INITIAL FIRE ASSESSMENT REPORT (FAR)

Factory Name:	**Zyta Apparels Ltd**
Address:	**Industrial Plot NO. 4, Milk Vita Road Section 7, Mirpur, Dhaka Dhaka Dhaka Bangladesh**
Assessor:	**CCRD**
Date:	**21 Apr 2013**

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:	Zyta Apparels Ltd
Address:	Industrial Plot NO. 4, Milk Vita Road Section 7, Mirpur, Dhaka Dhaka Dhaka Bangladesh
Country:	Bangladesh
Province:	Dhaka
City:	Dhaka
Zip Code:	
Audit Duration:	1 Days
Re-Audit:	Re-Audit After 0 Months
Draft Report Date:	June 24, 2013
Final Report Date:	June 30, 2014
Are all Action Items From Previous Assessment Completed?:	N/A
Buildings in Complex:	Building 1 (one building)
Is the building(s) owned or rented by the Factory:	Owned
Number of Building Levels (Stories):	11 stories (including roof) plus basement
Approximate Building Area (SF):	110,000 sq. ft. (Basement - 7,512; Ground - 10,268; 1st through 9th - 10,000; Roof - 3,000)
Date of Building Construction:	2001-2002
Date of Last Building Renovation/Addition:	N/A
Ancillary Structures in Complex:	None
Approximate Ancillary Structures Area (SF):	N/A
Number of Occupants:	2,470

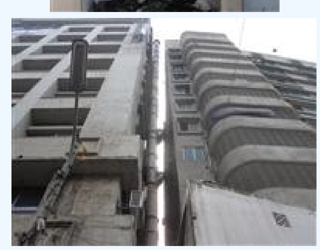
Number of Ancillary Levels (Stories):	N/A
Occupancy Type:	G2
Construction Type:	The buildings are essentially of concrete and brick construction. Floors are steel-reinforced poured in place concrete. Exterior walls are concrete with brick inserts and windows are set in masonry frames.
Height of Highest Occupied Floor Level Above Grade:	120 ft.

ASSESSMENT FINDINGS

Fire Protection Construction

Question:	Are exit enclosures provided with fire-resistive rated construction barriers?
Priority Level:	High
Non-Compliance Level:	3
Description:	None of the exit stairs are separated from the floor at the landings at each level. The Emergency stair has an additional unprotected opening to the water treatment plant on the west side of the Building. The Main exit stair on the basement level requires people to walk around an air compressor and battery storage to access the stair. There is a work area on the basement level that is open to the stair.
Source of Findings:	Photograph: (1) Opening from stair to production floor (2) Opening to water treatment plant (3) Access to Main Stair (Basement) (4) Work area open to Main Stair
Suggested Plan of Action:	Remove the existing sliding gates that separate the production floors from the stairs and replace them with automatic-closing, side-swinging, fire-rated doors in fire rated frames with latching panic hardware. These doors should be a minimum 39 inches (1 m) wide with a total opening of at least half the existing stair width to maintain the flow of pedestrian traffic. These doors should swing in the direction of egress from the production floor toward the stair. Provide 90-min. fire-rated doors at all other openings into the stair enclosures including the door from the water treatment plant to the Emergency exit stair on the Ground Floor.
Suggested Deadline Date:	30 Sep 2014
Standard:	Reference Alliance Standards Part 4 Section 4.5 Separation

