

INITIAL FIRE SAFETY INSPECTION REPORT

Reedisha Knitex Ltd. (Extension)

RSC ID: 24600

Dhanua, Nayanpor, Sreepur

24.259079992, 90.39676148

Other Factories: Reedisha Knitex Ltd. [ID-9321]



Inspected By: A N Faisal Ahmed, Kazi Raian Mahmood & Md. Kawsar Rubaiat

Date: 05-Dec-2023

Fire Safety Inspection Report

Reedisha Knitex Ltd. (Extension)

Introduction:

Reedisha Knitex Ltd. (Extension) complex was surveyed for fire safety on **12-Dec-2023** 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):

Factory Building name(s): The factory compound has a total Eight (08) buildings under this RSC ID 24600. The buildings are as below:

1. Building-11: B+8 Storied Building: (New Building).

Approved from **Building Approval Committee, Sreepur Upazilla** on **22-Dec-2022**.

Construction duration: Aug 2021 to Dec 2022.

Occupied- Jan 2023.

Total Floor area: 3,43,917 sqft (Approximately).

2. Building-10: Dyeing Shed-03 & Lab Section: Dyeing shed with Four storied RCC building. (New Building)

Approved by **Building Approval Committee, Sreepur Upazilla** on **22-Dec-2022**

Construction duration: Feb 2022 to Dec 2022.

Occupied: Dec 2022.

Total Floor area: 26,100 sqft (Approximately).

3. Building -07: New Admin Building: Six-storied RCC building. (Interim Building)

Approved by **Building Approval Committee, Sreepur Upazilla** on **22-Dec-2022**

Construction duration: Feb 2016 to Jan 2017.

Occupied: Jan 2017.

Total Floor area: 13,504 sqft (Approximately).

4. Building -05: Printing & Store Building: Five Storied RCC Building. (Interim Building)

Approved by **Building Approval Committee, Sreepur Upazilla** on **22-Dec-2022**

Construction duration: Nov 2014 to Dec 2015.

Occupied: Dec 2015.

Total Floor area: 48,017 sqft (Approximately)

5. Building -13: Compressor Building: Two-Storied RCC Building.
Construction duration: Sept 2007 to Feb 2008 (Existing).
Occupied: Feb 2008.
Total Floor area: 1,600 sqft (Approximately)

6. Building -15: Boiler: Two Storied
Construction duration: Apr 2023 to Aug 2023 (New)
Occupied: Oct 2023.
Total Floor area: 2,000 sqft (Approximately)

Factory Address: Dhanua, Nayanpor, Sreepur.

7. Building -14: Utility Shed: Single Storied
Construction duration: Mar 2010 to Mar 2011 (Existing).
Occupied: .
Total Floor area: 7,000 sqft (Approximately).

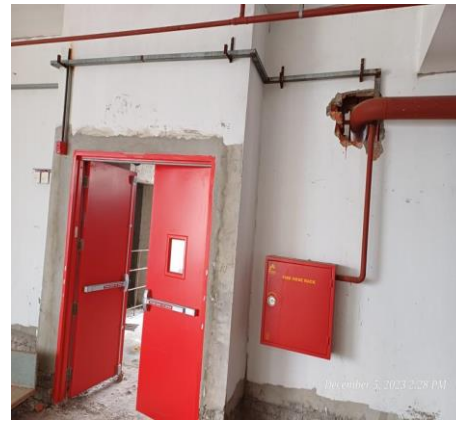
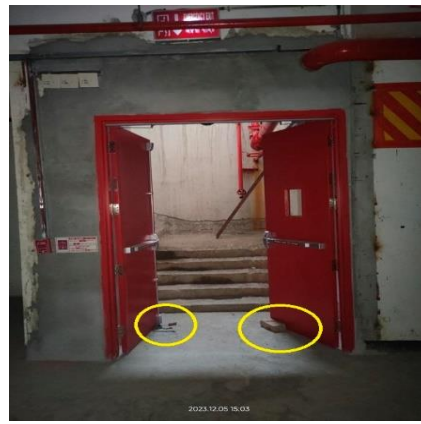
8. Compressor shed: Single Storied
Construction duration: Feb 2023 to May 2023 (New).
Occupied: June 2023.
Total Floor area: 1,440 sqft (Approximately)

Findings & Recommendations :

Table 1 summarize the fire safety non-compliant issues identified during the inspection. Recommendations have been provided to address each issue with specific remediation timeline. 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 review.

