying with NFPA 101.	Immediate
-----	--------	--	--	-----------



F-5	Egress	Collapsible gates/sliding doors are provided at all building exits, exit stairs, along egress routes and main exit discharge.	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.	Within 1 month
-----	--------	---	---	----------------



F-6	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-7	Fire Protection	Inspection, testing, and maintenance for the fire alarms system were 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
F-8	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 in accordance with NFPA 72.	Within 6 months



F-9	Egress Lighting	Manual on-off switch is provided for emergency lighting / exit signage units throughout the building.	Remove manual on/off switches from emergency lighting / exit signage units to prevent them from being switched off.	Within 1 month
-----	-----------------	---	---	----------------



F-10	Egress Lighting	Inspection, testing, and maintenance for the emergency lighting system were not in accordance with the ACCORD Standard.	Inspect, test and maintain the emergency lighting system in accordance with The ACCORD standard. Keep written records on-site.	Within 3 months
------	-----------------	---	--	-----------------

Table 3. Findings And Recommendations - Dyeing Building

No.	Category	Finding	Recommendation	Remediation Timeframe
F-1	Fire Rated Construction	Hazardous materials / flammable liquid storage area is not separated by fire-rated construction (openings, non-rated doors, penetrations).	Separate the hazardous materials / flammable liquid storage room by a minimum 2-hr fire-rated construction. Seal and/or protected all openings to maintain the required fire separations.	Within 3 months
 				
F-2	Fire Rated Construction	The electric panel room is not separated by fire-rated construction (openings, non-rated doors, penetrations).	Separate the electric panel room by a minimum 2-hr fire-rated construction. Seal and/or protected all openings to maintain the required fire separations	Within 3 months



F-3	Fire Rated Construction	Areas used for combustible storage in the ground and 2nd floors are not separated by fire-rated construction.	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 2.4m and maximum area of 23m² - If sprinkler protected: maximum height of 3.66m and maximum area of 93m² Separate areas of unenclosed combustible storage by a minimum clear distance of 3m.	Within 3 months
-----	-------------------------	---	---	-----------------



F-4	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 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.	Within 3 months
-----	-------------------------	--	--	-----------------



F-5	Fire Rated Construction	The elevator shaft is not provided by fire rate construction.	Provide a minimum 2-hr fire-rated shaft to separate the utility risers from each floor level.	Within 3 months
			Seal all penetrations and openings in floor/ceiling assemblies to maintain the fire separation.	



F-6	Fire Rated Construction	Unsealed penetrations and openings are located in the northeast exit stair enclosures.	Seal all penetrations and openings in exit stair enclosure walls to maintain the fire separation.	Within 3 months
-----	-------------------------	--	---	-----------------



F-7	Fire Rated Construction	The west exit stairs was not assembled from fire-rated construction.	Provide 2-hr fire-rated construction.	Within 3 months
-----	-------------------------	--	---------------------------------------	-----------------



F-8	Fire Rated Construction	Storage rooms used for combustible storage in the ground and 2nd floors are not separated by fire-rated construction.	Provide dedicated storage rooms separated by minimum 1-hr fire-rated construction.	Within 3 months
-----	-------------------------	---	--	-----------------



F-9	Egress	Egress doors / gates with locking features are provided at building exits and exit stairs. All gates/doors were open and unlocked during the inspection.	Remove locking features from all egress doors / gates. If locks are required for security reasons, utilize special door locking features complying with NFPA 101.	Immediate
-----	--------	--	--	-----------



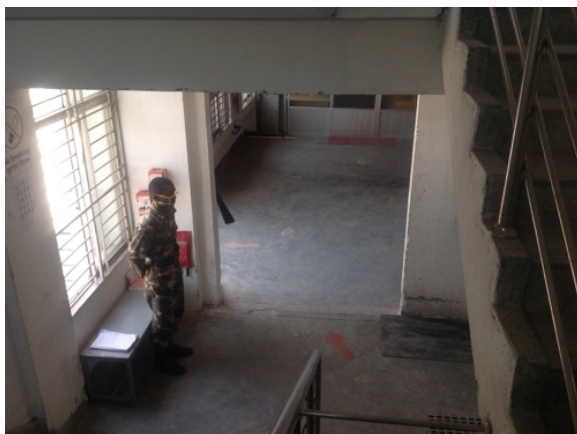
F-10	Egress	Storage was located in the northeast exit stairs.	Remove all storage from exit stairs and egress paths.	Immediate
------	--------	---	---	-----------



F-11	Egress	Collapsible gates / sliding doors are provided at building exits, exit stairs, along egress routes and exit discharge.	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.	Within 1 month
------	--------	--	---	----------------



F-12	Egress	The west, northeast and northwest exit stairs discharge inside the building.	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.	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	Inspection, testing, and maintenance for the fire alarm system was 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
------	-----------------	--	---	-----------------

F-15	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 the single-station smoke alarms. Provide automatic smoke detection throughout the building in accordance with NFPA 72.	Within 6 months
------	-----------------	--	---	-----------------



F-16	Egress Lighting	Manual on-off switch in several locations is provided for emergency lighting / exit signage units.	Remove manual on/off switches from emergency lighting / exit signage units to prevent them from being switched off.	Within 1 month
------	-----------------	--	---	----------------



F-17	Egress Lighting	Inspection, testing, and maintenance for the emergency lighting system were not in accordance with the ACCORD standard.	Inspect, test and maintain the emergency lighting system in accordance with The ACCORD standard. Keep written records on-site.	Within 3 months
------	-----------------	---	--	-----------------