Question:	Are openings and penetrations through rated walls and/or assemblies protected?
Priority Level:	High
Non-Compliance Level:	2
Description:	Penetrations of rated walls are not provided with fire-resistive rated materials.
Source of Findings:	Photograph: Electrical switchgear room penetration
Suggested Plan of Action:	Protect all openings in rated walls with fire-resistive rated assemblies.
Suggested Deadline Date:	30 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:	Are shafts provided with the minimum fire-resistance rating?	 
Priority Level:	High	
Non-Compliance Level:	2	
Description:	There is a vertical shaft with electrical service that proceeds through the building. This shaft is neither enclosed in a fire-rated shaft nor separated at the floor opening. There is one elevator in the building, located adjacent to the Main Stair. The elevator shaft openings have doors at each level except at the top where only a gate separates the elevator equipment room from the stair.	
Source of Findings:	Photograph: (1) Shaft opening (2) Elevator opening to Main Stair	
Suggested Plan of Action:	Provide 2-hour fire resistive rating for all vertical shafts (primarily plumbing and electrical shafts). The protection means can either be at each floor penetration or by the provision of a fire rated shaft enclosure.	
Suggested Deadline Date:	30 Sep 2014	
Standard:	Reference Alliance Standards Part 4 Section 4.5.7.1 through 4.5.7.3	
Question:	Are separations between hazards provided with fire-resistive rated construction barriers.	  
Priority Level:	Medium	
Non-Compliance Level:	3	
Description:	There are several areas of the facility that have contents that present a greater hazard than the predominate occupancy. This includes: chemical storage area (Basement), generator room (Basement), electrical switchgear and 630 kVA oil-filled transformer (Ground Floor), storage (Floors 3-5), and wastage room (Floor 9). There is another garment factory located approximately 7 ft. to the north that is as tall as this facility.	
Source of Findings:	Photograph: (1) Storage room open to production (2) Wastage room open to stair (3) Adjacent garment factory (4) Stair enclosure exposed by adjacent factory (view out from stair)	
Suggested Plan of Action:	Separate all hazard areas including the transformer room, generator, chemical room areas from the remaining portions of the facility with 1-hour fire-rated construction. This includes providing rated fire doors at all openings into these hazard areas. Change the opening from the wastage room so that it opens from the production floor side instead of opening directly into the Emergency exit stair enclosure. Fill in the opening to the stair with fire-rated construction. Fill in the windows on the north side of the Emergency exit stair with 2-hr. rated construction materials to eliminate the exposure from the garment	

	factory to the north.
Suggested Deadline Date:	30 Nov 2014
Standard:	Reference Alliance Standards Part 4 Section 4.5 Separation

Fire Protection Systems

Question:	Is the building protected by an automatic sprinkler system?
Priority Level:	High
Non-Compliance Level:	3
Description:	Highest Occupied floor is 110 ft. above grade. No automatic sprinkler protection is provided in building.
Source of Findings:	Visual Assessment: No sprinkler system installed.
Suggested Plan of Action:	Provide automatic sprinkler protection throughout the facility. The installation of sprinkler protection should be conducted in phases. The first phase would be to protect all storage areas.
Suggested Deadline Date:	31 Dec 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

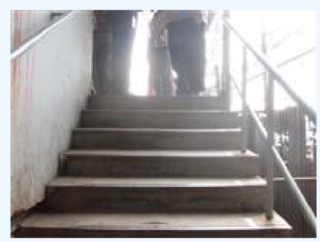
Question:	Does the building have a fire pump?
Priority Level:	High
Non-Compliance Level:	3
Description:	No fire pump has been installed in this building.
Source of Findings:	Visual Assessment: No fire pump installed.
Suggested Plan of Action:	Provide a water supply system capable of serving the hydraulic demand for the automatic sprinkler/standpipe system as described above. This will require the installation of a fire pump and tank sized to meet the demands.
Suggested Deadline Date:	28 Feb 2015
Standard:	Alliance Standard Part 5 Fire Protection Systems

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:	3
Description:	There is a manual fire alarm system in the main building. The system is activated by push buttons located at the entry to the stairs. The alarm system is designed for general evacuation, alerting all occupants at the same time through horns and beacons. There are single-station smoke alarms located at electrical equipment and in storage areas. These devices are battery operated and only alert at each individual device (not part of the fire alarm system).
Source of Findings:	Photograph: Manual fire alarm switch
Suggested Plan of Action:	Install initiating devices and notification appliances as required by the Alliance Standard and NFPA 72. Devices should be part of an automatic fire alarm and detection system for the facility.
Suggested Deadline Date:	30 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

