

FIRE SAFETY INSPECTION REPORT

CRYSTAL INDUSTRIAL BANGLADESH LTD.

SA PLOT 2013 KEWA SREEPUR, GAZIPUR



February 21, 2014

SUMMARY

Crystal Industrial Bangladesh Ltd. was surveyed for fire safety on 2/21/2014 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.

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 Accord for approval.

Table 1. Findings And Recommendations

No.	Category	Finding	Recommendation	Remediation Timeframe
F-1	Fire Rated Construction	Areas used for combustible storage, specifically the storage warehouse areas to the northwest corner of the factory, 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 23m² - 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.	Within 3 months



F-2	Fire Rated Construction	The southeast boiler/generator/transformer structure and the factory building are not separated from the diesel fuel storage tank by fire-rated construction.	Separate the boiler/generator/transformer structure and factory building from the diesel storage tank by a minimum 2-hr fire-rated construction. Ideally, a wall separation at a height equal to or greater than that of the tank to maintain the required fire separation. Design accordingly with an access hatch so that refilling of the tank is possible.	Within 3 months
-----	-------------------------	---	--	-----------------



F-3	Fire Rated Construction	The elevator machine area in the second floor mezzanine is not separated by fire-rated construction.	Separate the elevator machine area 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 Rated Construction	Areas used for combustible storage throughout the factory floor are not separated by fire-rated construction.	Provide defined storage areas and limit the storage arrangement as follows: - Maximum height of 2.4m and maximum area of 23m² - If sprinkler protected: maximum height of 3.66m and maximum area of 93m²	Within 3 months
			Separate areas of unenclosed combustible storage by a minimum clear distance of 3m.	





F-5	Fire Rated Construction	Unsealed penetrations and openings are located in the fire-resistant wall assemblies in the storage warehouse.	Seal all penetrations and openings in wall assemblies to maintain the fire separation.	Within 3 months
-----	-------------------------	--	--	-----------------



F-6	Egress	Egress doors with locking features are provided at building exits, exit stairs, along egress routes, and at exit discharge. During the inspection all gates/doors were open and unlocked during the inspection.	Remove locking features from all egress doors / gates. If locks are required for security reasons, utilize special door locking features complying with NFPA 101.	Immediate
-----	--------	---	--	-----------



F-7	Egress	Storage was located in the egress path in the storage warehouse.	Keep egress paths and stairs clear of storage.	Immediate
-----	--------	--	--	-----------



F-8	Egress	Sliding doors are provided at building exits in various locations throughout the factory.	Replace all 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-9	Egress	Exit capacity (583) for the second story mezzanine is not adequate for the occupant load (980).	Provide additional exits to the second story mezzanine at the northeast and northwest corners. At the current occupant load, an additional 80 in. of doors and 120 in. of stairs is required. If an increased occupant load is expected in the future, design the exits sizes accordingly (utilize a factor of 0.2 for stairs and 0.3 for doors).	Within 3 months
F-10	Fire Protection	Inspection, testing, and maintenance records for the fire alarm system were not available.	Inspect, test and maintain the fire alarm system, and keep written records on-site, in accordance with NFPA 72.	Within 3 months
F-11	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.	Replace the single-station smoke alarms with automatic smoke detectors tied into the fire alarm system. Configure the fire alarm system to initiate occupant notification upon activation of any two smoke detectors in addition to the manual fire alarm stations.	Within 6 months
F-12	Egress Lighting	Emergency lighting did not function in test mode in the main office area because some bulbs were burned out.	Regularly test the emergency lighting system on each floor and replace/repair lights as needed.	Within 1 month



F-13	Egress Lighting	Exit signage on the factory floor was not illuminated, the signage was either broken or the bulb was burned out.	Regularly inspect all exit signage and replace/install lights as needed to illuminate signs.	Within 1 month
------	-----------------	--	--	----------------



F-14	Egress Lighting	The exit sign at the bottom of the stairs to the mezzanine was in a position such that the most immediate exit access from the factory floor was not evident.	Replace all intermediate exit signs with directional signage such that the most immediate exit egress path is known.	Within 3 months
------	-----------------	---	--	-----------------

