

# INITIAL FIRE SAFETY INSPECTION REPORT

**AMIGO BANGLADESH LTD**

**RSC ID: 24224**

**RS No: 1408 - 1416, Khalapara, Dakkhinbag, Kaliganj, Gazipur-1613**

**Other Factories: Crystal industries Bangladesh Pvt. Limited (Sister Concern)**



**Inspected By: Md. Rakibul Alam & Pantha Pallob Das**

**Date: 27 September & 03 October 2021**

# Fire Safety Inspection Summary Report

## AMIGO BANGLADESH LTD

### Introduction:

AMIGO BANGLADESH LTD complex was surveyed for fire safety on 27 September & 3 October 2021 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): There are total 13 individual structures in the premises, the buildings are as below:




- i. Block-1 (5 storied RCC building)
- ii. Block-2 (5 storied RCC building)
- iii. Dormitory Building (5 Storied RCC building)
- iv. Office Building (4 storied RCC building)
- v. Day Care Building (2 storied RCC)
- vi. Canteen Building (2 storied RCC)
- vii. Boiler Shed (Single storied PEB)
- viii. Power Palnt Shed (Single storied PEB)
- ix. Washing Plant Shed (Single storied PEB with a mezzanine)
- x. ETP (Single storied RCC)
- xi. WTP (Single storied RCC)
- xii. Fire Pump Room (Sinle storied RCC)
- xiii. Temporary Generator Shed.

## Findings & Recommendations :

Table 1 and 2 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. Findings And Recommendations - Block-1, Day Care, Boiler Shed, Power Plant, Washing Plant, ETP, WTP**

SI No.	Category	Findings	Required Action	Remediation Time Frame
1	Fire Rated Construction	<p>The exit stair enclosures are not separated from work areas and other spaces on each floor by fire-rated construction.</p> <p>Location: Block-1 and Daycare building.</p>	<p>The exit stair enclosure shall be provided with a minimum 1-hr fire resistance rating for buildings with 3 or fewer stories and a minimum of 2- hr. fire resistance rating for buildings 4 or more stories. Provide 0.75 hr. fire rated door and seal all penetrations and openings by 1 hr. fire rated fire rated barrier construction for building with 3 or fewer stories. Provide 1.5 hr. fire rated door and seal all penetrations and openings by 2 hr. fire rated fire rated barrier construction for building with 4 or more stories.</p> <p>Provide a fire-resistive rated assembly between the exterior exit stairs and the building up to 10 ft. beyond the end of the stair to achieve the required separation. The rated assembly shall be approved and/or designed by a qualified fire protection engineer.</p> <p>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.</p>	Within 3 Months

				
<p>2</p>	<p>Fire Rated Construction</p>	<p>Elevator shafts are open into production floor without proper fire separation (Doors are fire rated reported by management where credibility shall be ensured).</p> <p>Location: Block-1</p>	<p>Ensure minimum 2-hr fire credible rating for the doors of elevator shafts.</p>	<p>Within 3 Months</p>



