INITIAL FIRE ASSESSMENT REPORT (FAR)

Factory Name:	**HKD International (CEPZ) Ltd**
Address:	**Plot No. 49-55 Sector No. 8. Plot No. 1 Sector No. 4/A.Chittagong Export Processing Zone. Chittagong. Chittagong Bangladesh**
Assessor:	**Bureau Veritas**
Date:	**23 Apr 2014**

Introduction to the Report

The following report contains a site profile and summary of non-conformities identified during an onsite assessment commissioned by the Alliance for Bangladesh Worker Safety (Alliance) and conducted by a third-party Qualified Assessment Firm (QAF). The assessment was conducted against the Alliance for Bangladesh Worker Safety Assessment Protocols (APs) and Fire Safety and Structural Integrity Standard, which is harmonized with the factory assessment guidelines developed by Bangladesh University of Engineering and Technology (BUET) for the Bangladesh National Tripartite Plan of Action (NTPA). The goal of the Alliance process is to provide clear and practical technical requirements by which Bangladeshi Ready Made Garment (RMG) Factories producing for Alliance members may be consistently and fairly evaluated for fire, structural, and electrical safety in a non-duplicative manner. Each assessment will prompt action plans that will be used by RMG factories to systematically and sustainably improve safety conditions for garment workers. Beyond tracking and reporting on action steps taken in a transparent manner, the Alliance organization and its members will seek to further support factory improvements through technical assistance, training, implementation support for functional Worker Committees, and in some cases financial assistance and wage support for workers if factories are closed for remediation.

The contents of the report do not constitute a guarantee of compliance with the applicable laws, the Alliance Standard or the absolute or continued safety against fire, electrical and/or structural integrity issues that may lead to injury or loss of life. The report is designed to provide a non-exhaustive summary of risk issues, based on a limited sampling and duration of time onsite by the named QAF. Neither the QAF nor the Alliance can certify or guarantee the quality, outcome, or effectiveness of actions taken in response to the report.

For more information and report feedback please go to: www.bangladeshworkersafety.org.

GENERAL INFORMATION

General Information	
Factory Name:	HKD International (CEPZ) Ltd
Address:	Plot No. 49-55 Sector No. 8. Plot No. 1 Sector No. 4/A.Chittagong Export Processing Zone. Chittagong. Chittagong Bangladesh
Country:	Bangladesh
Province:	Chittagong
City:	Chittagong.
Zip Code:	4204
Audit Duration:	1 Days
Re-Audit:	Re-Audit After 0 Months
Draft Report Date:	05-26-2014
Final Report Date:	06-25-2014
Are all Action Items From Previous Assessment Completed?:	N/A
Buildings in Complex:	There are 15 buildings in the factory premises out of which five are main production buildings and ten are ancillary buildings. The buildings are named as: 1) Three story main building-A, 2) Four story main building-B with occupied roof, 3) Three story main building-C, 4) Two story main building-D, 5) Four story main building-E, 6) Single story guard building-A, 7) Single story guard building-B, 8) Single story mechanical workshop shed, 9) Single story garbage shed, 10) Single story substation shed-1, 11) Single story substation building-2, 12) Single story compressor shed-1, 13) Single story compressor shed-2, 14) Single story generator shed, 15) Single story rain test shed.
Is the building(s) owned or rented by the Factory:	Owned
Number of Building Levels (Stories):	Information provided below as per following format: Highest occupied floor level [Height up to roof], Stories above grade, Stories below grade, Occupied level. 1) Main building-A: 8.9m or 23.19ft [16.2m or 53.13ft],3,0,3. 2) Main building-B with occupied roof: 14.66m or 48.08ft [21.66m or 71.06ft],5,0,5. 3) Main building-C: 8.9m or 23.19ft [16.2m or 53.13ft],3,0,3. 4) Main building-D: 4.9m or 16.07ft [12.2m or 40.01ft],2,0,2. 5) Main building-E: 12.9m or 42.31ft [20.2m or 66.25ft],4,0,4. 6) Mechanical workshop shed: 90cm or 3ft [3.05m or 10ft],1,0,1. 7) Garbage shed: 90cm or 3ft [3.05m or 10ft],1,0,1. 8) Substation shed-1: 90cm or 3ft [3.65m or 12ft],1,0,1. 9) Substation building-2: 90cm or 3ft [3.05m or 10ft],1,0,1. 10) Compressor shed-1: 81.3cm or 2.66ft [2.44m or 8ft],1,0,1. 11) Compressor shed-2: 90cm or 3ft [3.05m or 10ft],1,0,1. 12) Generator shed: 81.3cm or 2.66ft [3.65m or 12ft],1,0,1. And two single story guard building and one single story rain test shed.
Approximate Building	Total area of all buildings in the factory premises: 366040 sft. Building wise breakdown as follows: 1) Three

Area (SF):	story main building-A: 68431 sft, 2) Four story main building-B with occupied roof: 32131 sft, 3) Three story main building-C: 90030 sft, 4) Two story main building-D: 25182 sft, 5) Four story main building-E: 146767 sft, 6) Single story guard building-A: 301 sft, 7) Single story guard building-B: 258 sft, 8) Single story mechanical workshop shed: 510 sft, 9) Single story garbage shed: 200 sft, 10) Single story substation shed-1: 510 sft, 11) Single story substation building-2: 340 sft, 12) Single story compressor shed-1: 70 sft, 13) Single story compressor shed-2: 408 sft, 14) Single story generator shed: 602 sft, 15) Single story rain test shed: 300 sft.
Date of Building Construction:	Factory personnel informed the date of construction as follows: 1) Three story main building-A: Finished in 2004, 2) Four story main building-B with occupied roof: Finished in 2004, 3) Three story main building-C: Finished in 2004, 4) Two story main building-D: No information of construction date, 5) Four story main building-E: Finished in 2004, For rest of the buildings no information of date of construction was found.
Date of Last Building Renovation/Addition:	Factory personnel informed the date of renovation as follows: 1) Two story main building-D: Renovation works ongoing (2013 to till now).
Ancillary Structures in Complex:	1) Single story guard building-A, 2) Single story guard building-B, 3) Single story mechanical workshop shed, 4) Single story garbage shed, 5) Single story substation shed-1, 6) Single story substation building-2, 7) Single story compressor shed-1, 8) Single story compressor shed-2, 9) Single story generator shed, 10) Single story rain test shed.
Approximate Ancillary Structures Area (SF):	1) Single story guard building-A: 301 sft, 2) Single story guard building-B: 258 sft, 3) Single story mechanical workshop shed: 510 sft, 4) Single story garbage shed: 200 sft, 5) Single story substation shed-1: 510 sft, 6) Single story substation building-2: 340 sft, 7) Single story compressor shed-1: 70 sft, 8) Single story compressor shed-2: 408 sft, 9) Single story generator shed: 602 sft, 10) Single story rain test shed: 300 sft.
Number of Occupants:	Total number of occupants: 2448. 1) Three story main building-A: 737 (Ground floor: 66, 1st floor: 338, 2nd floor: 333), 2) Four story main building-B with occupied roof: 294 (Ground floor: 129, 1st floor: 62, 2nd floor: 63, 3rd floor: 25, Occupied roof: 15), 3) Three story main building-C: 642 (Ground floor: 71, 1st floor: 222, 2nd floor: 349), 4) Two story main building-D: 20 (Ground floor: 10, 1st floor: 10), 5) Four story main building-E: 786 (Ground floor: 105, 1st floor: 350, 2nd floor: 326, 3rd floor: 5), 6) Single story guard building-A: 2, 7) Single story guard building-B: 1, 8) Single story mechanical workshop shed: 1, 9) Single story garbage shed: 0, 10) Single story substation shed-1: 1, 11) Single story substation building-2: 1, 12) Single story compressor shed-1: 1, 13) Single story compressor shed-2: 1, 14) Single story generator shed: 1, 15) Single story rain test shed: 0.
Number of Ancillary Levels (Stories):	Information provided below as per following format: Highest occupied floor level [Height up to roof], Stories above grade, Stories below grade, Occupied level. 1) Single story guard building-A: At grade [3.05 m or 10 ft], 1, 0, 1. 2) Single story guard building-B: 30 cm or 1 ft [3.05 m or 10 ft], 1, 0, 1. 3) Single story mechanical workshop shed: 90 cm or 3 ft [3.05 m or 10 ft], 1, 0, 1. 4) Single story garbage shed: 90 cm or 3 ft [3.05 m or 10 ft], 1, 0, 1. 5) Single story substation shed-1: 90 cm or 3 ft [3.65 m or 12 ft], 1, 0, 1. 6) Single story substation building-2: 90 cm or 3 ft [3.05 m or 10 ft], 1, 0, 1. 7) Single story compressor shed-1: 81.3 cm or 2.66 ft [2.44 m or 8 ft], 1, 0, 1. 8) Single story compressor shed-2: 90 cm or 3 ft [3.05 m or 10 ft], 1, 0, 1. 9) Single story generator shed: 81.3 cm or 2.66 ft [3.65 m or 12 ft], 1, 0, 1. 10) Single story rain test shed: At grade [3.65 m or 12 ft], 1, 0, 1.
Occupancy Type:	1) Three story main building-A: [Ground floor: G2 (Preparation section), H2 (Raw material storage), 1st floor: G2 (Sewing, Cutting), 2nd floor: G2 (Sewing, Cutting)], 2) Four story main building-B with occupied roof: [Ground floor: F1 (Office), D1 (Medical room), B2 (Child care), E4 (Training room), 1st floor: G2 (Sample setup area), 2nd floor: G2 (R&D, Sewing), 3rd floor: F1 (Office), Occupied roof: E4 (Meeting room)], 3) Three story main building-C: [Ground floor: H2 (Packing storage), 1st floor: G2 (Sewing, Cutting, Finishing), 2nd floor: G2 (Sewing, Finishing)], 4) Two story main building-D: [Ground floor: H2 (Finished goods storage), 1st floor: H2 (Left over storage)], and for more information please see the description.
Construction Type:	1) Three story main building-A: Non-rated, 2) Four story main building-B with occupied roof: Type 1, 3) Three story main building-C: Non-rated, 4) Two story main building-D: Non-rated, 5) Four story main building-E: [Ground floor to 2nd floor: Type 1, 3rd floor: Non-rated (Only ceiling)], 6) Single story guard building-A: Type 1, 7) Single story guard building-B: Type 1, 8) Single story mechanical workshop shed: Non-rated, 9) Single

