INITIAL FIRE SAFETY INSPECTION REPORT

Liz Knitting & Printing Industry (Extension)

RSC ID: 25624

Holding-1,Block-C, Shaheed Mosharaf Hossain Road, Purbo Chandora, Sofipur, kaliakoir, Gazipur.

Geographical Coordinates : 24.0322457207, 90.2700963169

Other Factories:

1. Liz Knitting & Printing Industry (RSC ID: 24319)
2. LIZ FASHION INDUSTRY LTD. (Shafipur Unit) (RSC ID: 10228)
3. Liz Fashion Industry Ltd (Extension) (previously HMN Fashion Ltd) (RSC ID: 11250)

RSC RMG SUSTAINABILITY COUNCIL

Inspected By: A N Faisal Ahmed & Md. Rakibul Islam

Date: 26 May,2024

Fire Safety Inspection Report

Liz Knitting & Printing Industry (Extension)

Introduction:

Liz Knitting & Printing Industry (Extension) Complex was surveyed for fire safety on **26 May, 2024** by The RSC Inspection Team. The purpose of the survey was to identify significant fire safety issues and to provide recommendations for remediation based on applicable standards specified by the RSC. 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.

Limitations

The information in this fire safety inspection report was obtained during a visit to the facility and during interviews with local factory management. It has not been possible to provide independent verification for all the information and data collected, and, therefore, The RSC cannot accept general responsibility for omissions or errors arising from inaccuracies in this report from the information obtained.

The findings and recommendations in this report are not intended to imply, guarantee, ensure or warrant compliance with any government regulations. Additionally, the results do not imply in any way that compliance with the findings or recommendations as stated in this report will eliminate all hazards, risks or exposures or that hazards, risks or exposures not referred to in this report do not exist. Compliance with the findings and recommendations stated in this report does not relieve the factory owner from obligation to comply with specific project requirements, industry standards, or the provisions of any local government regulations.

General Factory Information

Factory Building name(s):

1.Building 01 Name: LKP 3 , Area: 6075 sqm. RCC construction, 5 story building (G+4)
Single Fire event with Building 02 of RSC ID# 24319
Construction Date: August'2022 to October' 2023. ; Occupying date: November' 2023
Building Approval Authority & Date: Local Municipal Authority , 03 March 2022
Construction Period: New Building

2. Building 02 Name: Connecting Bridge Structure , Area: 91 sqm. Steel construction, single storied structure;
Connected on 2nd floor among LKP 3 (RSC ID# 25624), LIZ FASHION INDUSTRY LTD. (Shafipur Unit) - (RSC ID# 10228) and Liz Fashion Industry Ltd (Extension) (previously HMN Fashion Ltd) (RSC ID# 11250).
Construction Date: December' 2022 to July' 2023. ; Occupying date: November' 2023
Building Approval Authority & Date: Not available.
Construction Period: New Building

Note: RSC ID 24319 covers two building. Building 01 is commonly known as LKP -01, Building 02 is known as LKP -02. Building covered on RSC ID 10228 is known as Liz-01, Liz-02 and ID 11250 is known as Liz -03.

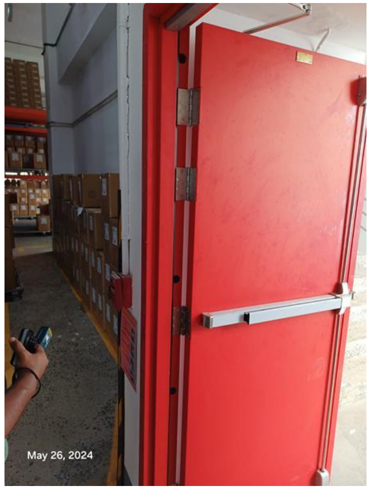
Factory Address: Holding-1, Block-C, Shaheed Mosharaf Hossain Road, Purbo Chandora, Sofipur, kaliakoir, Gazipur.

Findings & Recommendations :

Table 1 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 RSC for approval.

