

INITIAL FIRE SAFETY INSPECTION REPORT

The Civil Engineers Woven Limited (Extension)

RSC ID: 25414

8, 9, 159 & 160 Baghbari, Horindhara, Hemayatpur, Savar, Dhaka, Bangladesh

Geographical Coordinates of factory building: 23.790438,90.257400

Other Factories: ID-12156 (The Civil Engineer's Ltd. (UNIT-2))



Inspected By: Dilip Kumar Mondal and Tanvir Jubayer Rahman

Date: 14 February-2024

Fire Safety Inspection Report

The Civil Engineers Woven Limited (Extension)

Introduction:

The Civil Engineers Woven Limited (Extension) complex was surveyed for fire safety on **14 February-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) in this ID:25414:

1. Building-1: Warehouse Steel Building

Construction Time: November 2019 to June 2021, Occupied on: July 2021

Building Approval: From Union Porishod 15 April 2015

Construction Period: Interim

Height of the building: 51'-11" (Highest occupiable Floor: 28'-8")

Total 108,288 Sft (Per floor: 36096 Sft)

2. Building-2: Gas Generator RCC Building

Construction Time: March 2020 to May 2023, Occupied on: June 2023

Building Approval: From Union Porishod 15 April 2015

Construction Period: Interim

Total Area: 4000 Sft (Per floor: 2000 Sft)

4. Building-4: Guard Room-1

Construction Time: October 2013 to June 2014, Occupied on: July 2014

Building Approval: From Rajuk on 16 February 2010

Construction Period: Interim

5. Building-5: Guard Room-2

Construction Time: November 2019 to October 2020

Building Approval: From Rajuk on 16 February 2010

Construction Period: Interim

6. Building-6: Guard Room-3 & RMS Room

Construction Time: October 2013 to June 2014, Occupied on: July 2014

Building Approval: From Union Porishod 15 April 2015

Construction Period: Interim

7. Building-7: Guard Room-4 & Driver Rest room

Construction Time: November 2019 to June 2020, Occupied July 2020

Building Approval: From Union Porishod 15 April 2015

Construction Period: Interim

8. Building-8: Cycle Stand

Construction Time: November 2019 to April 2020, Occupied on: May 2020

9. Building-9: Security Watch Tower

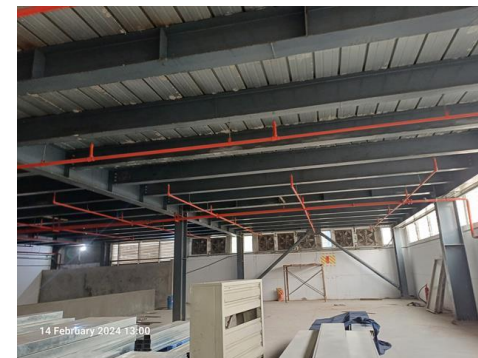
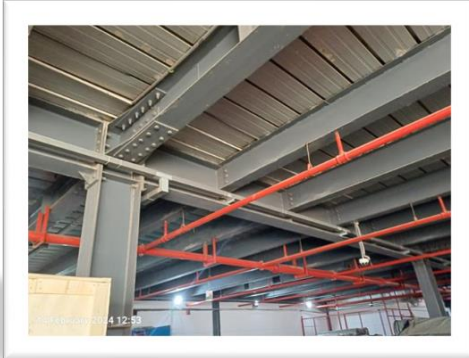
Construction Time: September 2019 to December 2019, Occupied on: January 2020

Note: 9 storied main production building & 3 Storied Utility Building (RSC ID: 12156)

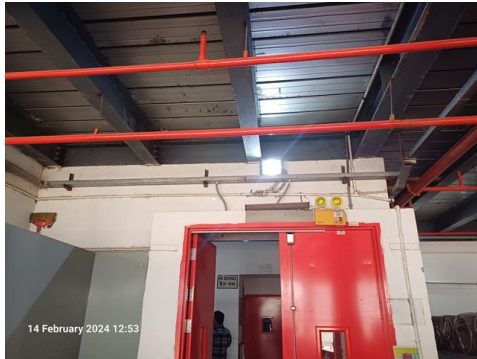
Findings & Recommendations :

