

# **FIRE SAFETY INSPECTION REPORT**

**RADIAL INTERNATIONAL LTD.  
ZIRANI BAZAR, KASHIMPUR, GAZIPUR SADAR**

**OTHER FACTORIES: NONE**



**ACCORD**  
on Fire and Building Safety in Bangladesh

April 29, 2014

## **SUMMARY**

**Radial International Ltd. was surveyed for fire safety on 4/29/2014 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 - Radial International Ltd. (6-Story)**

No.	Category	Finding	Recommendation	Remediation Timeframe
F-1	Fire Rated Construction	The boiler, generator and transformer rooms are not separated by fire-rated construction (openings, non-rated doors, penetrations).	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	Within 3 months





---

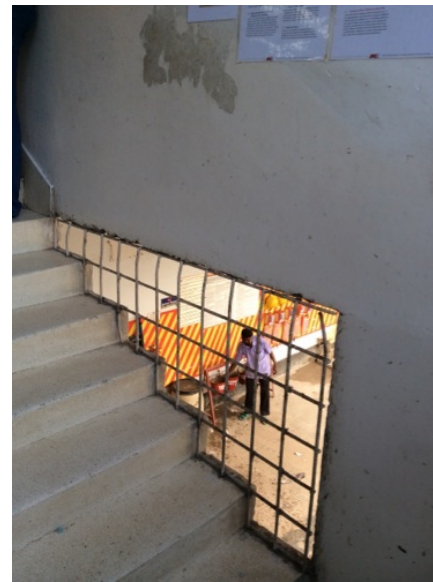
F-2	Fire Rated Construction	Areas used for combustible storage in the ground, 1st, 3rd and 5th floors are not separated by fire-rated construction.	Provide dedicated storage rooms separated by minimum 1-hr fire-rated construction.  Where separate storage rooms are not feasible, provide defined storage areas and limit the storage arrangement as follows: - Maximum height of 2.4m and maximum area of 23m <sup>2</sup> - If sprinkler protected: maximum height of 3.66m and maximum area of 93m <sup>2</sup>  Separate areas of unenclosed combustible storage by a minimum clear distance of 3m.	Within 3 months
-----	-------------------------	---	--	-----------------



---

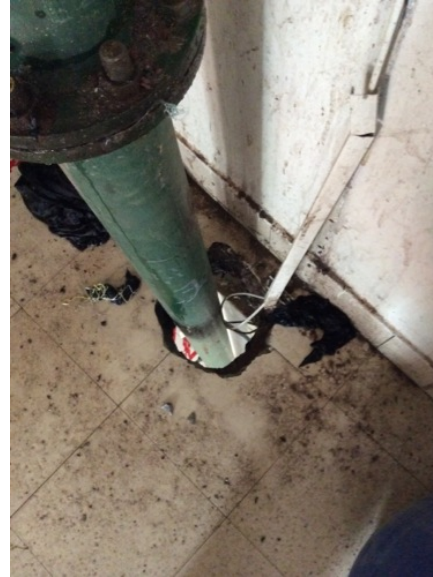
F-3	Fire Rated Construction	The exit stairs are not separated from work areas or other spaces on each floor by fire-rated construction.	Provide minimum 1.5-hr fire rated doors and seal all unprotected openings to separate the exit stairs from work areas and other building spaces on all floor levels. 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.	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.



---

F-4	Fire Rated Construction	Unsealed penetrations and openings are located in exit stair enclosures.	Seal all penetrations and openings in exit stair enclosure walls to maintain the fire separation.	Within 3 months
-----	-------------------------	--	---	-----------------



---

F-5	Fire Rated Construction	Unsealed penetrations and openings in most of floors 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.	Within 3 months
			Seal all penetrations and openings in floor/ceiling assemblies to maintain the fire separation.	