3	Fire Rated Construction	<p>Unsealed penetrations and openings are located in the fire-rated floor/ceiling assemblies.</p> <p>Location: Block-1</p>	<p>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 datasheet.</p> <p>or,</p> <p>Provide a minimum 2-hr fire rated shaft to separate the utility risers from each floor if required.</p>	Within 3 Months
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4	Fire Rated Construction	Office on mezzanine floor was not properly fire separated with warehouse on the ground floor of Block-1 due to unprotected window opening.	Seal the unprotected window opening for the office towards to warehouse with minimum 45 minutes rated materials or seal by brick wall for ensuring the required separation.	Within 3 Months
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5	Fire rated Construction	The newly constructed Power plant, Washing plant and Boiler sheds are steel construction which appears to be nonrated and were found in exposed condition.	<p>New construction shall be Type-1 or Type-2 construction in accordance with Accord standard 3.5.2.1 and BNBC-2006 Part-2, Table-3.2.4.</p> <p>Ensure fire resistive rated construction following Section 4.4 and Table 4.4.1 of the Accord Standard or Table 3.3.1 and Table 4.1.1 from BNBC-2006 Part 4.</p> <p>Consult a qualified fire protection engineer to achieve the required fire rating.</p>	Within 6 Months
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6	Fire Rated construction	Boilers are not properly separated by fire rated construction with other Occupancies/Areas (maintenance room/area and store at boiler shed).	<p>Boilers or other heat producing equipment shall be separated from other occupancies by a minimum 1-hr (2-hr for Highrise building) fire rated construction (wall, floor, slab etc.). Seal all penetrations and openings (door, window etc.) should be protected by 0.75-hr (45 min) fire rated materials to maintain the fire separation if required. All exhaust systems shall discharge to the exterior of the building in a safe location.</p> <p>Or</p> <p>Relocate/remove the maintenance room/area and store from boiler shed.</p>	Within 3 months
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7	Fire Rated construction	<p>Areas used for in-process storage of combustible materials are open to the surrounding occupancy. Location: Block-1 building.</p>	<p>Provide defined storage areas and limit the storage arrangement as follows:-</p> <ol style="list-style-type: none"> <li>1. General Condition: Maximum height of 2.4m and maximum area of 23m<sup>2</sup>. Separate areas of unenclosed combustible storage by a minimum clear distance of 3m.</li> <li>2. 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. or</li> <li>3. Enclose the storage area from the surrounding occupancy with a minimum 1 hour construction.</li> </ol>	Within 3 months
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8	Means of Egress	Egress aisles are not provided at power plant and washing plant. Both sheds are currently used as electrical, mechanical and industrial equipment storage.	Provide egress aisles with a minimum unobstructed clear-width of 0.9 m (36 in.).	Within 1 Month
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9	Means of Egress	Building/shed did not have stair occupant load signs at required locations.	Provide occupant load signs at required locations (near all exits).	Within 1 Month
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10	Means of Egress	Fire evacuation maps is not posted at the entrance of all exit stair and exit. Location: Block-1, power plant, washing plant and daycare building.	Fire evacuation maps shall be posted at the entrance to each exit stair.	Within 1 Month
11	Means of Egress	Electrical Distribution board and water motors were located inside of stair. Location: Block-1 and daycare building	Relocate the DB and water motors from stair enclosure.	Within 1 Month



12	Egress Lighting	<p>Based on the number and location of emergency lights observed, adequate illumination levels are not anticipated along egress routes and at exit stairs on all floors.</p> <p>Location: All buildings.</p>	<p>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.</p>	Within 1 Month
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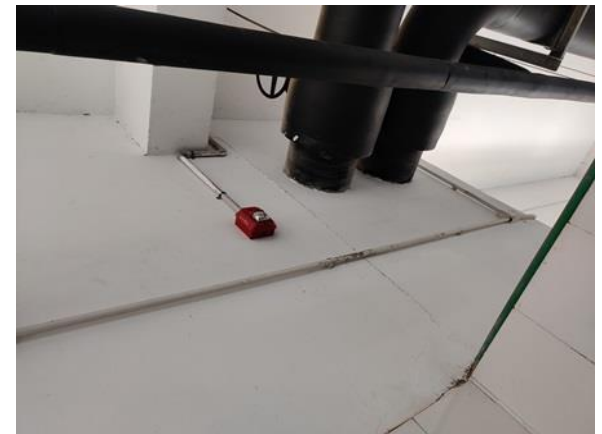
13	Egress Lighting	<p>Exit signage was not provided at a building exit / along a path of egress / in a readily visible location.</p> <p>All buildings/sheds.</p>	<p>Provide exit signs above all building exits to the exterior, all doors to the exit stairs and along all paths of travel where a change of direction is not obvious.</p>	Within 1 Month
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14	Egress Lighting	Exit signs were placed in areas that were not exits.	Remove exit signs from noted areas to avoid confusion from actual exits.	Within 1 Month
				
15	SUPS-Portable Fire Extinguisher	<p>Portable fire extinguishers are not installed following the guideline of Accord Standard-5.6.</p> <p>Location: Block-1 building.</p>	Install portable fire extinguishers throughout the buildings following the guideline of NFPA-10.	Within 1 Month