Table 1 summarizes the major fire safety issues identified during the inspection of main building. 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:				
SI No.	Category	Findings	Required Action	Remediation Time Frame
F-01	Fire rated Construction	The building height is more than 14 m. The main structural element of the building is constructed by steel which is non-rated and were found in exposed condition without any fire protection which is a violation of BNBC-2006.	The building is a steel structure which shall be type-I construction. So, provide required rating in the structural elements of the building. Consult with a qualified fire protection engineer. Follow BNBC 2006- Table 3.2.4, 3.1.9 and 3.3.1 as reference.	Within 6 months



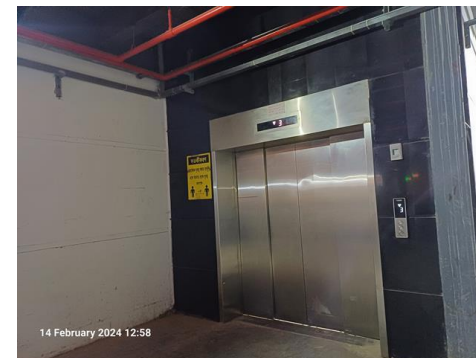
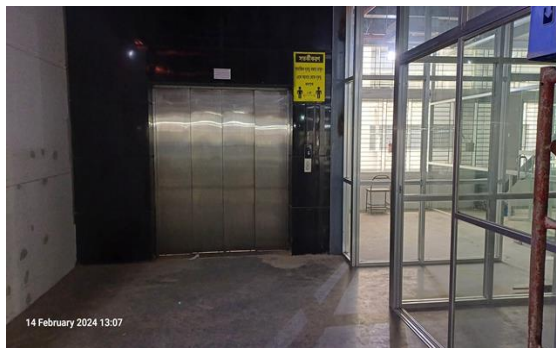
F-02	Fire Rated Construction	The exit stairs are not separated from [work areas, other spaces] on each floor by fire-rated construction. [The non-rated steel is unsealed, door holders are not functional and fire doors are not installed at all required locations, non rated glass from lift shaft]	Provide 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 and provide vestibules to avoid direct discharge from storage to exit stair enclosure. If fire rated 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 RSC standard 6.8.3.1 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
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F-03	Fire Rated Construction	Areas used for in-process storage of combustible materials are open to the surrounding occupancy. Location: ground floor	Provide defined storage areas and limit the storage arrangement as follows:- 1. General Condition: Maximum height of 2.4m and maximum area of 23m². Separate areas of unenclosed combustible storage by a minimum clear distance of 3m. 2. 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. or 3. Enclose the storage area from the surrounding occupancy with a minimum 1 hour construction.	Within 3 month
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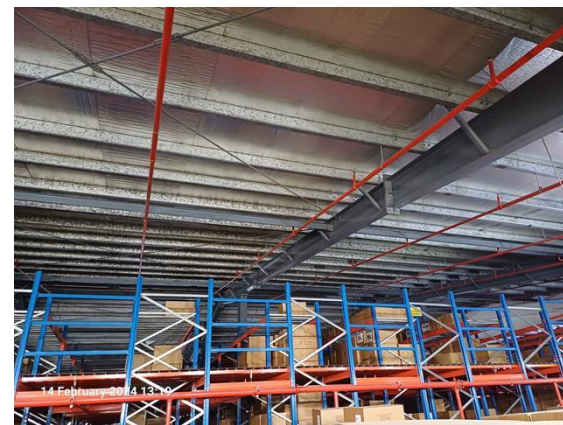
F-04	Fire Rated Construction	Elevator shafts are directly open into production floor without proper fire separation on 1st and 2nd floors.	Ensure the lift shaft is enclosed by a minimum 3-hour fire-rated wall with a minimum 2.0-hr fire-rated door. Or If not possible anyway provide a minimum 2-hr fire-rated elevator shaft with a listed fire-rated lift landing door to separate from each floor level.	Within 3 Months
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F-05	Fire rated Construction	Unsealed penetrations and openings are located in the fire-rated floor/ceiling assemblies. All floors.	Seal all penetrations and openings in floor/ceiling assemblies to maintain the fire separation at least by 3-hr. The used sealer shall be 3rd party-certified and installation shall be as per the manufacturer's guidelines. (Type-1 Construction). or, Provide a minimum 2-hr fire-rated shaft to separate the utility risers from each floor if required. (Type-1 Construction).	Within 3 months
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F-06	Fire Rated Construction	The mezzanine on the 2nd floor was found to be more than one-third of the floor area.	According to BNBC 2006, Chapter 1, Part 3, 1.12.6: The total area of mezzanine floors in a building shall not exceed one-third the plinth area of the building. The area of the mezzanine floors shall be included in calculating the FAR. Also, follow the in accordance with The RSC Technical Guidelines (Standard) 6 Part 6 Means of Egress.	Within 3 months