	story garbage shed: Non-rated, 10) Single story substation shed-1: Non-rated, 11) Single story substation building-2: Type 1, 12) Single story compressor shed-1: Non-rated, 13) Single story compressor shed-2: Non-rated, 14) Single story generator shed: Non-rated, 15) Single story rain test shed: Non-rated.
Height of Highest Occupied Floor Level Above Grade:	1) Three story main building-A: 8.9 m or 23.19 ft, 2) Four story main building-B with occupied roof: 14.66 m or 48.08 ft, 3) Three story main building-C: 8.9 m or 23.19 ft, 4) Two story main building-D: 4.9 m or 16.07 ft, 5) Four story main building-E: 12.9 m or 42.31 ft, 6) Single story guard building-A: At grade, 7) Single story guard building-B: At grade, 8) Single story mechanical workshop shed: 90 cm or 3 ft above grade, 9) Single story garbage shed: 90 cm or 3 ft above grade, 10) Single story substation shed-1: 90 cm or 3 ft above grade, 11) Single story substation building-2: 90 cm or 3 ft above grade, 12) Single story compressor shed-1: 81.3 cm or 2.66 ft above grade, 13) Single story compressor shed-2: 90 cm or 3 ft above grade, 14) Single story generator shed: 81.3 cm or 2.66 ft above grade, 15) Single story rain test shed: At grade.

ASSESSMENT FINDINGS

Fire Protection Construction		
Question:	Certificates of Occupancy for each building have been issued and are on file.	
Priority Level:	Low	
Non-Compliance Level:	1	
Description:	No occupancy certificates are available for any building in the factory premises.	
Source of Findings:	Document Review: There was no occupancy certificate for any of the buildings among the documents shown by the factory concerned people.	
Suggested Plan of Action:	Apply to BEPZA for issuance of occupancy certificates and pursue the matter to expedite.	
Suggested Deadline Date:	06 Aug 2014	
Standard:	Are certificates of occupancy provided for each building or ancillary structure?	
Question:	Is the fire resistance materials of structural members in good condition and free of damage?	
Priority Level:	Medium	
Non-Compliance Level:		
Description:	There was no damage found in the fire resistance materials of the structural members in the RCC buildings. But some of the buildings are steel structure without insulation, therefore non-rated. However, structural members of prefab sheds seem to be in good condition. The single story masonry construction with tin roof and CI sheds are also non-rated.	
Source of Findings:	Visual Assessment: From visual inspection no damage was found in the structural members.	
Suggested Plan of Action:		
Suggested Deadline Date:		
Standard:	BNBC Part 3 Chapter 3	

Question:	Are openings and penetrations through rated walls and/or assemblies protected?	
Priority Level:	High	
Non-Compliance Level:	2	
Description:	Doors and windows of substation, generator, and compressor rooms and garbage store are not fire protected. Doors and windows of warehouse store, packing store, and leftover store on ground floor of main buildings A, C and D are not fire protected. Doors and windows of finished goods store on the 1st floor of building D and finished goods store on the 3rd floor of building E are not fire protected. The substation and generator room need 1.5 hour fire protective opening assemblies and all the stores need 45 minute fire protective opening assemblies.	
Source of Findings:	Visual Assessment: Openings were not fire protected.	
Suggested Plan of Action:	Provide opening protectives at all windows and other openings in fire rated walls across the entire premises. Close these openings if they are not required.	
Suggested Deadline Date:	17 Sep 2014	
Standard:	Includes doors, windows, ducts, piping, etc. Reference Alliance Standards Part 4 Section 4.6 Opening Protectives and Section 4.7 Penetrations	
Question:	Is each floor separated with a fire-resistive rated construction barrier?	
Priority Level:	High	
Non-Compliance Level:		
Description:	Slab thickness of the 3 story PEB main building-A and C is 5 inches. There is a production area on the 1st floor, warehouse, and packing store on the ground floor of the PEB main buildings A and C. Slab thickness of the 5 story RCC main building-B and 4 story RCC main building-E is 7 inches, which is capable of providing approximately 3 hour fire resistance, which meets the Alliance requirement. Although the 5 in. slab does not meet the requirements for a Type 1 building, the Standard only requires that an existing building greater than 2 stories and greater than 22,000 sq. ft. per floor be of a rated type of construction. Since the floor slab exceeds that for 1 hour, it is acceptable.	
Source of Findings:	Visual Assessment: The slab thickness of the three story PEB main buildings A and C was only 5 inches.	
Suggested Plan of Action:		
Suggested Deadline Date:	17 Sep 2014	
Standard:	Reference Alliance Standards Part 4 Section 4.5 Separation	

Question:	Are separations between hazards provided with fire-resistive rated construction barriers.
Priority Level:	Medium
Non-Compliance Level:	2
Description:	The generator is placed adjacent to ground floor of building-B and is not separated by fire-resistive rated construction barriers. Moreover, substation-1 is close to building-D and is not properly separated. Generator and substation rooms need to be separated from all other occupancy areas by a minimum 2 hour construction.
Source of Findings:	Visual Assessment: Occupancy separations were not fire rated.
Suggested Plan of Action:	Provide fire-resistive rated construction barriers between hazard types following Table 4.4.1 of Alliance Standard or Table 4.1.1 from BNBC Part 4. Consult a qualified fire protection engineer to design the required rated construction barrier.
Suggested Deadline Date:	10 Dec 2014
Standard:	Reference Alliance Standards Part 4 Section 4.5 Separation

Question:	Are exit enclosures provided with fire-resistive rated construction barriers?
Priority Level:	High
Non-Compliance Level:	2
Description:	There are 3 stairs in each 3 story main buildings A and C. Both of these buildings share 1 stair with building-B. There is also one stair at the middle of building-B. There is one stair for main building-D and two stairs for main building-E. None of the stairs are fire proof. Only 5 fire doors are installed at exits of buildings A and C. The doors appear to be fire rated, but no credible certificates are available. Remaining exit doors are not fire rated. All the walls of the exit enclosures are not fire rated as required. The doors on these stairs need to be fire rated as per Alliance Standard. All ancillary buildings are single story.
Source of Findings:	Visual Assessment: Exit doors and all of the walls of the exit enclosure were not fire rated.
Suggested Plan of Action:	Exit enclosure shall have a minimum fire-resistance rating of 2 hours when connecting four stories or more and a minimum fire-resistance rating of 1 hour when connecting three stories or less. 2 hour fire barriers need to be protected with 1.5 hour fire protective opening assemblies and 1 hour exit enclosures need to be protected with 1 hour fire protective opening assemblies. Fit outward opening, side-swinging, self-closing, non-lockable fire doors. Consult a qualified fire protection engineer to design the required rated construction barriers.
Suggested Deadline Date:	17 Sep 2014
Standard:	Reference Alliance Standards Part 4 Section 4.5 Separation

Question:	Are shafts provided with the minimum fire-resistance rating?	
Priority Level:	High	
Non-Compliance Level:	3	
Description:	There are two 6' x 6' cargo lifts of 1 ton capacity at each main building-A and C, and one 6' x 6' cargo lift of 1 ton capacity at main building-E. There is also one passenger lift of 400 kg with 4'x5' dimensions at main building-B. The shafts are not properly enclosed as required.	
Source of Findings:	Visual Assessment: Shafts were not fire protected.	
Suggested Plan of Action:	Provide a shaft enclosure of the required rating by constructing the enclosure with rated material of the required thickness. Protect the openings of the shaft enclosure by providing rated opening protectives.	
Suggested Deadline Date:	17 Sep 2014	
Standard:	Reference Alliance Standards Part 4 Section 4.5.7.1 through 4.5.7.3	
Question:	Fire dampers installed on air-conditioning and ventilation ducts appear to be in good condition and operational.	
Priority Level:	Medium	
Non-Compliance Level:		
Description:	No air-conditioning or ventilation duct available.	
Source of Findings:	Visual Assessment: During site tour no air-conditioning or ventilation duct was found.	
Suggested Plan of Action:		
Suggested Deadline Date:		
Standard:	Reference Alliance Standards Part 4 Section 4.6 Opening Protectives and Section 4.7 Penetrations	
Question:	If the building contains a vertical opening known as an atrium, have provisions been made to comply with Alliance Standard 3.7?	
Priority Level:	Medium	
Non-Compliance Level:		
Description:	No atrium available in the buildings.	
Source of Findings:	Visual Assessment: During site tour, no atrium was found.	
Suggested Plan of		

