INITIAL FIRE ASSESSMENT REPORT (FAR)

Factory Name:	**CLIFTON COTTON MILLS LIMITED**
Address:	**CDA Plot # D28, 28-D/1, 28-D2, Char Rangamatia, Kalurghat, Chittagong Chittagong Chittagong Bangladesh**
Assessor:	**Sumerra**
Date:	**09 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:	CLIFTON COTTON MILLS LIMITED
Address:	CDA Plot # D28, 28-D/1, 28-D2, Char Rangamatia, Kalurghat, Chittagong Chittagong Chittagong Bangladesh
Country:	Bangladesh
Province:	Chittagong
City:	Chittagong
Zip Code:	
Audit Duration:	2 Days
Re-Audit:	Re-Audit After 0 Months
Draft Report Date:	April 25, 2014
Final Report Date:	May 13, 2014
Are all Action Items From Previous Assessment Completed?:	N/A
Buildings in Complex:	Main Building Generator/Substation Bldg.
Is the building(s) owned or rented by the Factory:	Rented
Number of Building Levels (Stories):	Main: 6 story Generator: 1 story
Approximate Building Area (SF):	100800 sft
Date of Building Construction:	2006
Date of Last Building Renovation/Addition:	NA
Ancillary Structures in Complex:	Generator/Substation
Approximate Ancillary Structures Area (SF):	Unknown
Number of Occupants:	Approx. 1600

Number of Ancillary Levels (Stories):	1 Story

ASSESSMENT FINDINGS

Fire Protection Construction		
Question:	Are openings and penetrations through rated walls and/or assemblies protected?	
Priority Level:	High	
Non-Compliance Level:	2	
Description:	Floor to floor penetrations were observed for passing electric wires from MDB boards to SD on each floor.	
Source of Findings:	Photograph: Photo of floor to floor penetrations.	
Suggested Plan of Action:	Floor to floor penetrations shall be protected/sealed with a listed through penetration firestop system tested in accordance with ASTM E814. Confirmation should be provided that any materials used can conform to standard as per Alliance Standard Section 4.7 Penetrations	
Suggested Deadline Date:	16 Jul 2014	
Standard:	Includes doors, windows, ducts, piping, etc. Reference Alliance Standards Part 4 Section 4.6 Opening Protectives and Section 4.7 Penetrations	
Question:	Are exit enclosures provided with fire-resistive rated construction barriers?	
Priority Level:	High	
Non-Compliance Level:	2	
Description:	In east side floor exits, fire door assemblies are installed at exits as prescribed. However in west side of all floor exits fire rated door assemblies are not installed.	
Source of Findings:	Photograph: Photo of exit enclosure without fire rated door.	
Suggested Plan of Action:	Provide minimum 1.5-hr fire rated doors and seal all unprotected openings to separate the west side exit stairs from work areas and other building spaces on all floor levels. 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. Fire doors assemblies shall conform to NFPA 252, BS 476 Part 22, EN 1364-1, GB 12955-2008, or IS 3614 Part II. Retain the services of qualified fire engineer to assist in specifying and installing fire rated assemblies.	
Suggested Deadline Date:	13 Aug 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:	1
Description:	Boiler room located on first floor does not have separation as per Alliance Standards Part 4 Section 4.5 Separation Transformer and generator were not separated as required per Alliance Standards Part 4 Section 4.5 Separation.
Source of Findings:	Visual Assessment: Proper separations not observed in boiler room and generator/transformer area.
Suggested Plan of Action:	Separate boiler room from other occupancies by a minimum 1 hour construction. Retain the services of a qualified fire engineer to properly design and approve enclosure. Separate oil filled transformers by a minimum 2 hour fire resistive rated construction. Retain the services of a qualified fire engineer to properly design and approve enclosure. Penetrations (doors, cables) must also be sealed or have appropriate protective (1.5 hour fire rated door assembly).
Suggested Deadline Date:	08 Oct 2014
Standard:	Reference Alliance Standards Part 4 Section 4.5 Separation
Question:	Occupancy Type
Priority Level:	
Non-Compliance Level:	
Description:	
Source of Findings:	
Suggested Plan of Action:	
Suggested Deadline Date:	
Standard:	Provide Occupancy Type for each building and structure. Reference Alliance Standards Part 3 Use and Occupancy
Question:	Construction Type
Priority Level:	
Non-Compliance Level:	
Description:	
Source of Findings:	