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F-07	Fire Rated Construction	Storage room discharges directly into exit stair enclosure without vestibules. Location: All floor	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-08	Fire rated Construction	Unsealed penetrations are located in the fire-rated floor/ceiling assemblies due to cable riser from storage room to office area on 2nd floor.	Seal all penetrations and openings in floor/ceiling assemblies to maintain the fire separation at least by 3-hr. The used sealer shall be 3rd party certified and installation shall be as per manufacturer's guideline.	Within 3 months
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F-09	Means of Egress	Aisles are not provide with a of 36 in. Location: 1st floor.	Aisles shall be provided with a minimum unobstructed clear- with of 0.9m (36 in).	Within 1 Month
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F-10	Mean of Egress	Changes in elevation of walking surfaces do not exceed 6.35 mm (1/4 in) unless provided with a beveled slope of 1 in 2 that does not exceed 12.7 mm (1/2 in). Location from stair-2 and stair-3 to the public way.	Resurface the change in elevation to provide a slope that is less than 1 in 48 in.	Within 3 Months
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F-11	Fire Alarm & Detection System (FADS)	Fire alarm system installation requires detailed review to confirm compliance with NFPA 72 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 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.	Within 6 Months
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F-12	ITM of Fire Alarm & Detection system	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 The RSC Technical Guidelines (Standard).	Within 1 month (after installation)
F-13	Sprinkler	Sprinkler system is not mandatory for the building based on height but the system installed for the building along with standpipe system. However, both the system requires detailed review to confirm compliance with NFPA 13, 14, 20, 22, 24 and RSC Technical Guidelines (Standard).	Submit the sprinkler system drawing to RSC for review. Once the design is reviewed, install and modify the sprinkler/standpipe system throughout the building in accordance with review comment, RSC Technical guideline (Standard) and NFPA 13,14,20,22 and 24. After installation the owner shall conduct internal testing and commissioning and then contact the RSC for witness of final acceptance testing.	Within 9 Months



F-14	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 in accordance with The RSC Technical Guidelines (Standard).	Within 3 month
F-15	Egress Lighting	Directional signs are not provided where direction of the path of travel to an exit has changed.	Illuminated directional signs shall be provided where there is a change in the direction for the path of travel and the direction to an exit is not obvious.	Within 3 months



F-16	Emergency light and Exit Sign	Based on the number and location of emergency lights observed, adequate illumination levels are not anticipated along egress routes.	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 month
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F-17	ITM of Emergency light and Exit Sign	Inspection, testing, and maintenance for the exit sign and emergency lighting system was not in accordance with The RSC Technical Guidelines (Standard).	Inspect, test and maintain the exit sign and emergency lighting system in the accordance with The RSC Technical Guidelines (Standard). Keep written records on-site.	Within 3 month
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