16	SUPS-Sprinkler & Standpipe System	<p>Fire protection system (Pump, sprinkler and standpipe system) installation requires detailed review to confirm compliance with NFPA 13,14 &amp; 20 and ACCORD standards.</p> <p>Location: Block-1.</p>	<p>Submit as-built drawings, testing records, equipment certification and other relevant documentation to the RSC for review.</p> <p>Once reviewed, install or modify the sprinkler, standpipe system and pump (where required) throughout the building in accordance with Accord standard and NFPA 13, 14 and 20. The factory management shall contact RSC to conduct the final acceptance testing after the installation, testing &amp; commissioning.</p>	<p>Design review within 2 months and Installation within 4 months.</p>
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17	Fire Alarm & Detection System (FADS)	<p>Fire alarm and detection system installation requires detailed review to confirm compliance with NFPA 72 and ACCORD standards.</p> <p>Location: All buildings where installed. Also FADS is not provided at washing plant, ETP, WTP and FADS was switched off at daycare building</p>	<p>Submit as-built drawings, testing records, equipment certification and other relevant documentation to the RSC for review.</p> <p>Once reviewed, install or modify the fire detection and alarm system throughout the factory in accordance with Accord standard and NFPA 72. The factory management shall contact RSC to conduct the final acceptance testing after the installation, testing &amp; commissioning.</p>	<p>Design review within 2 months and Installation within 4 months.</p>
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**Table-2: Findings And Recommendations - Block-2, Dormitory Building, Office Building, Canteen Building, Fire Pump Room, Temporary Generator Shed.**

SI No.	Category	Findings	Required Action	Remediation Time Frame
18	Fire Rated Construction	<p>The exit stair enclosures are not separated from work areas and other spaces on each floor by fire-rated construction.</p> <p>Location: Block-2 and Office building.</p>	<p>The exit stair enclosure shall be provided with a minimum 1-hr fire resistance rating for buildings with 3 or fewer stories and a minimum of 2- hr. fire resistance rating for buildings 4 or more stories. Provide 0.75 hr. fire rated door and seal all penetrations and openings by 1 hr. fire rated fire rated barrier construction for building with 3 or fewer stories. Provide 1.5 hr. fire rated door and seal all penetrations and openings by 2 hr. fire rated fire rated barrier construction for building with 4 or more stories.</p> <p>Provide a fire-resistive rated assembly between the exterior exit stairs and the building up to 10 ft. beyond the end of the stair to achieve the required separation. The rated assembly shall be approved and/or designed by a qualified fire protection engineer.</p> <p>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.</p>	Within 3 Months

 <p>03/10/2021 00:12</p>	 <p>03/10/2021 00:33</p>	 <p>03/10/2021 00:18</p>		
<p>19</p>	<p>Fire Rated Construction</p>	<p>The exterior exit stair is not separated from the building. Location: Dining Building</p>	<p>Exterior exit stairs shall be separated by minimum 2-hr fire-rated construction and The rating of the exterior wall shall extend 3.05 m (10 ft.) beyond the ends of the stair structure. Provide minimum 2-hr fire rated doors to separate the exit stairs from work areas and other building spaces on all floor levels.</p>	<p>Within 3 months</p>
 <p>03/10/2021 01:11</p>	 <p>03/10/2021 01:14</p>			


20	Fire Rated Construction	<p>Elevator shafts are directly open into production floor without proper fire separation (Doors are fire rated reported by management where credibility shall be ensured).</p> <p>Location: Block-2</p>	Ensure minimum 2-hr fire credible rating for the doors of elevator shafts.	Within 3 Months
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21	Fire Rated Construction	<p>Unsealed penetrations and openings are located in the fire-rated floor/ceiling assemblies.</p> <p>Location: Block-2 &amp; Office Building.</p>	<p>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 datasheet.</p> <p>or,</p> <p>Provide a minimum 2-hr fire rated shaft to separate the utility risers from each floor if required.</p>	Within 3 Months
				