Table-1:

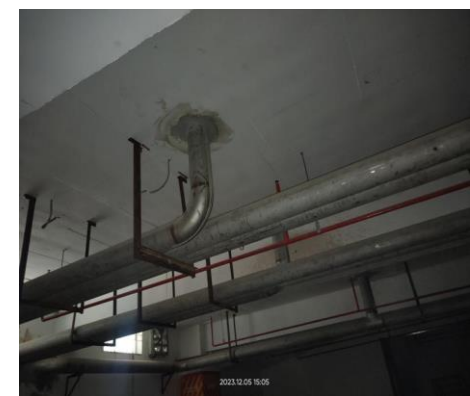
SI No.	Category	Findings	Required Action	Remediation Time Frame
F-1	Fire Rated Construction	The exit stairs are not separated from work areas, other spaces on each floor by fire-rated construction due to non-functioning door accessories, listing information missing on accessories, door were kept open by external source & unprotected penetration. Location: Building-11	Provide minimum 2-hr fire rated construction for buildings 4 storied or more and 1-hr for up to 3 storied. Seal all unprotected openings to separate the exit stairs from work areas and other spaces on all floor levels by 90 minutes for 2 hr. construction and 60 minutes for 1-hr construction. Ensure that the fire rated doors are self-closing and positive latching and that they are provided with fire exit (panic) hardware where serving production floors. If fire rated doors are required to be held open for functional reasons, provide automatic closing devices tied to the fire alarm system.	Within 3 months



F-2	Fire Rated Construction	Storage room discharges directly into exit stair enclosure without vestibules. Location: Building -11	Openings from the exit enclosure to the storage room, 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 store 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
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F-3	Fire Rated Construction	Penetrations through floor/ceiling assemblies are found unsealed. Location(s): Plumbing pipes and Electrical Riser, Basement store steel & sanitary pipes etc. (Building-11)	Provide a minimum 2-hr fire-rated shaft to separate the utility risers from each floor level or seal all penetrations and openings in floors/ceiling assemblies by 3-hr fire-rated listed/certified materials. The installation of such fire-rated materials shall be following certified design.	Within 3 months
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F-4	Fire Rated Construction	The fire pump room is not provided with adequate fire separation due to unprotected penetration by sanitary pipes.	Provide a minimum 2-hr fire-rated shaft to separate the utility risers from each floor level or seal all penetrations and openings in floors/ceiling assemblies by 3-hr fire-rated listed/certified materials. The installation of such fire-rated materials shall be following certified design.	Within 3 months
 				

F-5	Fire Rated Construction	The exit discharge path [serving middle exit] is less than 10 ft wide & and is not separated from the adjacent fabric store building. (Building-11)	Egress courts less than 3050 mm (10 ft) in width (as measured from Building-11 to Adjacent fabric store building) shall be provided with walls having a 1-hr fire resistance rated construction materials for a distance of 3050 mm (10 ft) above the floor of the court.	Within 3 Months
 				

F-6	Means of Egress	Stairway treads are not uniform (throughout the building) & uneven walking surface were found from exit discharge of Middle exit (Building-11) and are not protected from slip or tripling hazard.	Remove the obstructions and Provide an even level walking surface in exit discharge in accordance with 6.3.4 of RSC Technical Guidelines (Standard_V1.0).	Within 3 months
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F-7	Means of Egress	Only single exit is provided from the Fabric Store Shed where the travel distance (available 39m) exceeded 23 m Location: Mezzanine floor.(Building-11)	Provide additional exit discharging directly outside or through a 1-hr rated exit corridor. Where two or more exits or means of egress are required, the exit doors or means of egress openings shall be located a distance apart equal to not less than one-half of the length of the maximum overall diagonal dimension of the building or area to be served measured in a straight line between exits or egress openings. Where the building is provided with a complete automatic sprinkler system, the separation of the exits or means of egress openings shall be not less than one-third of the maximum overall diagonal dimension.	Within 3 months
 				