Question:	Does the building have a Standpipe System?
Priority Level:	High
Non-Compliance Level:	2
Description:	Two hose stations are provided at each floor. These hoses are supplied with pressure from a gravity tank located on the 10th floor (Roof) that is approximately 21,000 gal (81,000 L). This tank is fed from a 100,000 gal. tank located in the basement. Adequate pressure is not provided at the upper levels.
Source of Findings:	Visual Assessment: Hoses provided on each floor
Suggested Plan of Action:	Provide standpipe systems in each stairwell capable of meeting the fire protection demand for hose connections and automatic sprinkler protection. The standpipe should be sized with a minimum 6 in. supply pipe and 3 in. drain pipe. The system should be designed to provide a demand of 750 gpm at 65 psi at the top of the each standpipe riser (500 gpm for the first riser and 250 gpm for the second). Class I standpipe hose connections (65 mm) shall be located in all required stairwells at each floor level including occupiable roofs. This system should be installed as part of the first phase of the overall fire protection system.
Suggested Deadline Date:	28 Feb 2015
Standard:	Does the building have a standpipe system installed where required. Alliance Standard Part 5 Section 5.4.2

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:	1
Description:	No automatic fire alarm system has been installed.
Source of Findings:	Visual Assessment: No automatic fire alarm system installed
Suggested Plan of Action:	Install a new automatic fire alarm and detection system. Once installed, arrange for direct connection of the fire alarm and detection system to a central station monitoring service or the Fire Service and Civil Defense as per Alliance Standard Part 5 Section 5.7.5 Monitoring. Until that time that a central station monitoring service or direct connection to the Fire Service and Civil Defense can be set up, a person trained to contact the Fire Service and Civil Defense in the event of fire alarm activation shall be provided. An annunciator shall be located in a constantly attended location (such as a fire control room) to alert this person.
Suggested Deadline Date:	30 Sep 2014
Standard:	Alliance Standard Part 5 Section 5.7.5 Monitoring

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:	3
Description:	The stair widths are inconsistent from the top to the bottom. The Main stair is 46 in. wide from the roof and 69 in. wide from Floor 9 to Floor 1. The Emergency stair is 46 in. wide from the roof, 60 in. wide and 46 in. from the Ground Floor to the grade discharge. This last stair to grade creates a reduction in the overall available width of the stair. Based on the BNBC requirement of 8 mm/person for stairs, the maximum permitted occupant load per floor is 365. There is an additional exterior stair from Floor 1; however, this stair discharges back to the Main stair at the Ground Floor effectively maintaining the overall exit capacity.
Source of Findings:	Photograph: Reduced Emergency Stair width, Visual Assessment: Measured stair widths
Suggested Plan of Action:	Limit the number of occupants on the Roof level canteen to 292 based on the available width of the stairs. Alternatively, widen the stairs from Floor 9 to the Roof to handle the additional load. Replace the Emergency exit discharge stair (from the Ground Floor to grade) with a 60 in. wide stair to facilitate the capacity that is available from the rest of the 60 in. wide stair above the Ground Floor level. Limit the number of occupants on the sewing floors to 365 until the Emergency exit discharge stair can be widened or automatic sprinkler protection is provided throughout the building.

Suggested Deadline Date:	30 Sep 2014	
Standard:	Alliance Standard Part 6 Section 6.4 Occupant Load	
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:	3	
Description:	The path of egress is reduced at the Ground Floor for the Emergency Stair. The stair widths are inconsistent from the top to the bottom. The Emergency stair has a further restriction/trip hazard at the Ground Floor where the stair from the Ground Floor laundry runs into the stairwell discharge. The available clearance between the two stairs is 36 in. The Main exit stair requires people to walk around an air compressor and battery storage to access the stair	
Source of Findings:	Photograph: (1) Emergency Stair at Ground Floor (2) Obstruction to Main Stair (Basement)	
Suggested Plan of Action:	Limit the number of occupants on the Roof level canteen to 292 based on the available width of the stairs. Alternatively, widen the stairs from Floor 9 to the Roof to handle the additional load. Replace the Emergency exit discharge stair (from the Ground Floor to grade) with a 60 in. wide stair to facilitate the capacity that is available from the rest of the 60 in. wide stair above the Ground Floor level. Limit the number of occupants on the sewing floors to 365 until the Emergency exit discharge stair can be widened or automatic sprinkler protection is provided throughout the building.	
Suggested Deadline Date:	31 Aug 2014	
Standard:	Alliance Standard Part 6 Section 6.5 Egress Width and BNBC Table 4.3.2	
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:	3	