---

F-6	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-7	Fire Rated Construction	The EMR room is not separated by fire-rated construction (openings, non-rated doors, penetrations).	Separate the EMR 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-8	Fire Rated Construction	Areas used for combustible storage rooms in ground floor are not separated by fire-rated construction.	Provide dedicated storage rooms separated by minimum 1-hr fire-rated construction.	Within 3 months
-----	-------------------------	--	--	-----------------



---

F-9	Fire Rated Construction	Unsealed penetrations and openings in all elevator shafts are located in the fire-rated floor/ceiling assemblies.	Provide a minimum 2-hr fire-rated shaft to separate the elevator risers from each floor level.	Within 3 months
-----	-------------------------	---	--	-----------------



F-10	Egress	<p>Egress doors / gates with locking features are provided at building exits and exit stairs.</p> <p>All gates/doors were open and unlocked during the inspection.</p>	<p>Remove locking features from all egress doors / gates.</p> <p>If locks are required for security reasons, utilize special door locking features complying with NFPA 101.</p>	Immediate
------	--------	--	---	-----------



F-11	Egress	<p>Storage was located in the south exit stairs.</p>	<p>Remove all storage from exit stairs and egress paths.</p>	Immediate
------	--------	--	--	-----------



---

F-12	Egress	Collapsible gates / sliding doors are provided at building exits and exit stairs.	Replace all gates / sliding doors along the means of egress with side-hinged, swinging egress doors.	Within 1 month
------	--------	---	--	----------------

If locks are required for security reasons, utilize special door locking features complying with NFPA 101.



---

F-13	Egress	South 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-14	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-15	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-16	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. Provided automatic smoke detectors throughout the building in accordance with NFPA 72.	Within 6 months
------	-----------------	--	--	-----------------



---

F-17	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-18	Egress Lighting	Based on the number and location of emergency lights observed, adequate illumination levels are not anticipated along egress routes in all work areas.	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.	Within 3 months
------	-----------------	--	--	-----------------

**Table 2. Findings And Recommendations - Radial International Ltd. (Office and Warehouse)**

No.	Category	Finding	Recommendation	Remediation Timeframe
F-1	Fire Rated Construction	The generator, boiler and transformer rooms are not separated by fire-rated construction (openings, non-rated doors, penetrations).	Separate the generator boiler and transformer rooms 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	Areas used for combustible storage rooms in ground floor are not separated by fire-rated construction.	Provide dedicated storage rooms separated by minimum 1-hr fire-rated construction.	Within 3 months
-----	-------------------------	--	--	-----------------





---

F-3	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-4	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-5	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-6	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. Provided automatic smoke detectors throughout the building in accordance with NFPA 72.	Within 6 months
-----	-----------------	--	--	-----------------



F-7	Egress Lighting	Emergency lighting in the office room did not function in test mode (burned out, broken, etc.).	Regularly test the emergency lighting system on each floor and replace/repair lights as needed.	Within 1 month
-----	-----------------	---	---	----------------



**Table 3. Findings And Recommendations - Radial International Ltd. (Dyeing)**

No.	Category	Finding	Recommendation	Remediation Timeframe
F-1	Fire Rated Construction	The generator, boiler and transformer rooms are not separated by fire-rated construction (openings, non-rated doors, penetrations).	Separate the generator boiler and transformer rooms 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	Areas used for combustible storage room in ground floor are not separated by fire-rated construction.	Provide dedicated storage rooms separated by minimum 1-hr fire-rated construction.	Within 3 months
-----	-------------------------	---	--	-----------------



---

F-3	Fire Rated Construction	Areas used for combustible storage in ground floor 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 23m <sup>2</sup> - If sprinkler protected: maximum height of 3.66m and maximum area of 93m <sup>2</sup>  Separate areas of unenclosed combustible storage by a minimum clear distance of 3m.	Within 3 months
-----	-------------------------	--	--	-----------------



---

F-4	Egress	Storage in the SE corner was located in the egress path.	Keep egress paths and stairs clear of storage.	Immediate
-----	--------	--	--	-----------



F-5 Egress

Collapsible gates / sliding doors are provided at building exits and exit stairs.

Replace all gates / sliding doors along the means of egress with side-hinged, swinging egress doors.

Within 1 month

If locks are required for security reasons, utilize special door locking features complying with NFPA 101.



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 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-8	Fire Protection	No fire detection system was provided in the building.	Provided automatic detectors throughout the building in accordance with NFPA 72.	Within 6 months
-----	-----------------	--	--	-----------------