Suggested Plan of Action:		
Suggested Deadline Date:		
Standard:	Provide construction type for each building and ancillary structure. Reference Alliance Standards Table 3.3.1	
Question:	Height of Highest Occupied Floor Level Above Grade	
Priority Level:		
Non-Compliance Level:		
Description:		
Source of Findings:		
Suggested Plan of Action:		
Suggested Deadline Date:		
Standard:	Provide maximum height of highest occupied floor level above grade for each type of building and ancillary structure.	
Fire Protection Systems		
Question:	Are sprinklers spaced and installed at the required heights in order to provided required coverage and protection?	
Priority Level:	High	
Non-Compliance Level:	3	
Description:	Sprinklers were installed in ground floor and first floor finished goods and storage areas. No design specifications were available for review. It is unclear if designers considered the correct heights for the required coverage and protection.	
Source of Findings:	Document Review: Sprinklers were installed in ground floor and first floor finished goods and storage areas, however, no design specifications were available for review	
Suggested Plan of Action:	Provide design specifications for installed sprinkler systems and provide evidence of installation at the heights designated in the design.	
Suggested Deadline Date:	08 Oct 2014	
Standard:	Reference NFPA 13	
Question:	Does the building have a Standpipe System?	

Priority Level:	High
Non-Compliance Level:	2
Description:	Factory has a standpipe system that includes 13 hose reels with Class II connections and 4 Class I connections located on the GF. The factory does not have Class I connections at each stairwell at each floor as required by Alliance Standard Part 5 Section 5.4.2 (only Class II connections).
Source of Findings:	Visual Assessment: No Class I connections observed at each stairwell
Suggested Plan of Action:	Revise the standpipe system to include Class I (65 mm connections meant for Fire Department use in fighting fires) connections as defined by NFPA 14 in all stairwells at each floor level. System changes should be designed by a qualified fire protection engineer.
Suggested Deadline Date:	08 Oct 2014
Standard:	Does the building have a standpipe system installed where required. Alliance Standard Part 5 Section 5.4.2
Question:	Is the building protected by an automatic sprinkler system?
Priority Level:	High
Non-Compliance Level:	1
Description:	Though not required by Alliance standard, there are automatic sprinklers installed in the finished goods and fabric storage in Ground Floor, 1st and 2nd floor. No design specifications were available for review. It is unclear if designers considered the correct commodity class (Class III) and hazard in the design of sprinklers. Sprinklers are not required for all areas of the buildings (not a high rise).
Source of Findings:	Document Review: No design specifications were available for review., Visual Assessment: Sprinklers were installed in ground floor and first floor finished goods and storage areas.
Suggested Plan of Action:	Provide design specifications for installed sprinkler systems and provide evidence of design to specific commodity class and hazard. Provide provide shop drawings and hydraulic calculations as outlined in NFPA 13. These drawings shall include all details as outlined in NFPA 13.
Suggested Deadline Date:	10 Jul 2014
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:	All valves controlling the automatic sprinkler systems are electrically supervised by a listed fire alarm system control unit.
Priority Level:	Medium
Non-Compliance Level:	3