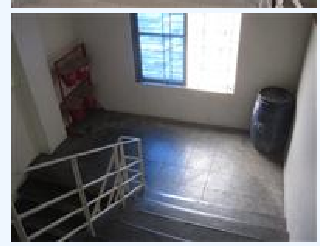
Description:	Building 1 has two exit stairs. The Main stair is located on the front (east) side of the building. The Emergency stair is located on the northwest corner of the building. The Main stair discharges at the loading dock with an exterior stair down to grade. The Emergency stair discharges to an “exterior” covered passageway between Building 1 and the adjacent garment factory building. This passageway is located at the grade level which is approximately half a level below the Ground Floor level. Both stairs ultimately discharge to the street in front of the building through large sliding gates that are normally kept closed. There is an additional exterior stair from Floor 1; however, this stair discharges back to the Main stair at the Ground Floor.	
Source of Findings:	Photograph: (1) Main Exit discharge and gate (2) Emergency discharge pathway gate (3) Emergency Stair discharge (4) Emergency Stair discharge	
Suggested Plan of Action:	Either reconfigure the exterior exit stair on the South side of the building to discharge to grade without re-entering the building or properly enclose the ground floor exit stair. Provide a minimum 2-hr. rated ceiling above the exit discharge path along the north side of the building to protect occupants exiting the Emergency stair from the garment factory to the north.	
Suggested Deadline Date:	30 Sep 2014	
Standard:	Alliance Standard Part 6 Section 6.17 Exit Discharge. See Section 16.7.2 and 16.7.3 for exceptions.	
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 a manually operated sliding gate between the production floor and the stair opening at each stair landing. These gates are kept in the open position during working hours. After work hours the gates are closed and locked. There is an additional gate in the Emergency stair between Floor 1 and Ground.	
Source of Findings:	Photograph: Enclosure at Emergency Exit Stair	
Suggested Plan of Action:	Remove all locking devices from all egress doors and means of egress components.	
Suggested Deadline Date:	31 Jul 2014	
Standard:	Alliance Standards Part 6 Section 6.8 Doors and Gates	

Question:	Means of egress are free from impediments, obstructions, and stored materials.	 
Priority Level:	High	
Non-Compliance Level:	2	
Description:	The Main exit stair at the Basement level requires people to walk around an air compressor and battery storage to access the stair. The Emergency exit on the Basement level discharges underneath the Ground Floor discharge stair and joins the covered egress discharge pathway. There is storage of bottles of chemicals along this pathway from the basement that impedes egress.	
Source of Findings:	Photograph: (1) Access to Main Stair (Basement) (2) Emergency discharge from Basement	
Suggested Plan of Action:	Relocate obstructions at access to Main Stair on Basement Level. Remove all chemicals and empty containers from the Emergency exit discharge path on the north side of the building.	
Suggested Deadline Date:	31 Oct 2014	
Standard:	Alliance Standard Part 6 Section 6.3.8 Impediments to means of egress and Section 6.3.9 Reliability	

Question:	All doors in a means of egress are of the side-hinged swinging type.
Priority Level:	High
Non-Compliance Level:	2
Description:	There is a manually operated sliding gate between the production floor and the stair opening at each stair landing. There is an additional gate in the Emergency stair between Floor 1 and Ground.
Source of Findings:	Visual Assessment: Sliding gates are located at each exit enclosure in the path of egress.
Suggested Plan of Action:	Remove the existing sliding gates that separate the production floors from the stairs and replace them with automatic-closing, side-swinging, fire-rated doors in fire rated frames with latching panic hardware. These doors should be a minimum 39 inches (1 m) wide with a total opening of at least half the existing stair width to maintain the flow of pedestrian traffic. These doors should swing in the direction of egress from the production floor toward the stair.
Suggested Deadline Date:	30 Sep 2014
Standard:	Alliance Standards Part 6 Section 6.8 Doors and Gates