Action:	
Suggested Deadline Date:	
Standard:	Reference Alliance Standards Section 3.7 Atrium
Fire Protection Systems	
Question:	Is the building protected by an automatic sprinkler system?
Priority Level:	High
Non-Compliance Level:	3
Description:	There are 2 three story prefabricatedd sheds termed as main building-A and C in this report. Approximate floor areas of these sheds are 22,631 sft and 29,830 sft on ground floor, 22,900 sft and 30,100 sft on 1st floor, and 22,900 sft and 30,100 sft on 2nd floor. Therefore, automatic sprinkler systems are required.
Source of Findings:	Visual Assessment: No sprinkler system was found to be installed.
Suggested Plan of Action:	Install an automatic sprinkler system throughout the building designed by a qualified fire protection engineer. The hydraulic design of the sprinkler system must be pre-approved by CoE of Alliance. All installation and design requirements outlined in BNBC Part 4 Chapter 4 shall be replaced by the requirements of NFPA 13. Pipe schedules shall not be used to size pipe. All systems shall be hydraulically calculated to meet the required NFPA 13 design requirements. Installation of new automatic sprinkler systems shall be required to provide shop drawings and hydraulic calculations. The test and performance report of the installed system has to be submitted to Alliance for review. Final inspection and testing shall be witnessed by Alliance.
Suggested Deadline Date:	30 Jun 2015
Standard:	Reference Alliance Standards Part 3 Section 3.5.3 Existing Buildings, Part 5 Section 5.3 Automatic Sprinkler Systems and Section 6.13 Travel Distance
Question:	Design criteria of sprinkler system?
Priority Level:	
Non-Compliance Level:	
Description:	Automatic sprinkler system is not installed where required.
Source of Findings:	
Suggested Plan of Action:	
Suggested Deadline Date:	

Standard:	Provide the criteria used in the design of the sprinkler system.	
Question:	Commodity Class used for the design of the sprinkler system?	
Priority Level:		
Non-Compliance Level:		
Description:	Automatic sprinkler system is not installed where required.	
Source of Findings:		
Suggested Plan of Action:		
Suggested Deadline Date:		
Standard:	Reference NFPA 13 Chapter 5	
Question:	Occupancy Classification used for the design of the sprinkler system?	
Priority Level:		
Non-Compliance Level:		
Description:	Automatic sprinkler system is not installed where required.	
Source of Findings:		
Suggested Plan of Action:		
Suggested Deadline Date:		
Standard:	Reference NFPA 13 Chapter 5	
Question:	Are inspection, maintenance, and testing procedures of the sprinkler system documented and up to date?	
Priority Level:	Low	
Non-Compliance Level:		
Description:	Automatic sprinkler system is not installed where required.	
Source of Findings:		
Suggested Plan of Action:		
Suggested Deadline Date:		
Standard:	Reference NFPA 25 Chapter 5 Sprinkler Systems Table 5.1.1.2	

Question:	Are identification signs for the sprinkler system installed at the required locations?
Priority Level:	Low
Non-Compliance Level:	
Description:	Automatic sprinkler system is not installed where required.
Source of Findings:	
Suggested Plan of Action:	
Suggested Deadline Date:	
Standard:	Reference NFPA 13
Question:	Sprinkler system piping is free of mechanical damage, leakage, and corrosion.
Priority Level:	Medium
Non-Compliance Level:	
Description:	Automatic sprinkler system is not installed where required.
Source of Findings:	
Suggested Plan of Action:	
Suggested Deadline Date:	
Standard:	NFPA 25 Chapter 5 Section 5.2.2 Pipe and Fittings
Question:	Sprinkler system piping is not subjected to external loads by materials either resting on the pipe or hung from the pipe?
Priority Level:	Low
Non-Compliance Level:	
Description:	Automatic sprinkler system is not installed where required.
Source of Findings:	
Suggested Plan of Action:	
Suggested Deadline Date:	
Standard:	Reference NFPA 25 Chapter 5 Section 5.2.2.2

Question:	Are hangers, bracing, and restraints properly installed and supporting the system piping?	
Priority Level:	Medium	
Non-Compliance Level:		
Description:	Automatic sprinkler system is not installed where required.	
Source of Findings:		
Suggested Plan of Action:		
Suggested Deadline Date:		
Standard:	Reference NFPA 13 Chapter 9 Hanging, Bracing, and Restraint of System Piping.	
Question:	Sprinklers do not show signs of leakage, are free of corrosion, have not been painted, and are not physically damaged.	
Priority Level:	Medium	
Non-Compliance Level:		
Description:	Automatic sprinkler system is not installed where required.	
Source of Findings:		
Suggested Plan of Action:		
Suggested Deadline Date:		
Standard:	Reference NFPA 25 Chapter 5	
Question:	All valves controlling the automatic sprinkler systems are electrically supervised by a listed fire alarm system control unit.	
Priority Level:	Medium	
Non-Compliance Level:		
Description:	Automatic sprinkler system is not installed where required.	
Source of Findings:		
Suggested Plan of Action:		
Suggested Deadline Date:		

Standard:	Reference Alliance Standard Part 5 Section 5.3.5 Supervision and Alarms.	
Question:	Does the automatic sprinkler system have an approved audible device activated by waterflow equal to the flow of one sprinkler?	
Priority Level:	Low	
Non-Compliance Level:		
Description:	Automatic sprinkler system is not installed where required.	
Source of Findings:		
Suggested Plan of Action:		
Suggested Deadline Date:		
Standard:	Reference Alliance Standards Part 5 Section 5.3.5.2 Alarms.	
Question:	Are sprinklers spaced and installed at the required heights in order to provided required coverage and protection?	
Priority Level:	High	
Non-Compliance Level:		
Description:	Automatic sprinkler system is not installed where required.	
Source of Findings:		
Suggested Plan of Action:		
Suggested Deadline Date:		
Standard:	Reference NFPA 13	
Question:	Are storage racks and shelves compliant based on class of commodity storage?	
Priority Level:	High	
Non-Compliance Level:		
Description:	Automatic sprinkler system is not installed where required.	
Source of Findings:		
Suggested Plan of Action:		
Suggested Deadline		

Date:		
Standard:	Reference NFPA 13 Chapter 13, 14, 15, 16, or 17	
Question:	Aisles in storage areas are free of storage based on design criteria used for the sprinkler system.	
Priority Level:	Medium	
Non-Compliance Level:		
Description:	Automatic sprinkler system is not designed and installed where required.	
Source of Findings:		
Suggested Plan of Action:		
Suggested Deadline Date:		
Standard:	Alliance Standard Part 5 Section 5.3.6.3	
Question:	All storage is maintained with a 460 mm (18 in.) minimum clearance from the top of storage to the sprinkler deflector.	
Priority Level:	Medium	
Non-Compliance Level:		
Description:	Automatic sprinkler system is not designed and installed where required.	
Source of Findings:		
Suggested Plan of Action:		
Suggested Deadline Date:		
Standard:	Reference Alliance Standards Part 5 Section 5.3.6.1 Storage Clearance	
Question:	Does the building have a Standpipe System?	
Priority Level:	High	
Non-Compliance Level:	2	
Description:	The heights of the highest occupied floors of main buildings B and E are 14.66m (48.08 ft) and 12.9m (42.31 ft) above grade. Standpipe systems need to be installed throughout main buildings B and E. Two class II standpipe hose connections (40 mm) are installed on each floor of main building-A, one is installed on each floor of main building-B, three are installed on all floors of main building-C, three are installed on each floor from the ground to 2nd floor, and two class-II standpipe hose connections are installed on 3rd floor of main building-E. Class-II standpipe hose connections are not installed on any floor	

	of main building-D. Hoses are connected to overhead water tank on roof, but hose pressure was less than 4.5 bar. There is no Class-I standpipe hose connection (65 mm) at stairwells in any building over 10m in height.	
Source of Findings:	Visual Assessment: Class II standpipe system was installed in the buildings.	
Suggested Plan of Action:	Install a standpipe system at required locations designed by a qualified fire protection engineer. The system is to be compliant with the requirements of NFPA 14. The hydraulic calculations should be reviewed by the Alliance prior to start of installation. Testing of the installation shall be conducted in accordance with NFPA 14 acceptance testing requirements. Documentation of all testing shall be submitted for review by the Alliance. Final inspection and testing of the installation shall be witnessed by the Alliance.	
Suggested Deadline Date:	10 Nov 2014	
Standard:	Does the building have a standpipe system installed where required. Alliance Standard Part 5 Section 5.4.2	
Question:	Are inspection, maintenance, and testing procedures of the standpipe and hose system documented and up to date? Including inspection and testing of hoses if provided.	
Priority Level:	Low	
Non-Compliance Level:	3	
Description:	The required standpipe system is not installed in the buildings. Inspection, maintenance, and testing procedures of the existing standpipe and hose is not documented and up to date.	
Source of Findings:	Document Review: Inspection, maintenance, and testing procedures of existing standpipe system was not documented.	
Suggested Plan of Action:	Install class III standpipe system. Then establish an inspection, maintenance, and testing program for the standpipe and hose system. The program must comply with the requirements of NFPA 25.	
Suggested Deadline Date:	17 Sep 2014	
Standard:	Reference NFPA 25 Chapter 6 Standpipe and Hose Systems Table 6.1.1.2	
Question:	Is signage for the standpipe system installed at required locations and on required components?	
Priority Level:	Low	
Non-Compliance Level:	2	
Description:	Required standpipe system is not installed and signage for the existing standpipe system is not available.	
Source of Findings:	Visual Assessment: Signage for the existing standpipe system was not installed.	