Description:	Valves controlling the installed automatic sprinkler systems in the storage areas are not electrically supervised by the fire alarm system control unit.	
Source of Findings:	Visual Assessment: Review of sprinkler system setup did not indicate that valves were connected to alarm system control unit.	
Suggested Plan of Action:	Provide electrically supervised devices on the valves controlling the automatic sprinkler systems. Devices are to be supervised by a listed fire alarm system control unit.	
Suggested Deadline Date:	08 Oct 2014	
Standard:	Reference Alliance Standard Part 5 Section 5.3.5 Supervision and Alarms.	
Question:	Are fire department connections provided and clearly identified for the Fire Protection Systems?	
Priority Level:	Medium	
Non-Compliance Level:	3	
Description:	Factory does not have fire department inlet connections to allow the department to supplement water supply or outlet connections to allow fire department pumper vehicles to draw water from ground-level or underground water storage tanks as per Alliance Standard 5.5.4.	
Source of Findings:	Visual Assessment: No fire department connections observed.	
Suggested Plan of Action:	Fire department (Siamese) inlet connections should be installed to allow fire department pumper equipment to supplement the fire protection systems. 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. Signage shall comply per recommendations found elsewhere.	
Suggested Deadline Date:	08 Oct 2014	
Standard:	Alliance Standard Part 5 Section 5.5.4 Fire Department Connections	
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:	3	
Description:	The fire alarm and detection system is not monitored by a central station monitoring service or directly connected to the Fire Service and Civil Defence per Alliance Standard Part 5 Section 5.7.5 Monitoring. The annunciator panel is located in fire control room and manned by fire safety officer.	
Source of Findings:	Photograph: Photo of annunciator panel	

Suggested Plan of Action:	Arrange for direct connection of the fire alarm and detection system to a central station monitoring service or the Fire Service and Civil Defence per Alliance Standard Part 5 Section 5.7.5 Monitoring. Until that time the fire safety officer shall be assigned to contact the fire department in the event of fire alarm activation.	
Suggested Deadline Date:	08 Oct 2014	
Standard:	Alliance Standard Part 5 Section 5.7.5 Monitoring	
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:	1	
Description:	Storage clearance is less than 18 inch from sprinkler heads in ground floor store room, mezzanine floor.	
Source of Findings:	Photograph: Photo of storage areas with improper sprinkler clearance.	
Suggested Plan of Action:	Remove all storage items that encroach on the minimum clearance distance to the sprinkler deflector as per Alliance Standards Part 5 Section 5.3.6.1 Storage Clearance. Mark on walls the maximum height of storage and assure no storage will exceed this mark at all times.	
Suggested Deadline Date:	08 Oct 2014	
Standard:	Reference Alliance Standards Part 5 Section 5.3.6.1 Storage Clearance	
Question:	Are inspection, maintenance, and testing procedures of the sprinkler system documented and up to date?	
Priority Level:	Low	
Non-Compliance Level:	3	
Description:	No inspection, maintenance, and testing procedures of the sprinkler system were available for review.	
Source of Findings:	Document Review: No inspection, maintenance, and testing procedures of the sprinkler system were available for review.	
Suggested Plan of Action:	Develop and inspection, testing, and maintenance schedule/program for all installed sprinkler systems. Reference NFPA 25 Chapter 5 Sprinkler Systems Table 5.1.1.2 for the frequency of testing. All inspections, maintenance and testing should be fully documented and available for review.	
Suggested Deadline Date:	16 Jul 2014	
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:	3
Description:	Identification signs for the sprinkler system were not installed as per NFPA 13.
Source of Findings:	Visual Assessment: No identification signs observed for sprinkler system.
Suggested Plan of Action:	Install identification signage at the required locations. The five basic types of identification signs are as follows: Type A- Control Valve Sign Type B- Multi-Purpose Text Signs Type D- Fire Alarm Sign Type E- Hydraulic Calculation Sign (including location of design area, discharge densities, required flow and residual pressure demand, occupancy class or commodity class and max storage height) Reference NFPA 13 for additional details.
Suggested Deadline Date:	04 Jun 2014
Standard:	Reference NFPA 13
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:	3
Description:	Automatic sprinkler systems installed in storage areas do not have an approved audible device activated by waterflow equal to the flow of one sprinkler as per Alliance Standards Part 5 Section 5.3.5.2 Alarms.
Source of Findings:	Visual Assessment: Automatic sprinkler systems installed in storage areas do not have an audible device
Suggested Plan of Action:	Install an approved audible device connected to every automatic sprinkler system and activated by waterflow equal to the flow of one sprinkler. Where a fire alarm system is installed, activation of the waterflow shall activate the fire alarm system.
Suggested Deadline Date:	08 Oct 2014
Standard:	Reference Alliance Standards Part 5 Section 5.3.5.2 Alarms.
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 hose pipe water pressure was visually verified and based on