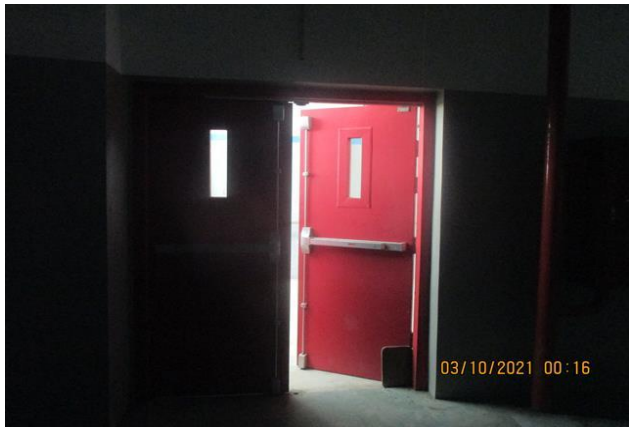
22	Fire Rated Construction	<p>Liquefied or compressed gas cylinders were located within the factory.</p> <p>Location: Dining Building and Boiler Shed.</p>	<p>LPG/CNG cylinders are permitted to be stored in a separate dedicated building on the factory premises within its boundaries if the building meets the following conditions.</p> <ol style="list-style-type: none"> <li>1. The storage building must be at least 3 meters away from any other building and boundaries.</li> <li>2. The exterior walls of the building must have a fire resistance rating of 3 hours using noncombustible construction.</li> <li>3. Doors and other openings in the exterior walls must be protected with suitable closing devices having a fire protection rating of 3 hours.</li> <li>4. The building is to be used for no other purpose than the storage of LPG/CNG cylinders.</li> <li>5. The building must be mechanically ventilated to control the accumulation of flammable vapors.</li> <li>6. The installations must be approved and accepted by the requirements of the AHJ, Gas supply company regulations, manufacturers/supplier's instructions/guidance, CIOB and all other applicable agencies, codes and standards.</li> </ol>	Within 1 month
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23	Means of Egress	The common path of travel on the ground floor warehouse (CIBL) measured approximately 90 meter which is a violation of Accord Standard 6.13.2.	Provide another exit for the warehouse so that the common path of travel does not exceed 30 m.	Within 1 Month
				
24	Means of Egress	Electrical Distribution board and water motors were located inside of stair. Location: Stair-5-Block-2, ground floor	Relocate the DB and water motors from stair enclosure.	Within 1 Month



25	Egress Lighting	Exit signage was not provided along a path of egress. This is typical on all floors.	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.	Within 1 Month
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26	Egress Lighting	<p>Based on the number and location of emergency lights observed, adequate illumination levels are not anticipated along egress routes and at exit stairs on all floors.</p> <p>Location: All buildings.</p>	<p>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.</p>	Within 1 Month
				
27	Egress Lighting	<p>Inspection, testing and maintenance for the emergency lighting system was not in accordance with The ACCORD standard.</p>	<p>Inspect, test and maintain the emergency lighting system in the accordance with The ACCORD standard. Keep written records on-site.</p>	Within 1 Month

28	SUPS-Portable Fire Extinguisher	Portable fire extinguishers are not installed following the guideline of Accord Standard-5.6.  Location: Block-2 and Office building.	Install portable fire extinguishers throughout the buildings following the guideline of NFPA-10.	Within 1 Month
29	ITM of Extinguisher	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
30	SUPS-Sprinkler & Standpipe System	Fire protection system (Pump, sprinkler and standpipe system) installation requires detailed review to confirm compliance with NFPA 13,14 & 20 and ACCORD standards.  Location: Block-2, Dormitory and Office Building.	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 Accord 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 within 4 months.



31	ITM of Standpipe System	Inspection, testing and maintenance of the standpipe system is not in accordance with NFPA 25.	Inspect, test and maintain the standpipe system and keep written records on-site, in accordance with NFPA 25.	Within 1 Month
32	ITM of Sprinkler System	Inspection, testing and maintenance of the sprinkler system is not in accordance with NFPA 25.	Inspect, test and maintain the sprinkler system and keep written records on-site, in accordance with NFPA 25.	Within 1 Month

33	ITM of Fire Pump	Inspection, testing and maintenance of the fire pump is not in accordance with NFPA 25.	Inspect, test and maintain the fire pump and keep written records on-site, in accordance with NFPA 25.	Within 1 Month
34	Fire Alarm & Detection System (FADS)	Fire alarm system installation requires detailed review to confirm compliance with NFPA 72 and ACCORD standards.  Location: All buildings.	Submit as-built drawings, testing records, equipment certification and other relevant documentation to the ACCORD for review.  Once reviewed, install or modify the fire detection and alarm system (where required) throughout the building in accordance with Accord 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 within 4 months.



35	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
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