Suggested Plan of Action:	Install a standpipe system, compliant with the requirements of NFPA 14, at required locations designed by a qualified fire protection engineer. Install required identification signs at the noted locations.	
Suggested Deadline Date:	14 Sep 2014	
Standard:	Reference NFPA 14 Chapter 6	
Question:	Standpipe system piping is free of mechanical damage, leakage, and corrosion?	
Priority Level:	Medium	
Non-Compliance Level:	3	
Description:	Required standpipe system is not installed, but the existing system is free from mechanical damage, leakage, and corrosion.	
Source of Findings:	Visual Assessment: Required standpipe system was not installed.	
Suggested Plan of Action:	Install a standpipe system at required locations designed by a qualified fire protection engineer. The system is to be compliant with the requirements of NFPA 14.	
Suggested Deadline Date:	10 Dec 2014	
Standard:	NFPA 25 Chapter 6 Standpipe and Hose Systems	
Question:	Are fire department connections provided and clearly identified for the Fire Protection Systems?	
Priority Level:	Medium	
Non-Compliance Level:	2	
Description:	A fire department outlet connection is provided, but inlet connection (siamese) is not provided.	
Source of Findings:	Visual Assessment: Outlet connection was provided.	
Suggested Plan of Action:	Install fire department connections where required and in compliance with the Standard. Fire department outlet connections shall be provided to allow fire department pumper vehicles to draw water from ground-level or underground water storage tanks. Connections shall match the Fire Service and Civil Defense hose thread standard.	
Suggested Deadline Date:	10 Dec 2014	
Standard:	Alliance Standard Part 5 Section 5.5.4 Fire Department Connections	

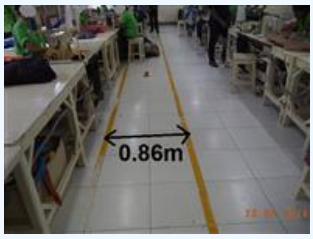
Question:	Does the building have a fire pump?	
Priority Level:	High	
Non-Compliance Level:	3	
Description:	Fire pump set is available with backup power, however it does not comply with the requirements of the Alliance Standards and NFPA 20. Hydraulic calculation for required standpipe and sprinkler systems are not available. Therefore, required capacity of fire pump is not known. A suction lift is used whereas a suction head is required. Additionally detail design of pump components & layout were not found during the Audit.	
Source of Findings:	Visual Assessment: A dedicated fire pump with backup power was found.	
Suggested Plan of Action:	Have a qualified engineer review the pump capacity and ensure hydraulic calculation is done which can be supported by this pump. Also, identify all other performance data and ensure conformity to NFPA 14, 20, 22 and 25 standards.	
Suggested Deadline Date:	10 Dec 2014	
Standard:	Alliance Standard Part 5 Fire Protection Systems	
Question:	Are inspection, maintenance, and testing procedures of the fire pump documented and up to date?	
Priority Level:	Low	
Non-Compliance Level:	2	
Description:	Inspection, maintenance, and testing procedures for the existing fire pump are not documented and up to date.	
Source of Findings:	Visual Assessment: Inspection, maintenance, and testing procedures for the existing fire pump were not documented.	
Suggested Plan of Action:	Establish an inspection, maintenance, and testing program for the fire pump. Program must comply with NFPA 25.	
Suggested Deadline Date:	10 Dec 2014	
Standard:	Reference NFPA 25 Chapter 8 Fire Pumps	
Question:	Are portable fire extinguishers installed throughout the building at required locations and mounted at the correct height?	
Priority Level:	Medium	
Non-Compliance Level:		
Description:	Portable fire extinguishers are installed throughout all new and existing facilities in accordance with BNBC Part 4 Section 4.10 and NFPA 10.	

Source of Findings:	Visual Assessment: Fire Extinguishers were installed at required locations.	
Suggested Plan of Action:		
Suggested Deadline Date:		
Standard:	BNBC Part 4 Section 4.10 and NFPA 10	
Question:	Portable fire extinguishers have been selected based on potential fire class and hazards?	
Priority Level:	Medium	
Non-Compliance Level:		
Description:	Portable fire extinguishers have been selected based on potential fire class and hazards.	
Source of Findings:	Visual Assessment: Fire extinguishers were placed based on fire class.	
Suggested Plan of Action:		
Suggested Deadline Date:		
Standard:	NFPA 10 Chapter 5	
Question:	Fire extinguishers are inspected, tested, and maintained as required.	
Priority Level:	Medium	
Non-Compliance Level:	2	
Description:	Extinguishers are inspected monthly by factory's concerned people. But no document was found in support of i) annual maintenance of extinguishers by a servicing agent and ii) annual testing of nozzle of CO2 extinguisher. These are required as per NFPA 10.	
Source of Findings:	Visual Assessment: Fire extinguishers were inspected, tested, and maintained as monthly basis.	
Suggested Plan of Action:	Fire extinguishers are to be inspected, tested, and maintained in accordance with NFPA 10 Chapter 7 as demanded in Alliance Standard Part 13 Section 13.10.3.	
Suggested Deadline Date:	10 Dec 2014	
Standard:	NFPA 10 Chapter 7	
Question:	Are there any other fire suppression systems installed within the building?	
Priority Level:		

Non-Compliance Level:		
Description:	There is no other fire suppression system available.	
Source of Findings:	Visual Assessment: No other fire suppression system was installed.	
Suggested Plan of Action:		
Suggested Deadline Date:		
Standard:		
Question:	Is the fire alarm and detection system monitored by a central station monitoring service or directly connected to the Fire Service and Civil Defense?	
Priority Level:	Medium	
Non-Compliance Level:	2	
Description:	An automatic fire alarm and detection system is available in the factory, but currently there is no monitoring company in Bangladesh. Fire service and civil defense is not capable of monitoring fire alarm and detection systems of the factories.	
Source of Findings:	Visual Assessment: A trouble and alarm notification panel was installed.	
Suggested Plan of Action:	Arrange for direct connection of the fire alarm system to a central monitoring station or Fire Service and Civil Defense. Until that time that monitoring can be set up, arrange a monitoring system using factory's own central detection system and personnel. A person shall be assigned to contact the fire department in the event of fire alarm activation. An annunciator shall be located in a constantly attended location (such as a fire control room) to alert this person.	
Suggested Deadline Date:	23 Jul 2014	
Standard:	Alliance Standard Part 5 Section 5.7.5 Monitoring	
Question:	Trouble or alarm notifications were not indicated on the fire alarm control panel.	
Priority Level:	High	
Non-Compliance Level:	2	
Description:	Panel power, zone light (to address zone wise), fault light (if anything is disconnected), etc. on fire alarm control panel are not functional.	
Source of Findings:	Visual Assessment: Fire alarm control panel was not functional.	
Suggested Plan of Action:	Repair the fire alarm control panel to make it fully functional.	