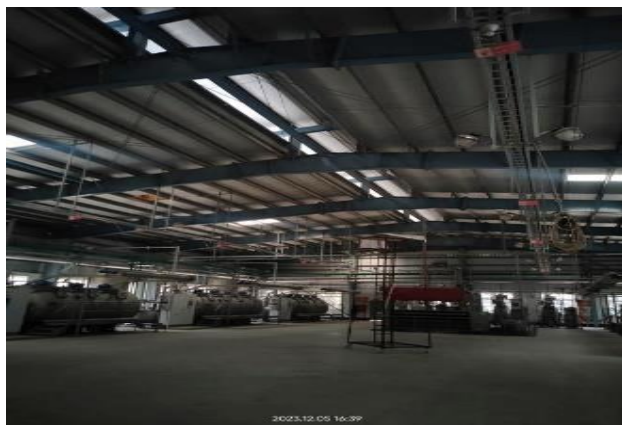
F-8	Means of Egress	Handrails are not provided on both sides of the exit stairs on all floors. Location: Building-11	RSC-6.12.1.2: New handrails shall have a minimum height of 865 mm (34 in.) and a maximum height of 965 mm (38 in.) as measured from the leading edge of the tread. Intermediate rails or pattern shall be in a such way, that a sphere 200 mm (8 in.) in diameter cannot pass through any opening up to a height of 865 mm (34 in.).	Within 1 month
  				

F-9	Means of Egress	Guards are not provided floor on periphery of the floor ,exterior wall of stair enclosure. Location: Building-11	Guards shall provide as per RSC Technical Guidelines (StandardV1.0.) Section 6.12.2 to prevent falling hazard . Minimum guard height shall be 42 in & Open guards shall have intermediate rails or pattern such that a sphere 200 mm (8 in.) in diameter cannot pass through any opening up to a height of 865 mm (34 in.).	Within 1 month
 				

F-10	Means of Egress	Parapet height was found less than 42". Location: Building-11	Provide parapets with a minimum height of 1067mm (42 inch.). Parapets that are constructed on rated exterior construction shall be of the same rating as the exterior wall rating in accordance with BNBC.	Within 3 months
 				
F-11	Means of egress	Exit stairs serve more than 5 stories and do not have required re-entry provisions. Location: Building-11	Every door in a stair enclosure serving more than 5 stories shall be provided with re-entry unless it meets RSC standard 6.8.3.1.	Within 1 month

F-12	Means of Egress	Building did not have stair designation, floor designation signs, occupant load sign & evacuation plans at the required locations on all floors. Location: All Buildings	Provide stair designation, floor designation, occupant load sign & evacuation plans at required locations.	Within 1 month
F-13	Means of Egress	Directional Exit signage was not provided along the path of egress where there is a change in the direction for the path of travel and the direction to an exit is not obvious. Location: All Buildings	Provide directional 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 directional signs shall be provided with either battery backup or uninterruptable power supply systems and shall be continuously illuminated.	Within 1 month
 				

F-14	Emergency Lighting	Based on the number and location of emergency lights observed, adequate illumination levels are not anticipated along egress routes and at exit stairs. Location: All Buildings	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 1 month
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F-15	Fire Alarm & Detection system	Automatic fire alarm and detection system is being installed which requires detailed review to confirm compliance with NFPA 72 and The RSC Technical Guidelines (Standard). Location: All building.	Submit the fire alarm system design to RSC for review. Once the design is reviewed, install and modify the fire detection and alarm system throughout the buildings in accordance with review comment, RSC Technical Guidelines (Standard) and NFPA 72. After installation the owner shall conduct internal testing and commissioning and then contact the RSC for witness of final acceptance testing. Also inspect, test and maintain the fire alarm system, and keep written records on-site, in accordance with Table-14.3.1 of NFPA 72.	Design Review within 2 months and installation/modification within 4 months
 				

F-16	Fire Alarm & Detection system (ITM of FADS)	Inspection, testing and maintenance for the fire alarm system is not in accordance with NFPA 72 and The RSC Technical Guidelines (Standard).	Inspect, test and maintain the fire alarm system and keep written records on-site, in accordance with NFPA 72 and The RSC Technical Guidelines (Standard) and keep written records on-site	Within 1 month (after installation)
F-17	Fire Protection System (Standpipe & Sprinkler)	A Sprinkler system which was found to be installed in the factory, is required to be reviewed and verified. Location: Building-11	Submit as-built drawings, testing records, equipment certification and other relevant documentation to the RSC for review and approval. Modification (if required) shall have to be done as per the reviewed design and NFPA- 13,14,20,22,24. Upon approval & modification (if required) the factory shall inform RSC to conduct final testing and commissioning verification of the system for final acceptance.	Design Review within 2 months and installation/modification within 4 months