	demonstration may meet minimum pressure requirement, however exact pressure could not be verified as the standpipe system has not been evaluated for compliance with the design pressure and flow demands of NFPA 14 or BNBC as per Alliance Standard 5.4.3.
Source of Findings:	Document Review: No evidence of verification of pressure could be produced.
Suggested Plan of Action:	The standpipe system needs to be evaluated for compliance with the design pressure and flow demands of NFPA 14 or BNBC as cited in 5.4.3. Standalone standpipe systems shall be confirmed to meet the local BNBC requirements with a minimum 450 kPa (65 psi) pressure at the hydraulically most remote hose connection or NFPA 14. This testing should be documented and available for review.
Suggested Deadline Date:	08 Oct 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:	3
Description:	As noted elsewhere, Fire Department Connections are not available and therefore also not labelled.
Source of Findings:	Visual Assessment: No fire department connections observed.
Suggested Plan of Action:	Signage for standpipe system should be in compliance with NFPA 14 Chapter 6 such as a sign on Fire Department connection once installed (see recommendation elsewhere). Such signs shall read: AUTOMATIC SPRINKLERS or STANDPIPES or TEST CONNECTION or a combination thereof as applicable in 1 in lettering. Supplemental signage must be provided when an FDC-connected system does not serve an entire building (sign should indicate the areas served).
Suggested Deadline Date:	08 Oct 2014
Standard:	Reference NFPA 14 Chapter 6
Question:	Are inspection, maintenance, and testing procedures of the fire pump documented and up to date?
Priority Level:	Low
Non-Compliance Level:	3
Description:	Factory has pump however, documentation was not provided regarding compliance to NFPA 20. Additionally, the fire pump valve is not electronically supervised by fire alarm control unit as per Alliance Standard 5.3.5.1.
Source of Findings:	Document Review: No inspection, maintenance, and testing records available

	for review.
Suggested Plan of Action:	Existing pump must be evaluated against requirements of NFPA 20 by a qualified fire engineer. Any deficiencies must then be rectified based on advise of engineer. All evaluations should be fully documented. All valves controlling fire pumps systems shall be electrically supervised by fire alarm system control unit. Inspections and testing should be conducted as per NFPA 25 Chapter 8. All testing should be made available for review.
Suggested Deadline Date:	08 Oct 2014
Standard:	Reference NFPA 25 Chapter 8 Fire Pumps
Means of Egress	
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 is locking system on the west side sliding doors with shutters.
Source of Findings:	Visual Assessment: Locking system observed on the west side sliding doors with shutters
Suggested Plan of Action:	Remove all hasps, locks, slide bolts, or other locking devices all doors to exits / means of egress. If locks are required for security reasons, utilize special door locking features complying with NFPA 101.
Suggested Deadline Date:	21 May 2014
Standard:	Alliance Standards Part 6 Section 6.8 Doors and Gates
Question:	All doors in a means of egress are of the side-hinged swinging type.
Priority Level:	High
Non-Compliance Level:	2
Description:	East exit doors from factory floor are swing type fire door. But west exit doors are collapsible gate and swing metal door. All exit doors should by side-hinged type as per Alliance Standards Part 6 Section 6.8 Doors and Gates
Source of Findings:	Photograph: Photo of west side doors.
Suggested Plan of Action:	Remove all sliding or rolling doors at and within the exit stairs and along all portions of the means of egress. Replace with side-hinged swinging type doors in compliance with Standard. As noted elsewhere, exit enclosures require fire rated door assemblies (which should be side-hinged).
Suggested Deadline	18 Jun 2014