Suggested Deadline Date:	23 Jul 2014	
Standard:	Alliance Standard Part 13 Section 13.10 Maintenance of Fire Protection Equipment	
Question:	Are notification and initiation devices for the fire alarm system installed at required locations based on occupancy type?	
Priority Level:	High	
Non-Compliance Level:	2	
Description:	Pull stations at egress points are insufficient in number. Smoke and heat detectors are insufficient in number on all floors of all buildings. An automatic fire alarm system is not provided. Various occupancies exist on all floors.	
Source of Findings:	Visual Assessment: Notification and initiation devices were insufficient.	
Suggested Plan of Action:	Initiating devices shall include either smoke or fire detection devices spaced in accordance with NFPA 72. When complete sprinkler protection is provided throughout a floor with waterflow devices designed to initiate the alarm notification, smoke and fire detection devices can be eliminated throughout that floor. Automatic alarm evacuation shall be provided upon initiation of any of the following: manual alarm box, waterflow alarm, or two or more automatic smoke or fire detection devices. Notification shall be provided throughout the building for total evacuation. Existing partial evacuation systems shall be replaced. Manual fire alarm shall be provided throughout all new and existing occupancies B (2 or more storied building), F (3 or more storied building), G1, H and K unless located in buildings with other occupancies requiring an automatic fire alarm system. An automatic fire alarm shall be provided throughout all new and existing occupancies E, G2 and J.	
Suggested Deadline Date:	17 Sep 2014	
Standard:	Pull stations at egress points, smoke detectors in air handling equipment, visual and audible devices spaced appropriately based on occupancy type. Reference NFPA 72	
Means of Egress		
Question:	Occupant loads on each level (floor) do not exceed the capacity of the available means of egress.	
Priority Level:	High	
Non-Compliance Level:		
Description:	On 1st floor of main building-A, occupant load is 338 at the time of audit and the floor area is 2128.25 m2, so space per occupant is 6.29 m2, which is more than required 2.3 m2 (25 sft). On ground floor of main building-B, occupant load is 129 at the time of audit and the floor area is 706.59 m2, so space per occupant is 5.47 m2, which is more than required 2.3 m2 (25 sft). On 2nd floor of main building-C, occupant load is 349 at the time of audit and the floor area is 2797.39 m2, so space per occupant is 8.01 m2, which is more than required 2.3 m2 (25 sft). On 1st floor of main building-E, occupant load is 350 at the	

	time of audit and the floor area is 3416.26 m2, so space per occupant is 9.76 m2, which is more than required 2.3 m2 (25 sft) according to Alliance Standard Part 6 Section 6.4.2.1. All other means of egress meet the requirement of this occupant load.
Source of Findings:	Document Review: Occupant load on each floor was found from resister.
Suggested Plan of Action:	
Suggested Deadline Date:	
Standard:	Alliance Standard Part 6 Section 6.4 Occupant Load
Question:	Occupied roofs are provided with the minimum number of exits required as a story.
Priority Level:	High
Non-Compliance Level:	2
Description:	The roof of main building-B is occupied and has a single exit. The number of means of egress from any floor or story shall not be less than 2 according to the Alliance Standards. A single exit is allowed only in a basement, ground floor or 1st floor depending on occupancy type and occupant load.
Source of Findings:	Visual Assessment: Occupied roof was not provided with the minimum number of exits.
Suggested Plan of Action:	Occupied roofs shall be provided with the minimum number of exits required as per Alliance Standards.
Suggested Deadline Date:	17 Sep 2014
Standard:	Alliance Standards Part 6 Section 6.6 Number of Means of Egress
Question:	All occupied roofs are provided with parapets or guards with a minimum height of 1067 mm (42 in.).
Priority Level:	Medium
Non-Compliance Level:	2
Description:	On the five story main building-B, the parapet height was found to be 900 mm.
Source of Findings:	Visual Assessment: Parapet height was 36 inches on the roof of building B.
Suggested Plan of Action:	Provide parapets or guards for all occupiable roofs with a minimum height of 1067 mm (42 in).
Suggested Deadline Date:	07 Nov 2014
Standard:	Alliance Standard Part 6 Section 12 Handrails and Guards

Question:	Occupant loads are posted for every assembly and production floor in a conspicuous space near the main point of egress.	
Priority Level:	Medium	
Non-Compliance Level:	3	
Description:	Occupant loads are not posted in any assembly or production floor as required.	
Source of Findings:	Visual Assessment: Occupant load was not posted in any building.	
Suggested Plan of Action:	Post the occupant load for every assembly and production floor in a facility in a conspicuous space near the main exit or exit access doorway for the space.	
Suggested Deadline Date:	23 Jul 2014	
Standard:	Alliance Standards Part 6 Section 6.4.4 Posting of Occupant Load	
Question:	Aisles are provided with the minimum unobstructed clear width of 0.9 m (36 in) based on occupant loads.	
Priority Level:	High	
Non-Compliance Level:	1	
Description:	In main building-A, aisle width at sewing section (1st floor) is 0.86m, at warehouse store (ground floor) it is 0.81m. In main building-B, aisle width at R & D section (2nd floor) is 0.86m. At main building-E, aisle width at sewing section (2nd floor) is 0.86m. All these violates Alliance Standards.	
Source of Findings:	Visual Assessment: Some aisles were found to be less than 0.9m.	
Suggested Plan of Action:	Remove existing aisle markings and draw new markings to fulfill the minimum aisle width requirement. Relocate the machines accordingly if necessary.	
Suggested Deadline Date:	17 Sep 2014	
Standard:	Higher occupancy loads will require a greater width to accommodate the increased load. Alliance Standard Part 6 Section 6.5 Egress Width	
Question:	The path of egress along the means of egress is not reduced at any point along the path of travel and is sufficient for the occupant load.	
Priority Level:	High	
Non-Compliance Level:	1	
Description:	Total width of aisles is sufficient for the occupant load. The total unobstructed width of 8 aisles is 8.43m and occupant load is 338 on 1st floor of building-A. Total required width of aisles is 338X0.005=1.69m. The total unobstructed width of 6 aisles is 6.75m and occupant load is 349 on 2nd floor of building-C. Total required width of aisles is 338X0.005=1.745m. The total unobstructed width of 3 aisles is 3.95m and occupant load is 350 on 1st floor of building-E.	

	Total required width of aisles is 350X0.005=1.75m. Total width of 3 stairs in the main building-A is 4.34m. The maximum number of occupants are on the 1st floor. Total width requirement for 338 occupants on 1st floor is 338X0.008=2.704m, but all the stair landings have widths smaller than the width of the stair. Total width of 3 stairs in the main building-C is 4.49m. The maximum number of occupants are on 2nd floor. Total width requirement for 349 occupants on 2nd floor is 349X0.008=2.79m, but the northwest and southwest stair landings have widths smaller than the clear width of their stairs. Total width of 2 stairs in the main building-E is 2.94m. The maximum number of occupants are on the 1st floor. Total width requirement for 350 occupants on 1st floor is 350X0.008=2.8m, but all the stair landings have widths smaller than the clear width of their stairs. Total width of 2 exit doors in the main building-E is 2.82m. Maximum number of occupants are on 1st floor. Total width requirement for 350 occupants on 1st floor is 350X0.005=1.75m. Available exit door, stair, and aisle widths satisfy the requirement of Alliance Standard. The reported width of the landings for buildings A and C is sufficient for the reported occupant loads.	
Source of Findings:	Visual Assessment: Path of egress along the means of egress were reduced at stairs of buildings A, C and E.	
Suggested Plan of Action:	Increase the landing width for Building E to make it equal to the width of the stairs following the requirements of Alliance Standard.	
Suggested Deadline Date:	17 Sep 2014	
Standard:	Alliance Standard Part 6 Section 6.5 Egress Width and BNBC Table 4.3.2	
Question:	Means of egress 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.).	
Priority Level:	Medium	
Non-Compliance Level:		
Description:	The minimum ceiling height along the means of egress was found 2.75m.	
Source of Findings:	Visual Assessment: Ceiling height was measured during audit.	
Suggested Plan of Action:		
Suggested Deadline Date:		
Standard:	Alliance Standard Part 6 Section 6.3.3 Headroom	

Question:	Exit discharge is directly to the exterior of the building, unless the requirements of 6.17.2 are met, at grade or provides direct access to grade. Exit discharge shall not reenter a building.
Priority Level:	High
Non-Compliance Level:	2
Description:	The staircase on the northeast side ends at the raw material warehouse on the ground floor of building A. Therefore, exits do not discharge directly to the exterior of the building.
Source of Findings:	Visual Assessment: Exit does not discharge directly to the exterior of building-A.
Suggested Plan of Action:	Provide rated exit passageway from the exit enclosure to the the public way. The rating of the exit passageway is to be equal to fire rating requirement of the exit that is being served and shall not be less than 1 hour fire-resistance rated.
Suggested Deadline Date:	17 Sep 2014
Standard:	Alliance Standard Part 6 Section 6.17 Exit Discharge. See Section 16.7.2 and 16.7.3 for exceptions.

Question:	Travel distance to reach an exit does not exceed the maximum distance allowed by Occupancy Type.
Priority Level:	High
Non-Compliance Level:	2
Description:	Maximum travel distance for one exit is 51.52m on 2nd floor of building-A and 52.13m on 1st and 2nd floor of building-C (i.e. below 60m but above 45m). The buildings don't have required standpipe system.
Source of Findings:	Visual Assessment: Travel distances were measured on sample basis.
Suggested Plan of Action:	Install automatic fire detection system, portable fire extinguisher and standpipe system in accordance with Alliance Standard.
Suggested Deadline Date:	17 Sep 2014
Standard:	Alliance Standard Part 6 Section 13 Travel Distance and BNBC Part 4 Section 3.15.1

Question:	Exit access corridors serving an occupant load exceeding 30 are separated by walls having a fire-resistance rating of 1 hr.
Priority Level:	High
Non-Compliance Level:	
Description:	No such type of corridor is available in the buildings.