F-18	Fire Protection System (Standpipe)	A Standpipe system was found to be installed in the factory, which is required to be reviewed and verified. Location: Building-5, 7, 10	Submit the standpipe system drawing to RSC for review. Once reviewed, install or modify the standpipe system throughout the building in accordance with RSC standard and NFPA 14,20,22 and 24. Upon approval & modification (if required) the factory shall inform RSC to conduct final testing and commissioning verification of the system for final acceptance.	Design Review within 2 months and installation/modification within 4 months
F-19	Fire Protection System(ITM of fire pump)	Inspection, testing, and maintenance for the fire pump is not in accordance with NFPA 20, 25 and RSC Technical Guideline (Standard).	Inspect, test and maintain the fire pump in accordance with NFPA 20, 25 and RSC Technical Guideline (Standard) and keep written records on-site.	Within 1 Month (after installation/modification)

F-20	Fire Protection System(ITM of Standpipe)	Inspection, testing, and maintenance for the Standpipe system is not in accordance with NFPA 14, 25 and RSC Technical Guideline (Standard).	Inspect, test and maintain the standpipe system in accordance with NFPA 14, 25 and RSC Technical Guideline (Standard) and keep written records on-site.	Within 1 Month (after installation/modification)
F-21	Fire Protection System(ITM of Sprinkler)	Inspection, testing and maintenance of the automatic sprinkler system is not in accordance with NFPA 25.	Inspect, test and maintain the automatic sprinkler system and keep written records on- site, in accordance with NFPA 25 and RSC standards.	Within 1 Month (after installation/modification)
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 and The RSC Technical Guidelines (Standard).	Within 1 month
F-23	Egress Lighting ITM	Inspection, testing, and maintenance for the emergency lighting system were not in accordance with The RSC Technical Guidelines (Standard).	Inspect, test and maintain the emergency lighting system in the accordance with The RSC Technical Guidelines (Standard) and keep written records on-site.	Within 1 month

F-24	Human Element Program	Hot work has been observed on roof top & 4th floor of Building-11 & it has been observed, hot work policy was not being maintained properly.	A hot-work permit system in accordance with NFPA 51B shall be provided for any construction in an occupied facility & shall maintain properly.	Within 1 month
 				
F-25	Means of Egress	Width of exit stairs are less than 1.5 m (available 48 in). Location: Building-10	Provide exit stair minimum clear and unobstructed width of 1.5 m (60 in.) in accordance with as per RSC Technical guideline (standard V1) 6.5.6.2.1.	within 3 months

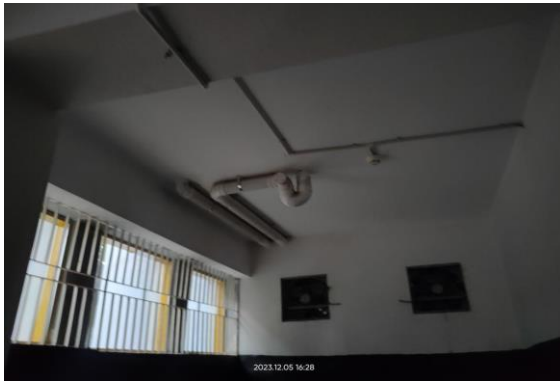
				
F-26	Means of Egress	Secondary exit has not been provided on more than 2 storied floors. Location: Building-10	The number of means of egress from any floor, story or portion thereof shall not be less than 2 except where a single exit is permitted by 6.6.2 (RSC Technical Guidelines). Provide additional exit or limit the building maintaining RSC Technical Guidelines clause- 6.6	Within 3 months

F-27	Means of Egress	Exit discharge from west exit is unusable & abrupt changes of elevation in walking surface has been found. Location: Building-10	Provide an even level walking surface in exit discharge in accordance with 6.3.4 of RSC Technical Guidelines (Standard_V1.0).	Within 1 month
				
F-28	Means of Egress	Width of exit is less than 39 in west exit. Location: Building-10	Provide minimum 39 in clear and unobstructed width for exit in accordance with as per RSC Technical guideline (standard V1) 6.5.6.1.3	within 1 months