Question:	Stairwells are not utilized as storage spaces.	
Priority Level:	High	
Non-Compliance Level:	1	
Description:	Storage of trashcans and other equipment was noted within the stair enclosures.	
Source of Findings:	Photograph: Trash can in stair	
Suggested Plan of Action:	Remove all storage from the exit stairs.	
Suggested Deadline Date:	31 Jul 2014	
Standard:	Alliance Standard Part 13 Section 13.9 Safety Inspections	
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:	Parapet around roof level is incomplete.	
Source of Findings:	Photograph: Roof area with no parapet	
Suggested Plan of Action:	Provide parapets or guards with a minimum height of 1067 mm (42 in.) for all occupiable roof areas.	
Suggested Deadline Date:	31 Oct 2014	
Standard:	Alliance Standard Part 6 Section 12 Handrails and Guards	
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:	2	
Description:	The main egress from the basement level is currently shown to be up a very steep ramp at the front of the building. This ramp has a slope of 1 in 5.	
Source of Findings:	Photograph: Egress ramp from Basement	
Suggested Plan of Action:	Provide stairs on top of the main ramp from the basement level to properly facilitate egress. Alternately, reroute the egress path to use the Main exit stair with removal of the obstructions from the battery charging area and air compressor.	
Suggested Deadline	30 Nov 2014	

Date:		
Standard:	Alliance Standard Part 6 Section 10 Ramps	
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:	1	
Description:	No occupant loads posted.	
Source of Findings:	Visual Assessment: No occupant loads posted.	
Suggested Plan of Action:	Post the occupant load for all assembly and production floor areas in a conspicuous space near the main exit or exit access doorway for the space.	
Suggested Deadline Date:	31 Aug 2014	
Standard:	Alliance Standards Part 6 Section 6.4.4 Posting of Occupant Load	
Question:	All paths of egress are provided with compliant means of illumination.	
Priority Level:	Medium	
Non-Compliance Level:	1	
Description:	Emergency lighting is provided throughout building but light fixtures are not provided over every aisle. Emergency lighting is connected to a battery backup power supply (IPS).	
Source of Findings:	Photograph: Emergency lighting fixture	
Suggested Plan of Action:	Provide additional emergency lighting fixtures to provide a minimum lighting level of 2.5 lux for all aisles in production and storage areas.	
Suggested Deadline Date:	31 Oct 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:	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:	There are numerous trip hazards located throughout the building in the paths of egress. Most of these are from the frame of the gate at the stair entrances on each level with some thresholds as well.	 
Source of Findings:	Photograph: (1) Threshold at Emergency Stair (2) Uneven floor at gate (3) Emergency Stair at Ground Floor trip hazard	
Suggested Plan of Action:	Remove all tripping hazards created by thresholds and gate structures and level the floor at these locations.	
Suggested Deadline Date:	30 Sep 2014	
Standard:	Alliance Standard Part 6 Section 6.3.4 Walking Surfaces	
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:	1	
Description:	Handrails are only provided on the center of the stairs, none on the outside walls of the stair enclosures.	
Source of Findings:	Photograph: (1) Main Stair with handrail (2) Emergency Stair with handrail	
Suggested Plan of Action:	Provide handrails on both sides of each stairway. Mount handrails at a height between 30 in. and 44 in.	
Suggested Deadline Date:	31 Aug 2014	
Standard:	Alliance Standard Part 6 Section 6.9 Stairs and 6.12 Handrails and Guards	
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:	Floor level and stair designations signs are not provided.	
Source of Findings:	Visual Assessment: No stair designation signs provided	
Suggested Plan of Action:	Provide Stair designation signs at each floor entrance from the stair to the floor in English and Bengali. Signs shall indicate the name of the stair and the floor level. Signs shall be posted adjacent to the door.	
Suggested Deadline Date:	31 Aug 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:	1	
Description:	Storage of cut cloth material was found under most cutting tables.	
Source of Findings:	Photograph: Storage under cutting tables	
Suggested Plan of Action:	Remove all combustibles stored underneath the cutting tables.	
Suggested Deadline Date:	31 Dec 2014	
Standard:	Alliance Standard Part 17 Section 13.7.2 Cutting tables.	
Question:	A hot-work permit program has been established.	
Priority Level:	Low	
Non-Compliance Level:	1	
Description:	No hot work permit program is in place.	
Source of Findings:	Document Review: No program has been established.	
Suggested Plan of Action:	Develop a hot work permit program. The program must comply with the requirements of NFPA 51B.	
Suggested Deadline Date:	31 Aug 2014	
Standard:	Alliance Standards Part 13 Section 13.4 Hot Work Permit and NFPA 51B	