Source of Findings:	Visual Assessment: No corridor was available.	
Suggested Plan of Action:		
Suggested Deadline Date:		
Standard:	Alliance Standard Part 6 Section 6.3 and Part 4 Section 4.5. Does not apply if an automatic sprinkler system is installed throughout the building.	
Question:	Interior finishes for means of egress meet the rating requirements for Class A, B and C materials.	
Priority Level:	Medium	
Non-Compliance Level:		
Description:	The interior finish of the means of egress is of brick, tiles, plaster and non-combustible paint.	
Source of Findings:	Visual Assessment: Interior finishes were observed during site tour.	
Suggested Plan of Action:		
Suggested Deadline Date:		
Standard:	Alliance Standard Part 6 Section 6.3.2 Interior Finish	
Question:	Exits are limited to Class A and Class B interior materials.	 
Priority Level:	Medium	
Non-Compliance Level:		
Description:	Exits are made of brick walls.	
Source of Findings:	Visual Assessment: Materials of exits were observed during site tour.	
Suggested Plan of Action:		
Suggested Deadline Date:		
Standard:	Alliance Standard Part 6 Section 6.3.2 Interior Finish	
Question:	The number of means of egress from any floor or story is not less than 2 except where a single exit is permitted or where a greater number is required.	

Priority Level:	High	
Non-Compliance Level:		
Description:	03 means of egress provided for building-A and C, 02 means of egress provided for building-B, 02 means of egress provided for building-D, 02 means of egress provided for building-E, So it fulfill the requirement.	
Source of Findings:	Visual Assessment: The number of means of egress were counted during site tour.	
Suggested Plan of Action:		
Suggested Deadline Date:		
Standard:	Alliance Standard Part 6 Section 6.6 Number of Means of Egress	
Question:	The number of means of egress from any floor or story is not less than 3 when the occupant load exceeds 500 per story and not less than 4 when the occupant load exceeds 1000 per story.	
Priority Level:	High	
Non-Compliance Level:		
Description:	Maximum number of occupant at any floor is less than 400. 03 means of egress provided for building-A and C, 02 means of egress provided for building-B, 02 means of egress provided for building-D, 02 means of egress provided for building-E.	
Source of Findings:	Visual Assessment: Number of means of egress satisfy the requirement.	
Suggested Plan of Action:		
Suggested Deadline Date:		
Standard:	Alliance Standard Part 6 Section 6.6 Number of Means of Egress	
Question:	All paths of egress are provided with compliant means of illumination.	
Priority Level:	Medium	
Non-Compliance Level:	2	
Description:	All paths of egress are not provided with compliant means of illumination.	
Source of Findings:	Visual Assessment: Paths of egress were not illuminated properly.	
Suggested Plan of Action:	The means of egress paths shall be illuminated at all times the building is occupied. Illumination shall be a minimum of 10 lux for all corridors, exit doors, and stairways. Aisles shall be provided with a minimum 2.5 lux.	

Suggested Deadline Date:	17 Sep 2014	
Standard:	Alliance Standards Part 6 Section 6.7 Egress Illumination and Part 10 Section 10.12 Illumination of Exit Signs and Means Of Escape	
Question:	Means of egress are free from impediments, obstructions, and stored materials.	
Priority Level:	High	
Non-Compliance Level:		
Description:	Aisles, exit access corridors, staircases are not blocked at any location.	
Source of Findings:	Visual Assessment: Means of egress were free.	
Suggested Plan of Action:		
Suggested Deadline Date:		
Standard:	Alliance Standard Part 6 Section 6.3.8 Impediments to means of egress and Section 6.3.9 Reliability	
Question:	Emergency power for means of egress illumination is verified at least once per year. If battery operated lights are used, these lights are tested on a monthly basis. Functional testing of battery powered lights is provided for a minimum 90 min once per year.	
Priority Level:	Medium	
Non-Compliance Level:	2	
Description:	Record of verifying emergency power for means of egress illumination was not found as required.	
Source of Findings:	Document Review: Related document was not found.	
Suggested Plan of Action:	Develop a testing and maintenance program that ensures the operation of all exit signs is verified at least once per year. If battery-operated signs are used, these signs shall be tested on a monthly basis. Functional testing of battery powered signs shall be provided for a minimum of 90 minutes once per year.	
Suggested Deadline Date:	23 Jul 2014	
Standard:	Alliance Standards Part 10 Section 10.12 Illumination of Exit Signs and Means Of Escape Lighting	

Question:	Doors are not locked in the direction of egress under any conditions. All hasps, locks, slide bolts, and other locking devices have been removed where required.	
Priority Level:	High	
Non-Compliance Level:	3	
Description:	There are steel swing, steel sliding, and wooden doors with a locking arrangements at each egress location.	
Source of Findings:	Visual Assessment: There were sliding doors with locking arrangements at egress locations.	
Suggested Plan of Action:	Remove all hasps, locks, slide bolts, or other locking devices at the noted locations. Doors may be locked where the latch and lock are disengaged with one motion where the occupant load does not exceed 49 persons. Turning a door handle and disengaging a lock is considered two motions. Doors may be provided with locking hardware from the ingress side provided that a panic bar is installed on any door with an occupant load exceeding 49 persons. The re-entry provisions of Section 6.8.3 must be met.	
Suggested Deadline Date:	09 Jul 2014	
Standard:	Alliance Standards Part 6 Section 6.8 Doors and Gates	
Question:	Doors along the path of egress have a minimum width of 0.8 m (32 in) and have required ratings.	
Priority Level:	High	
Non-Compliance Level:	3	
Description:	Door widths are more than 0.8m, but required exit doors (i.e. doors leading to staircase) do not have the required ratings. Only five fire doors are available, but without credible certificates.	
Source of Findings:	Visual Assessment: Doors widths were sufficient but do not have the required ratings.	
Suggested Plan of Action:	Provide 1 hour fire protective opening assemblies in 1 hour rated exit enclosures. Provide 1.5 hour fire protective opening assemblies in 2 hour rated exit enclosures. Exits connecting three or fewer stories shall be enclosed with a minimum 1-hour fire-resistance rating. Exits connecting four or more stories shall be enclosed with a minimum 2-hour fire-resistance rating. Exits shall be enclosed with the same fire-resistance rating as the floor penetrated, although it does not need to exceed 2 hours.	
Suggested Deadline Date:	17 Sep 2014	
Standard:	Alliance Standard Part 6 Section 6.5.6 Minimum Widths. Increased occupant loads will require a door width greater than 0.8 m.	

Question:	All doors in a means of egress are of the side-hinged swinging type.	
Priority Level:	High	
Non-Compliance Level:	3	
Description:	There are sliding doors with a locking arrangements on the ground floor of Building-A and E at each egress location.	
Source of Findings:	Visual Assessment: All of the doors in the means of egress were of a sliding type at the warehouse on the ground floor of Building-A.	
Suggested Plan of Action:	Replace all collapsible, sliding, and roll-down gates and shutters in the means of egress with side-hinged swinging type doors of proper width and rating.	
Suggested Deadline Date:	17 Sep 2014	
Standard:	Alliance Standards Part 6 Section 6.8 Doors and Gates	
Question:	Illuminated exit signs are placed at entrances to exits and along the path of egress anywhere the continuation of egress is not obvious or there is a change in the direction of the path of travel.	
Priority Level:	Medium	
Non-Compliance Level:	3	
Description:	Illuminated exit signs are placed at entrances to exits along the path of egress but additional exit signs or directional signs are not provided where there is a change in direction and where the continuation of egress is not obvious.	
Source of Findings:	Visual Assessment: Additional exit signs were not available.	
Suggested Plan of Action:	Install illuminated exit signs at entrances to exits and along the path of egress anywhere the continuation of egress is not obvious or there is a change in the direction of the path of travel.	
Suggested Deadline Date:	07 Nov 2014	
Standard:	Alliance Standard Part 6 Section 6.11 Exit Signs	
Question:	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).	
Priority Level:	Medium	
Non-Compliance Level:		
Description:	There is no change in elevation on surface found exceeding 6.35 mm.	
Source of Findings:	Visual Assessment: No change in elevation was found on waking surface.	
Suggested Plan of		

Action:		
Suggested Deadline Date:		
Standard:	Alliance Standard Part 6 Section 6.3.4 Walking Surfaces	
Question:	Illuminated exit signs are provided with battery backup or emergency power and are continuously illuminated.	
Priority Level:	Medium	
Non-Compliance Level:	2	
Description:	The backup used does not provide sufficient illumination (50 lux at surface of exit sign) as required.	
Source of Findings:	Visual Assessment: Backup power does not provide sufficient illumination.	
Suggested Plan of Action:	Provide an emergency power source for compliantly illuminated exit signs, either by battery backup or by connecting to the emergency power system.	
Suggested Deadline Date:	10 Dec 2014	
Standard:	Alliance Standards Part 6 Section 6.11 Exit Signs and Part 10 Section 10.12 Illumination of Exit Signs and Means of Escape	
Question:	Emergency power for exit signs is tested at least once per year. If battery operated, these lights are tested on a monthly basis. Functional testing of battery powered signs is provided for a minimum 90 min once per year.	
Priority Level:	Medium	
Non-Compliance Level:	2	
Description:	No record of testing emergency power for exit signs was found as required.	
Source of Findings:	Document Review: Related document was not found.	
Suggested Plan of Action:	Develop a testing and maintenance program that ensures that emergency power for exit signs is tested at least once per year. If battery operated signs are used, these signs are to be tested on a monthly basis. Functional testing of battery powered signs is provided for a minimum of 90 minutes once per year.	
Suggested Deadline Date:	23 Jul 2014	
Standard:	Alliance Standard Part 10 Section 10.12 Illumination of Exit Signs and Means Of Escape.	