Table-1: Finding & recommendation

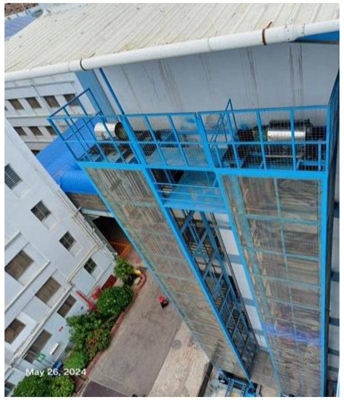
Sl No.	Category	Findings	Required Action	Remediation Time Frame
F-1	Fire Rated Construction	The exit stairs are not separated from , storage areas and work areas on each floor by fire rated construction. Certificate and data sheet were not found for doors leaf, frame and accessories. Moreover, intertek certified double leaf fire doors did not have listing mark in one leaf of each door which requires further clarification.	Provide minimum 2-hr rated fire wall and 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. Ensure availability of credible documents for installed fire door during verification inspection.	Within 3 Months



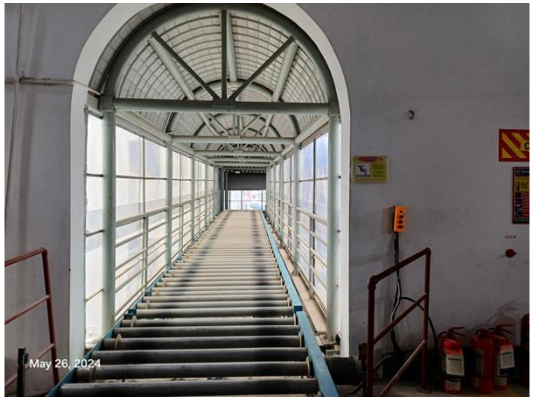
Sl No.	Category	Findings	Required Action	Remediation Time Frame
F-2	Fire Rated Construction	Store room discharged directly into the exit stair enclosures. Location: All 3 exit stairs from 1st floor to 4th floor.	Openings from exit enclosure to storage shall be provided with a vestibule with fire rated construction and openings. Provide a 2 hr. fire rated door on the exit stair side and a 1- hr. fire rated door on the storage side. Ensure that the fire rating of the vestibule construction matches that of the exit stair enclosure. The minimum width for vestibules shall not be less than 1.1m and length 1.8m.	Within 3 Months

Sl No.	Category	Findings	Required Action	Remediation Time Frame
F-3	Fire-Rated Construction	At ground floor north-east stair-2 enclosure , gas line and electrical wires/raceways were located which doesn't comply with following section 6.14.4 of RSC Technical Guideline (Standard)	No other penetration into and through the exit enclosure except for fire alarm equipment electrical raceway, required exit doors, sprinkler piping, standpipes, and electrical conduit serving the exit enclosure is permitted. Relocate the electrical wires/raceways to somewhere else avoiding the exit enclosure, and seal the created unprotected openings with a minimum of 1.5 hours listed/certified fire-rated materials or 2-hr masonry construction.	Within 3 Months

Sl No.	Category	Findings	Required Action	Remediation Time Frame
F-4	Fire Rated Construction	There are 2 numbers of exterior elevator are located for transportation of goods at each floor (1st-4th). Elevator shafts are directly open into the Storage floor without proper fire separation.	Ensure minimum 1.5-hr fire rated opening protective of elevator shafts otherwise close the shafts area with 2-hr fire rated construction barrier and 1.5-hr fire rated doors.	Within 3 Months



Sl No.	Category	Findings	Required Action	Remediation Time Frame
F-5	Fire Rated Construction	At 2nd floor level, three way connecting steel structure/ bridge along with conveyer belt was found among LKP-3, LIZ-1 and LIZ-3 building. This structure is not separated by fire rated construction or opening protective from 2nd floor of LKP-3 building (ID-25624); from one stair serving LIZ-1 building (ID-10228) and from another stair serving LIZ-3 building (ID-11250).	Separate the buildings by minimum 2-hr fire-rated construction all three side of the steel structure/ connecting bridge. Provide 1.5 hr. fire rated opening protective and seal all penetrations and openings between the exterior connecting bridge and the building up to 10 ft. beyond the end of the connecting bridge by 2 hr. fire rated construction.	Within 3 Months