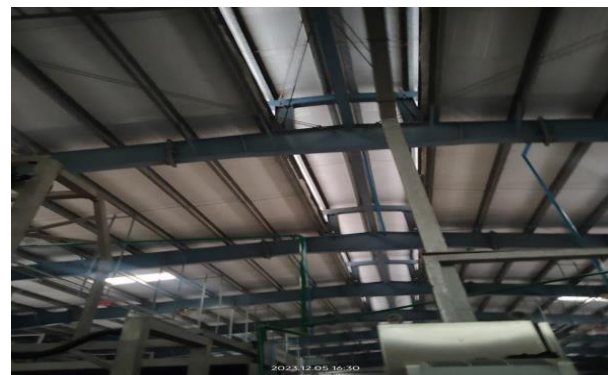
F-29	Fire Rated Construction	The exit stairs are not separated from work area by fire-rated construction due to unprotected opening. Location: Building-10	Provide minimum 2-hr fire rated construction for buildings 4 storied or more and 1-hr for up to 3 storied. Seal all unprotected openings to separate the exit stairs from work areas and other spaces on all floor levels by 90 minutes for 2 hr. construction and 60 minutes for 1-hr construction. Ensure that the fire rated doors are self-closing and positive latching and that they are provided with fire exit (panic) hardware where serving production floors. If fire rated doors are required to be held open for functional reasons, provide automatic closing devices tied to the fire alarm system.	Within 3 months
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F-30	Fire Rated Construction	Chemical store was found on the ground floor without fire separation due to unprotected penetration due to sanitary pipes & opening has been observed with the Dyeing section. Location: Building-10	Ensure the chemical store fire separated by minimum 4-hr fire rated construction barrier with only occupancies with G and H following table 3.2.1 of BNBC-2020. No opening is permitted in the 4-hr rated wall towards any other occupancy. Follow section 2.13 of BNBC-2020 as a guideline chemical store while rearranging.	Within 3 months

				
F-31	Fire Rated Construction	Lab on 1st floor is not separated from dyeing section. Location: Building-10	Ensure the lab is fire separated by minimum 2-hr fire rated construction barrier with dyeing section following table 3.2.1 of BNBC-2020.	Within 3 months



F-32	Fire Rated Construction	The main structural element of the Single storey dyeing shed by steel which is non-rated & building height is 11.2m. Steel members were found in exposed condition without any fire protection. Location: Building-10	The building shall be type 1-C construction as per RSC Technical Guidelines (Standard) 3.5.2 & BNBC 2020. Provide require rating in the structural elements of the building. Consult with a qualified fire protection engineer. Submit the proposed drawing/design to RSC for review. Once reviewed, install passive fire protection as per reviewed design.	Within 6 months
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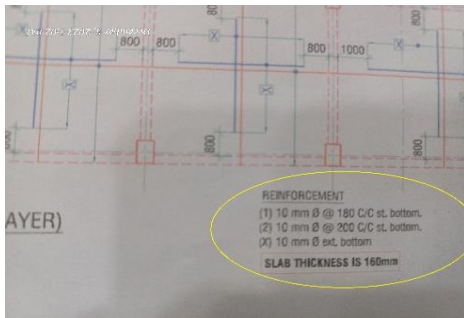
F-33	Fire Rated Construction	The exit stairs are not separated from work area by fire-rated construction due to unprotected opening. Location: Building-07	Provide minimum 2-hr fire rated construction for buildings 4 storied or more and 1-hr for up to 3 storied. Seal all unprotected openings to separate the exit stairs from work areas and other spaces on all floor levels by 90 minutes for 2 hr. construction and 60 minutes for 1-hr construction. Ensure that the fire rated doors are self-closing and positive latching and that they are provided with fire exit (panic) hardware where serving production floors. If fire rated doors are required to be held open for functional reasons, provide automatic closing devices tied to the fire alarm system.	Within 3 months
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F-34	Means of Egress	Building is connected with Old admin building & stair of admin building is shared by both building. Secondary exit has not been provided dedicatedly on more than 2 storied floors on New Admin Building (Building -07) Location: Building-07	The number of means of egress from any floor, story or portion thereof shall not be less than 2 except where a single exit is permitted by 6.6.2 (RSC Technical Guidelines). Provide additional exit or limit the building maintaining RSC Technical Guidelines clause- 6.6 or Old admin building exit stair width shall be 60 in.	Within 3 months
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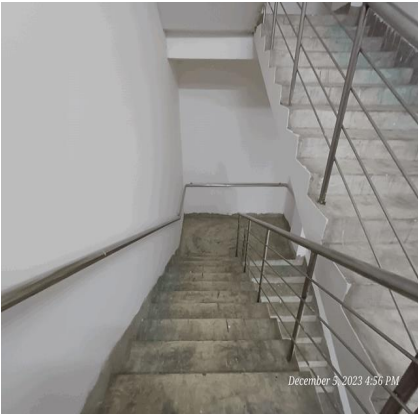
F-35	Fire Rated Construction	Elevator shafts are directly open into exit enclosure which is a violation of RSC Technical Guidelines (Standard)-6.14.3. Location: Building-07	An exit stairway shall not be built around a lift shaft unless both of them are located in a smoke proof enclosure and made of a material with fire resistance rating required for the type of construction of smoke proof enclosure. (As per 6.14.3 of RSC Technical Guidelines (Standard) V1.0) Ensure the lift shaft is enclosed by a minimum 3-hour fire rated wall with minimum 2.0-hr fire rated door. Recommended to follow "SUPPLEMENTARY PAPER ON REMEDIATION GUIDANCE ELEVATOR OR LIFT SHAFT OPENING IN EXIT ENCLOSURES" for remediation.	Within 3 months
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F-36	Fire Rated Construction	Rooms used for chemical storage are not properly separated by fire rated construction due to inadequate slab thickness (160 mm). Also sample room having large amount of chemical samples wasn't provided with proper MSDS to verify the quantity within allowable limit. Location: Ground floor, 1st floor and 2nd floor. 3rd & 4th floor (Sample and sub-store) of Building 5-Printing Building.	Provide a minimum 4-hr fire-rated construction barrier (For required slab thickness, follow Table 4.1.1- BNBC-2006) or other fire-rated listed/certified materials to separate the chemical stores from each floor level. The installation of such fire-rated materials shall follow a certified design. Provide MSDS, chemical category, and category-wise allowable limit for chemicals as per BNBC and manage all the chemicals in the sample and sub-store as per the allowable limit.	Within 3 months