Question:	Exit signs have appropriate illumination levels and contrasting graphics.
Priority Level:	Low
Non-Compliance Level:	2
Description:	All exit signs do not have appropriate illumination levels and contrasting graphics as required.
Source of Findings:	Visual Assessment: Exit signs do not have appropriate illumination levels.
Suggested Plan of Action:	Ensure that all required exit signs are illuminated continuously at all times. Exit signs may be illuminated either by lamps external to the sign or by lamps contained within the sign. The source of illumination shall provide not less than 50 lux at the illuminated surface with a contrast of not less than 0.5. Approved self-luminous signs which provide evenly illuminated letters having a minimum luminance of 0.2cd/m2 may also be used.
Suggested Deadline Date:	10 Dec 2014
Standard:	Alliance Standard Part 10 Section 10.12.1 Exit Signs

Question:	Walking surfaces along the path of egress are uniformly slip resistant.
Priority Level:	Medium
Non-Compliance Level:	2
Description:	The walking surfaces along the path of egress are of glossy tiles in main building-B. These tiles are slippery and are dangerous during emergency evacuations.
Source of Findings:	Visual Assessment: Glossy tiles were found in main building-B.
Suggested Plan of Action:	Replace glossy tiles with non-slippery homogenous tiles along the path of egress (aisles and staircase). Or, modify the glossy tiles in the aisles and staircases to make those slip-resistant.
Suggested Deadline Date:	10 Dec 2014
Standard:	Alliance Standard Part 6 Section 6.3.6 Slip Resistance

Question:	Stairs are constructed of noncombustible materials.
Priority Level:	Low
Non-Compliance Level:	
Description:	The internal steel stair located in the main building-D is noncombustible as required according to section 6.9.2.1 of Alliance Standard.
Source of Findings:	Visual Assessment: Stair was constructed of noncombustible materials at store on ground floor of building-D

Suggested Plan of Action:		
Suggested Deadline Date:	07 Nov 2014	
Standard:	Alliance Standard Part 6 Section 6.9 Stairs	
Question:	Stairs have a minimum width of 0.9 m (35 in.).	
Priority Level:	High	
Non-Compliance Level:		
Description:	Stair width are available greater than 0.9m.	
Source of Findings:	Visual Assessment: Stair width was measured during site tour.	
Suggested Plan of Action:		
Suggested Deadline Date:		
Standard:	Alliance Standard Part 6 Section 6.5 Egress Width. Applies to existing construction.	
Question:	Stair treads are of nominal uniformity.	
Priority Level:	Medium	
Non-Compliance Level:		
Description:	Stair treads are uniform.	
Source of Findings:	Visual Assessment: Stair treads and risers were of nominal uniformity.	
Suggested Plan of Action:		
Suggested Deadline Date:		
Standard:	Alliance Standards Part 6 Section 6.9 Stairs. Any tread height exceeding more than 50% of the adjacent tread heights or 75 mm (3 in.), whichever is less, shall be modified to be within this tolerance	

Question:	Landings are provided on both sides of doors used along the path of egress. Doors do not swing out over stairs.
Priority Level:	High
Non-Compliance Level:	2
Description:	Landings are not provided on the stair sides of doors used along the path of egress in the southeast stair of building-A on the 3rd floor.
Source of Findings:	Visual Assessment: Landing was not provided on both sides of doors at northeast stair on 2nd floor of building-A.
Suggested Plan of Action:	Replace the door from its existing position and towards the inside floor so that door does not swing out over stair.
Suggested Deadline Date:	17 Sep 2014
Standard:	Alliance Standards Part 6 Section 6.8 Doors and Gates

Question:	Landings are provided with the same width in the direction of egress travel as the stair clear width provided at each level and at intermediate landings. Existing landings that are less than the stair width, shall reduce the overall available capacity of the stair.
Priority Level:	High
Non-Compliance Level:	2
Description:	Landings of all stairs of building-A, C and E are narrower than the stair on floor levels. The total width of the stair of building A, C and E are 4.34m, 4.57m and 3.17m, respectively. Considering the landing widths of stairs of building-A, C and E as the width of stair, the total width of stairs becomes 3.81m, 3.93m and 2.71m, respectively. The required widths for the building-A, C and E are 2.7m, 2.792m and 2.8m respectively since occupant loads are 338, 349 and 350, respectively. Building-E's affective stair width is in violation of Alliance Standard.
Source of Findings:	Visual Assessment: Landings were not provided with the same width as the stairs in the direction of egress travel at building-E.
Suggested Plan of Action:	Increase the landing width to make it equal to the width of the stair in Building E.
Suggested Deadline Date:	17 Sep 2014
Standard:	Alliance Standard Part 6 Section 6.9 Stairs and Section 6.5

Question:	Handrails are provided on both sides of each stairway. Intermediate handrails are provided when the stair width exceeds 2.2 m (87 in.). Handrails are not mounted lower than 760 mm (30 in.) or higher than 1100 mm (44 in.).
Priority Level:	Medium
Non-Compliance Level:	2
Description:	All of the stairs have one handrail on only one side.
Source of Findings:	Visual Assessment: Handrails were not provided on both sides of each stairway.
Suggested Plan of Action:	Provide handrails on both sides of each stairway. Provide intermediate handrails when the stair width exceeds 2.2m (87 in). Provide handrail of height between the range of 865 mm (34 in) and 965 mm (38 in).
Suggested Deadline Date:	10 Dec 2014
Standard:	Alliance Standard Part 6 Section 6.9 Stairs and 6.12 Handrails and Guards

Question:	Every door in a stair enclosure serving more than 5 stories is provided with re-entry unless it meets the requirements of Alliance Standards Part 6 Section 6.8.3.1.
Priority Level:	Medium
Non-Compliance Level:	
Description:	The main building-B is 5 story, so doors are not required with re-entry. Other buildings are less than 4 story, therefore re-entry is not required for those buildings.
Source of Findings:	Visual Assessment: Re-entry was not required for the buildings.
Suggested Plan of Action:	
Suggested Deadline Date:	
Standard:	Alliance Standards Part 6 Section 6.8 Doors and Gates

Question:	Exterior exit stairs are separated from the building with the required rating. The rating of the exterior wall shall extend 3.05 m (10 ft) beyond the ends of the stair structure.
Priority Level:	High
Non-Compliance Level:	
Description:	No exterior exit stair available.
Source of Findings:	Visual Assessment: Exterior exit stair was not available.

Suggested Plan of Action:		
Suggested Deadline Date:		
Standard:	Alliance Standard Part 6 Section 6.3.1.2. Three stories or less 1-hr rating. Four stories of more 2-hr rating	
Question:	Interior exit stairways and ramps terminate at an exit discharge except where terminating at a rated exit passageway.	
Priority Level:	High	
Non-Compliance Level:	2	
Description:	A rated exit passageway is not provided on ground floor of southwest stair of building A, southeast stair of building B and northwest stair of building E.	
Source of Findings:	Visual Assessment: Rated exit passageway was not provided at required location.	
Suggested Plan of Action:	Construct required rated walls and slab for the open exit passageway.	
Suggested Deadline Date:	17 Sep 2014	
Standard:	Alliance Standard Part 6 Section 6.14 Exit Enclosures	
Question:	Stair designation signs are provided at each floor entrance from the stair to the floor in English and Bengali. Signs indicate the name of the stair and the floor level. Signs are posted adjacent to the door.	
Priority Level:	Low	
Non-Compliance Level:	2	
Description:	Floor levels and stair names or designations are not posted.	
Source of Findings:	Visual Assessment: Stair designation signs were not provided at each floor entrance.	
Suggested Plan of Action:	Install signage adjacent to each stair door indicating the stair name and the floor level at the noted locations.	
Suggested Deadline Date:	23 Jul 2014	
Standard:	Alliance Standard Part 6 Section 6.9 Stairs	
Question:	Stairwells are not utilized as storage spaces.	
Priority Level:	High	
Non-Compliance Level:		