Date:		
Standard:	Alliance Standards Part 6 Section 6.8 Doors and Gates	
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:	1	
Description:	West exit stair discharges into unprotected GF area with unprotected storage room.	
Source of Findings:	Photograph: Photo of west stair discharge	
Suggested Plan of Action:	Openings from the exit enclosure to the storage area shall be provided with a vestibule with appropriate fire rating (same as exit enclosure minimum 2-hour with 1.5 hour door/openings). Consult with qualified fire safety engineer in design of vestibule.	
Suggested Deadline Date:	08 Oct 2014	
Standard:	Alliance Standard Part 6 Section 6.17 Exit Discharge. See Section 16.7.2 and 16.7.3 for exceptions.	
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:	No loads are posted as per Alliance Standards Part 6 Section 6.4.4 Posting of Occupant Load	
Source of Findings:	Visual Assessment: No load postings were observed.	
Suggested Plan of Action:	Post maximum occupant load for all areas (near exit)	
Suggested Deadline Date:	21 May 2014	
Standard:	Alliance Standards Part 6 Section 6.4.4 Posting of Occupant Load	
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:	In west stairwell (2.51m>2.2m), there is no intermediate handrail as required by Alliance Standard Part 6 Section 6.9 Stairs and 6.12 Handrails and Guards	
Source of Findings:	Photograph: Photo of west stairwell	
Suggested Plan of Action:	Install intermediate handrail in west stairwell as per standard. New handrails shall have a minimum height of 865 mm (34 in.) and a maximum height of 965 mm (38 in.) as measured from the leading edge of the tread.	
Suggested Deadline Date:	08 Oct 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:	2	
Description:	Re-entry requirements have not been met per Alliance Standards Part 6 Section 6.8.3.1 as fire rated door assemblies with proper latching systems have not been installed west side exit enclosure. As noted in other areas, fire rated door assemblies are required for the exit enclosure.	
Source of Findings:	Visual Assessment: No fire rated door assemblies with proper latching systems were observed in west side exit enclosure	
Suggested Plan of Action:	During installation of fire rated door assemblies noted elsewhere assure that every door in a stair enclosure serving more than 4 stories should be provided with re-entry unless it meets the requirements of Alliance Standards Part 6 Section 6.8.3.1.	
Suggested Deadline Date:	23 Jul 2014	
Standard:	Alliance Standards Part 6 Section 6.8 Doors and Gates	
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:	1	
Description:	In GF , west side , under sliding metal door exit, there is a lip (around 10 inch). In other floors, under exit door, there is a lip of 1 inch. Changes in elevation of walking surfaces must 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) as per Alliance Standard Part 6 Section 6.3.4 Walking Surfaces	
Source of Findings:	Visual Assessment: Surface interruptions (lips) were observed in GF , west side , under sliding metal door exit and under exit door of all other floor exits.	

Suggested Plan of Action:	Remove lips / slider tracks in the paths of exit/egress in all noted locations.	
Suggested Deadline Date:	08 Oct 2014	
Standard:	Alliance Standard Part 6 Section 6.3.4 Walking Surfaces	
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:	1	
Description:	Signs indicating floor level are posted adjacent to the door, however, stairs have not been designated as per Alliance Standard Part 6 Section 6.9 Stairs	
Source of Findings:	Visual Assessment: No stair designations were observed.	
Suggested Plan of Action:	Install signage adjacent to each stair door indicating the stair name (each stair should have unique name/id) and the floor level at the noted locations.	
Suggested Deadline Date:	28 May 2014	
Standard:	Alliance Standard Part 6 Section 6.9 Stairs	
Fire Safety Programs		
Question:	Storage areas underneath the cutting tables are clear of combustibles.	
Priority Level:	Medium	
Non-Compliance Level:	2	
Description:	Storage was observed under cutting tables (first floor).	
Source of Findings:	Photograph: Photo under cutting tables	
Suggested Plan of Action:	Storage underneath the cutting tables shall be kept clear of combustibles at all time as per Alliance Standard Part 17 Section 13.7.2 Cutting tables. Remove all combustibles stored underneath the cutting tables at the noted locations.	
Suggested Deadline Date:	28 May 2014	
Standard:	Alliance Standard Part 17 Section 13.7.2 Cutting tables.	