Sl No.	Category	Findings	Required Action	Remediation Time Frame
F-6	Fire Rated Construction	Building-2 - Connecting single storied steel structure or bridge had a total height greater than 11.0m and proximity from LIZ-1 and LIZ-3 building do not cover and its defined as "New Building". Structural fire protection and passive fire protection were not provided to this structure following section 3.5.4 of RSC Technical Guideline (Standard)	Provide required fire resistance rating of structural elements (steel column, beam, trusses etc.), exterior walls, exit enclosures satisfying the requirements of BNBC 2020 Part 3 Section 1.9.2.4, Table 3.2.4, Table 3.3.1(a), Table 3.2.2, Table 3.2.1 and Part 4 Table 4.1.1.	Within 6 Months

Sl No.	Category	Findings	Required Action	Remediation Time Frame
F-7	Fire Rated Construction	Egress court serving exit stair-03 was found less than 10 ft & opening from compressor room of utility building was not protected by fire rated construction.	An egress court serving as a portion of the exit discharge shall be open to the sky or provided with a fire resistance rated enclosure the same as the exit enclosure. Egress courts less than 3050 mm (10 ft) in width (as measured from the building and the adjacent property line) shall be provided with walls having a 1-hr fire resistance rated construction for a distance of 3050 mm (10 ft) above the floor of the court.	Within 3 months

Sl No.	Category	Findings	Required Action	Remediation Time Frame
F-8	Fire Rated Construction	Exit discharge from exit of Screen Keeping Store is not directed to outside of the building and exit discharge through load unloading area.	Provide minimum 2-hr rated exit passageways from screen keeping area & shall terminate on exit discharge. Or, Remove the loading-unloading area from the location & keep area vacant.	Within 3 months
				

Sl No.	Category	Findings	Required Action	Remediation Time Frame
F-9	Fire Rated Construction	Area used for combustible storage are not separated by fire rated construction on stanter machine room located at ground floor of building-1 (LKP-3) and building-2 connecting steel structure or bridge.	Separate the dedicated storage rooms by minimum 1-hr fire-rated construction. Provide 0.75 hr. fire rated door and seal all penetrations and openings by 1 hr. fire rated fire rated barrier 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.) , maximum area of 23m2 (250 ft2) and 3m (10ft.) clear distance from adjacent another unenclosed combustible storage. - If the building/floor is sprinkler protected: maximum height of 3.66m (12ft.) and maximum area of 93m2 (1000 ft2) and and 3m (10ft.) clear distance from adjacent another unenclosed combustible storage.	Within 3 months

Sl No.	Category	Findings	Required Action	Remediation Time Frame
F-10	Fire Rated Construction	Unsealed penetrations and openings are located in the fire rated floor/ceiling assemblies. Location: Cable penetration at all floor of building-1 LKP-3	Seal all penetrations and openings in floor/ceiling (full thickness of the floor/ceiling) assemblies by fire rated materials to maintain the fire resistance rating. or, Provide a minimum 3-hr fire rated shaft to separate the cable penetration from each floor.	Within 3 Months

Sl No.	Category	Findings	Required Action	Remediation Time Frame
F-11	Mean of Egress	Evacuation map , Stair & floor designation signs and occupant load signs were not posted at 2nd floor of Building-1 LKP-3.	Provide updated evacuation map considering single fire event with LKP-02 . Also provide stair & floor designation signs and occupant load signs at required locations.	Within 1 month

Sl No.	Category	Findings	Required Action	Remediation Time Frame
				
F-12	Mean of Egress	In some of places aisles are not provided in between rack. Location: 1st and 2nd floor of Building-1 LKP-3.	Provide minimum aisles widths of 36-in.	Within 1 Month