Description:	Stairwells are free from storage.	
Source of Findings:	Visual Assessment: Stairwells were not utilized as storage spaces.	
Suggested Plan of Action:		
Suggested Deadline Date:		
Standard:	Alliance Standard Part 13 Section 13.9 Safety Inspections	
Question:	Ramps used in a means of egress do not reduce the overall means of egress width. The minimum width shall be 1.1 m (44 in.).	
Priority Level:	High	
Non-Compliance Level:		
Description:	Not applicable because no such ramps available.	
Source of Findings:	Visual Assessment: No ramps was available.	
Suggested Plan of Action:		
Suggested Deadline Date:		
Standard:	Alliance Standards Part 6 Section 10 Ramps	
Question:	Ramps do not have a running slope greater than 1 in 8 (12.5 percent) and have handrails on both sides of the ramp.	
Priority Level:	Medium	
Non-Compliance Level:		
Description:	Not applicable because no such ramps is available.	
Source of Findings:	Visual Assessment: No ramps was available.	
Suggested Plan of Action:		
Suggested Deadline Date:		
Standard:	Alliance Standard Part 6 Section 10 Ramps	
Fire Safety Programs		
Question:	A Fire Safety Director position has been filled.	
Priority Level:	Low	

Non-Compliance Level:	2	
Description:	No viable documentation or physical presence of a Fire Safety Director was noted. However, factory has informed that they have a designated person for this.	
Source of Findings:	Document Review: No related document was found.	
Suggested Plan of Action:	Create a Fire Safety Director position and fill the position with an individual that has had sufficient training to carry the required duties. The duties of the Fire Safety Director shall include the following: (1) Establish internal and external rally points and communicate to all employees in the building. (2) Fire department pre-planning. (3) Conduct safety inspections as outlined in Alliance standard 13.9. (4) Ensure all testing of fire protection equipment is conducted in accordance with Alliance standard 13.10.	
Suggested Deadline Date:	10 Dec 2014	
Standard:	Alliance Standards Part 13 Section 13.1 Fire Safety Director	
Question:	An emergency evacuation plan has been developed and communicated to all employees.	
Priority Level:	Medium	
Non-Compliance Level:	2	
Description:	Workers are aware of the evacuation procedure upon sounding of the alarm. However, no procedure defining evacuation process was available.	
Source of Findings:	Document Review: Documentation of an evacuation plan was not found.	
Suggested Plan of Action:	Develop an emergency evacuation plan which includes duties and responsibilities of various people/groups, interfacing between groups and fire brigade, headcount and identification of trapped victims, physically disabled people and their rescue, etc.	
Suggested Deadline Date:	23 Jul 2014	
Standard:	Alliance Standards Part 13 Section 13.1 Fire Safety Director	
Question:	Emergency egress maps are posted at the entrance to each exit stair or main point of egress.	
Priority Level:	Medium	
Non-Compliance Level:		
Description:	Emergency egress maps are posted at the entrance to exit stairs as demanded in Alliance Standard Part 13 Section 13.3.	
Source of Findings:	Visual Assessment: Emergency egress maps were posted at required locations.	

Suggested Plan of Action:	
Suggested Deadline Date:	
Standard:	Alliance Standards Part 13 Section 13.4 Evacuation Plan
Question:	Fire Department pre-planning has been completed.
Priority Level:	Low
Non-Compliance Level:	2
Description:	Fire department pre-planning was not found.
Source of Findings:	Document Review: No document as fire department pre-planning was found.
Suggested Plan of Action:	Complete fire department pre-planning activities with the local Fire Service and Civil Defense
Suggested Deadline Date:	23 Jul 2014
Standard:	Alliance Standards Part 13 Section 13.1 Fire Safety Director
Question:	Fire Drills are conducted at required intervals based on building use type.
Priority Level:	Medium
Non-Compliance Level:	2
Description:	Fire drills are conducted quarterly in all buildings but not under the direction of a Fire Safety Director as required.
Source of Findings:	Document Review: Fire drills were conducted quarterly in all buildings.
Suggested Plan of Action:	Fire drills shall be conducted on a quarterly basis under the direction of a Fire Safety Director as outlined in BNBC Part 4 Appendix A for all garment facilities. All other requirements for fire drills shall be conducted in accordance with BNBC.
Suggested Deadline Date:	23 Jul 2014
Standard:	Alliance Standards Part 13 Section 13.3 Fire Drills
Question:	Are the required number of people trained and certified in fire fighting, first aid, and rescue training by the appropriate authority.
Priority Level:	High
Non-Compliance Level:	2
Description:	The required number of people are not trained and certified. Only 40 workers were trained and certified by the fire service and civil defense.

Source of Findings:	Document Review: The required number of certificates was not found.	
Suggested Plan of Action:	Train and certify at least 25 percent of workers in fire fighting, first aid, and rescue by the proper authority.	
Suggested Deadline Date:	10 Dec 2014	
Standard:	Alliance Standard Part 13 Human Element Programs	
Question:	A written housekeeping policy is established and enforced.	
Priority Level:	Low	
Non-Compliance Level:	3	
Description:	A written housekeeping policy was not found as required.	
Source of Findings:	Document Review: Related document was not found.	
Suggested Plan of Action:	Establish written corporate and plant policies on housekeeping to ensure scheduled cleaning for floor, wall, ceiling, supply and return air ventilation systems. Promptly reschedule skipped cleanings. Provide a documented line of authority for authorizing a cleaning delay and rescheduling. As a general rule the maximum tolerable deposit thickness for loose fluffy lint is 13 mm (½ in.) over a maximum of 46.5 m2 (500 ft2). Limit dense deposits to 6 mm (¼ in.) and oil saturated deposits to 3.2 mm (⅛ in.).	
Suggested Deadline Date:	04 Mar 2015	
Standard:	Alliance Standards Part 13 Section 13.6 Housekeeping	
Question:	A hot-work permit program has been established.	
Priority Level:	Low	
Non-Compliance Level:	2	
Description:	A hot-work permit program was not found. Hot-work including use of a glass cutter set and welding machine is taking place in the mechanical workshop.	
Source of Findings:	Document Review: Related document was not found.	
Suggested Plan of Action:	Develop a hot-work permit program. In general, this program should address process of request and approval of authorities, necessary checks prior to approval, standby fire watch and fire fighting equipment, sounding of alarm procedure, duration and expiry of permit and reapproval procedure, etc.	
Suggested Deadline Date:	10 Dec 2014	
Standard:	Alliance Standards Part 13 Section 13.4 Hot Work Permit and NFPA 51B	

Question:	Storage areas underneath the cutting tables are clear of combustibles.	
Priority Level:	Medium	
Non-Compliance Level:	2	
Description:	Fabrics are stored underneath the cutting tables of cutting section on 1st and 2nd floor of building-A, and in the cutting section on 1st floor of building-C, and in the cutting section on the 2nd floor of building-E.	
Source of Findings:	Visual Assessment: Storage was found underneath the cutting tables in cutting sections.	
Suggested Plan of Action:	Remove all combustibles stored underneath the cutting tables at the noted locations. Establish and enforce a housekeeping policy to keep these areas clear.	
Suggested Deadline Date:	10 Dec 2014	
Standard:	Alliance Standard Part 17 Section 13.7.2 Cutting tables.	
Question:	Training programs are implemented and documented in accordance with the Alliance Safety Training Curriculum.	
Priority Level:	Medium	
Non-Compliance Level:	3	
Description:	No documentation of any training program in accordance with the Alliance Safety Training Curriculum was found.	
Source of Findings:	Document Review: No related document was found.	
Suggested Plan of Action:	Impart training in accordance with Alliance Safety Training Curriculum and keep record with proper documentation.	
Suggested Deadline Date:	23 Jul 2014	
Standard:	Alliance Standards Part 13	
Question:	Smoking is only allowed at designated areas.	
Priority Level:	Low	
Non-Compliance Level:	2	
Description:	Smoking is prohibited as per verbal information of factory personnel but signs not posted in Bengali and English at all building entrances.	
Source of Findings:	Visual Assessment: Smoking prohibited signs were not found posted.	
Suggested Plan of Action:	Smoking shall be prohibited in any garment factory building, separate storage building, or any building or area where the Inspector of the Factories Rules (1.6.3.7) Part 53 requires that smoking be prohibited. If an owner creates a	

	designated smoking area outside the buildings, information on the location of these designated areas shall be posted on the signs.	
Suggested Deadline Date:	09 Jul 2014	
Standard:	Alliance Standards Part 13 Section 13.5 Smoking	
Question:	Are all applicable permits up to date including Fire License & Boiler License.	
Priority Level:	Low	
Non-Compliance Level:	2	
Description:	A fire license is available for 295,000 sft area, but total constructed useable area is 366,040 sft. A BERC License not available. Building-B has approval for 4-story RCC building but an occupied floor was found above the 3rd floor. Building-E has approval for 3-story RCC building but occupied floor (store) was found above the 2nd floor. Factory license and fire licenses are up-to-date.	
Source of Findings:	Document Review: BERC License was not found. Factory license and fire licenses were found up-to date.	
Suggested Plan of Action:	Apply to the Fire Department for adding the remaining area to the fire license, to BEPZA for approval of the additional floors, and to BERC for the BERC license.	
Suggested Deadline Date:	23 Jul 2014	
Standard:	Alliance Standard Part 13 Human Element Programs	
Question:	Are there additional areas of non-compliance to report?	
Priority Level:	Medium	
Non-Compliance Level:		
Description:	No remarkable non-compliance issues other than those presented before was found.	
Source of Findings:		
Suggested Plan of Action:		
Suggested Deadline Date:		
Standard:	Not Applicable	