   				
F-37	Fire Rated Construction	Chemical storage room discharges directly into exit stair enclosure without required vestibules. Location: Ground, 1st and 2nd floor of building 5-Printing Building.	Openings from the exit enclosure to the storage room, 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 store 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 4 months
  				

F-38	Fire Rated Construction	Lift/elevator enclosure discharges directly into exit stair enclosure. Location: Stair 1 of Building 5-Printing Building.	An exit stairway shall not be built around a lift shaft unless both of them are located in a smoke proof enclosure and made of a material with fire resistance rating required for the type of construction of smoke proof enclosure. (As per 6.14.3 of RSC Technical Guidelines (Standard) V1.0) Ensure the lift shaft is enclosed by a minimum 3-hour fire rated wall with minimum 2.0-hr fire rated door. Recommended to follow "SUPPLEMENTARY PAPER ON REMEDIATION GUIDANCE ELEVATOR OR LIFT SHAFT OPENING IN EXIT ENCLOSURES" for remediation.	Within 4 months
 				

F-39	Fire Rated Construction	The exit discharge path [serving 2nd exit] is less than 10 ft wide & is not separated from the wastage go-down shed and Chemical store at ground floor. Location: Building 5- Printing building	Egress courts less than 3050 mm (10 ft) in width (as measured from Building-01 to Building-02) shall be provided with walls having a 1-hr fire resistance rated construction materials for a distance of 3050 mm (10 ft) above the floor of the court.	Within 3 Months
 				
F-40	Fire Rated Construction	Penetrations through floor/ceiling assemblies are found unsealed due to sanitary pipe. Location(s): Building 5-Printing building	Provide a minimum 2-hr fire-rated shaft to separate the utility risers from each floor level or seal all penetrations and openings in floors/ceiling assemblies by 3-hr fire-rated listed/certified materials. The installation of such fire-rated materials shall be following certified design.	Within 3 months

				
F-41	Means of Egress	Stair width was found less than 1.5m (60 inches) (available 51 inches) Location: Stair-2 of Building 5- Printing building	Stairs shall have a minimum width of 1.5 m (60 in.) for all industrial occupancies	Within 3 months
 				

F-42	Fire Rated Construction	Fuel storage (Diesel, lube oil, engine oil) room has unprotected opening with the compressor room and printing building ground floor Location: Compressor shed.	Provide a minimum 4-hr fire-rated construction barrier or other fire-rated listed/certified materials to separate the diesel store from other occupancies. The installation of such fire-rated materials shall be following certified design.	Within 4 months
  				

F-43	Fire Rated Construction	Wastage go-down adjacent to the compressor building has unprotected opening at ground floor and is not separated from the exit stair of the compressor building Location: Building 13- Compressor Building.	Provide a minimum 2-hr fire-rated construction barrier or other fire-rated listed/certified materials to separate the wastage store shed from other occupancies. The installation of such fire-rated materials shall be following certified design.	Within 4 months
  				