Sl No.	Category	Findings	Required Action	Remediation Time Frame
				
F-13	Mean of Egress	In chemical store (Hazardous Occupancy), travel distance exceeds 15.0m. Location: ground floor of LKP-3.	Rearrange the exit arrangement to meet travel distance or Provide 3rd exit in such a way that travel distance do not exceed 15.0m as per BNBC 2020 Part IV Table 4.3.8. The width of a door shall not be less than 1 m and the height shall be not less than 2 m.	Within 1 Month

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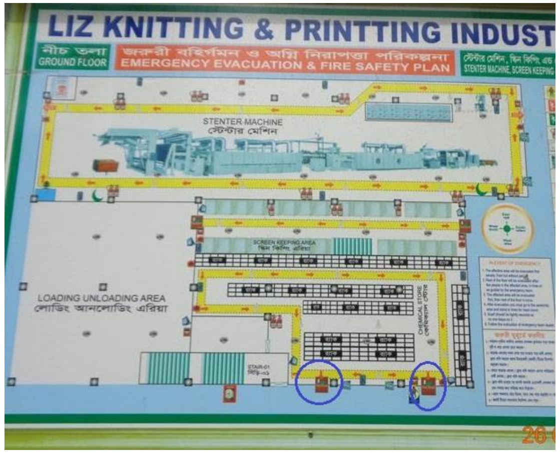
<tr><td colspan="5">
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<tr><td>F-14</td><td>Mean of Egress</td><td>The exits in the chemical store on ground floor are not remotely located from each other (less than one-half maximum diagonal distance of pace) such that a single fire event could compromise both exits.</td><td>Modify exit arrangement to provide remote exits.</td><td>Within 1 Month</td></tr>
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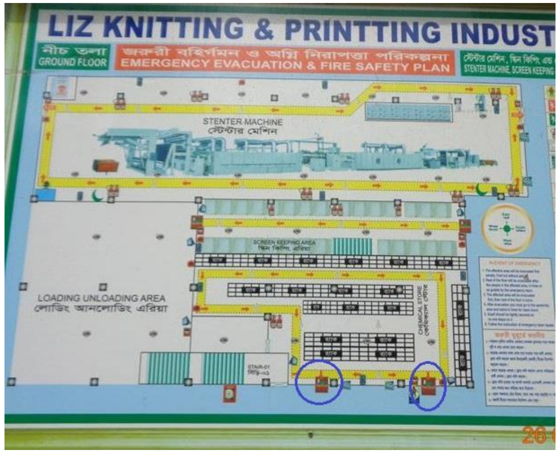

F-15	Mean of Egress	At ground floor of building-1, chemical pipeline for stanter machine has obstructed the means of egress. Headroom measured less than the 80 inch (2.03 m).	All means of egress shall have a minimum ceiling height of 2.3 m (7 ft 6 in.) with projections from the ceiling not less than 2.03 m (6 ft 8 in.). The minimum ceiling height shall be maintained for at least 2/3 of the space or room as long as the remaining area shall be not less than 2.03 m (6 ft 8 in.). Headroom on stairs shall not be less than 2.03 m (6 ft 8 in.).	Within 1 Month

Sl No.	Category	Findings	Required Action	Remediation Time Frame
				
F-16	Mean of Egress	At ground floor of building-1 (LKP-3), maximum riser height for stair-2 was found 267 mm (10.5 in.).	The maximum riser height for any stair shall be 215 mm (8.5 in.) and any riser height at the top or bottom step in a stair run exceeding more than 51 mm (2 in.) difference from the adjacent riser height shall be modified to be within this tolerance.	Within 3 Months

Sl No.	Category	Findings	Required Action	Remediation Time Frame
				
F-17	Egress Lighting	Exit signage was not provided along a path of egress in building-2 connecting steel structure or bridge.	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. Lighted exit signs shall be provided with either battery backup or uninterruptable power supply systems and shall be continuously illuminated.	Within 1 Month

Sl No.	Category	Findings	Required Action	Remediation Time Frame
				
F-18	Egress Lighting	Emergency exit light were found burn out at 1st floor exit.	Regularly test the emergency lighting system on each floor and replace/repair lights as needed.	Within 1 Month

Sl No.	Category	Findings	Required Action	Remediation Time Frame
				
F-19	Egress Lighting	Emergency lights along egress route is not provided in building-2 connecting steel structure or bridge. Emergency light is also not found in corridor connecting the stair-3 at all floor. Most of the places in building-1 are covered by emergency light, but still adequate illumination levels are not anticipated in few spaces of egress route.	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

Sl No.	Category	Findings	Required Action	Remediation Time Frame
				
F-20	Egress Lighting	Inspection, testing and maintenance for the emergency lighting system was not in accordance with The RSC standard.	Inspect, test and maintain the emergency lighting system in the accordance with The RSC standard. Keep written records on-site.	Within 3 Months
F-21	Fire Protection System (Fire extinguishers)	Portable fire extinguisher was not installed in building-2 connecting steel structure or bridge where in process storage are kept. At 2nd floor of building-1, extinguishers were kept on floor.	Portable fire extinguishers shall be installed throughout all new, interim, and existing facilities in accordance with BNBC 2020 and NFPA 10.Extinguishers shall be placed so that maximum travel distance to the nearest unit shall not exceed 30 m (100 ft). Fire extinguishers having a gross weight not exceeding 18.14 kg (40 lb) shall be installed so that the top of the fire extinguisher is not more than 1.53 m (5 ft) above the floor (NFPA 10 6.1.3.8).	Within 3 Months

Sl No.	Category	Findings	Required Action	Remediation Time Frame
				
F-22	ITM of Fire Extinguishers	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 onsite, in accordance with NFPA 10.	Within 1 Month

Sl No.	Category	Findings	Required Action	Remediation Time Frame
F-23	Fire Alarm & Detection System (FADS)	LKP-3 building (ID# 25624) and LKP-1 & LKP-2 building (ID# 24319) were covered by a single automatic detection and alarm system. Automatic fire alarm & detection system installation requires detailed review to confirm compliance with NFPA 72 and RSC standards. High piled storage (more than 12 ft height rack) was found at store at 4th floor and at chemical store at ground floor). For all rack storages in all floors, rack dimension, space between racks, type of rack or shelves, vertical and horizontal flue spaces along with aisles need to incorporate in as-built drawing.	Submit as-built drawings, testing records, equipment certification and other relevant documentation to the RSC for review. Once reviewed, install or modify the fire detection and alarm system (where required) throughout the building in accordance with RSC standard and NFPA 72. The factory management shall contact RSC to conduct the final acceptance testing after the installation, testing & commissioning.	Design Review within 2 months and installation/modification within 4 months.

Sl No.	Category	Findings	Required Action	Remediation Time Frame
  				
F-24	Fire Detection System (ITM of FADS)	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 Table-14.3.1 of NFPA 72.	Within 1 Month after installation.

Sl No.	Category	Findings	Required Action	Remediation Time Frame
F-25	Fire Protection System(Standpipe System)	LKP-3 building (ID# 25624) and LKP-1 & LKP-2 building (ID# 24319) were considered as single fire management system. Fire Protection system installation requires detailed review to confirm compliance with NFPA 13,14, 20, 22,24 and RSC standards..	Submit as-built drawings, testing records, equipment certification and other relevant documentation to the RSC for review. Once reviewed, install or modify the sprinkler, standpipe system and pump (where required) throughout the building in accordance with RSC standard and NFPA 13, 14 and 20. The factory management shall contact RSC to conduct the final acceptance testing after the installation, testing & commissioning.	Design Review within 2 months and installation/modification within 4 months.

Sl No.	Category	Findings	Required Action	Remediation Time Frame
F-26	Inspection, testing, and maintenance of the Fire Pump (ITM).	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 25.	Within 1 Month after installation.
F-27	Fire Protection System(ITM of Standpipe)	Inspection, testing, and maintenance for the standpipe system is not in accordance with NFPA 13 and 25 or as per RSC standard.	Inspect, test and maintain the fire pump and standpipe system, and keep written records on-site, in accordance with NFPA 14 and 25 or as per RSC standard.	Within 1 Month after installation.