

INITIAL STRUCTURAL INTEGRITY ASSESSMENT REPORT (SIAR)

Factory Name: **RUPA KNITWEAR (PVT) LTD**
Address: **Kunia, Board Bazar, Gazipur Gazipur Dhaka
Bangladesh**
Assessor: **Bureau Veritas**
Date: **29 May 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.



Factory Name: **RUPA KNITWEAR (PVT) LTD**

Address: **Kunia, Board Bazar, Gazipur Gazipur Dhaka Bangladesh**

Assessor: **Bureau Veritas**

Date: **29 May 2014**



ALLIANCE
FOR BANGLADESH WORKER SAFETY

GENERAL INFORMATION

General Information

Factory Name:	RUPA KNITWEAR (PVT) LTD
Address:	Kunia, Board Bazar, Gazipur Gazipur Dhaka Bangladesh
Country:	Bangladesh
Province:	Dhaka
City:	Gazipur
Zip Code:	1704
Audit Duration:	1 Days
Re-Audit:	Re-Audit After 0 Months
Draft Report Date :	June 05, 2014
Final Report Date :	September 16, 2014
Are all Action Items From Previous Assessment Completed?:	N/A
Buildings in Complex :	4 Main Buildings: 1. Main Production Building 2. Production Building 3. Production Building-1 4. Production Building-2
Number of Building Levels (Stories) :	1. Main Production Building: 11 (Basement+Ground+9) 2. Production Building: 4 (Basement+Ground+2) 3. Production Building-1: 3 (Basement+Ground+1) 4. Production Building-2: 2 (Basement+Ground)
Approximate Building Area (SF) :	235,000 Total
Date of Building Construction :	Unknown
Date of Last Building Renovation/Addition :	Unknown
Is the Building mixed use?:	No
Ancillary Structures in Complex :	1. Utility Building 2. C.I Shed-1 3. C.I Shed-2
Number of Ancillary Levels (Stories) :	1 (Ground)

Factory Name: **RUPA KNITWEAR (PVT) LTD**

Address: **Kunia, Board Bazar, Gazipur Gazipur Dhaka Bangladesh**

Assessor: **Bureau Veritas**

Date: **29 May 2014**

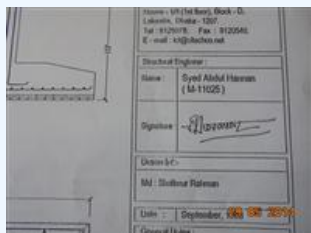
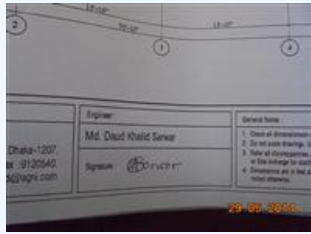


ALLIANCE
FOR BANGLADESH WORKER SAFETY

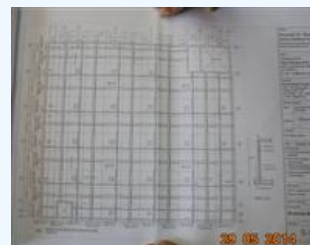
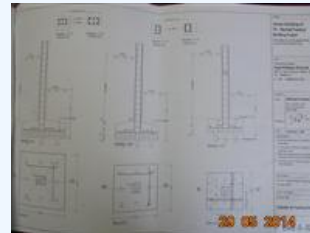
Approximate Ancillary Structures Area (SF) :	12,000 SF total
Number of Occupants :	2,437 Total
Exterior Facade Description :	Building 1: The exterior façade is in filled masonry in between RCC frame with sliding glass windows in aluminium frames. Building 2: The exterior façade is in filled masonry in between RCC frame with sliding glass windows in aluminium frames. Building 3: The exterior façade is in filled masonry in between RCC frame with sliding glass windows in aluminium frames. Building 4: The exterior façade is in filled masonry in between steel frame with sliding glass windows in aluminium frames.
Structural System Description :	Building 1: RCC flat slab system with edge beam Building 2: RCC moment resisting frame system Building 3: RCC moment resisting frame system Building 4: Special structural system (RCC moment resisting frame at basement and pre-engineered steel frame structure above grade)

ASSESSMENT FINDINGS

Structural System Design

Question:	Are Certificates of Occupancy available for review?	
Priority Level:	Low	
Non-Compliance Level:	2	
Description:	No Certificate of Occupancy is available for review.	
Source of Findings:	Document Review: Documents reviewed on-site.	
Suggested Plan of Action:	Provide Certificate of Occupancy for review.	
Suggested Deadline Date:	15 Nov 2014	
Standard:	Alliance Standard Part 8 Section 8.3 Preliminary Structural Assessment	
Question:	Structural Engineer of Record	
Priority Level:		
Non-Compliance Level:		
Description:	Building 1: Name: Engr. Syed Abdul Hannan, MIEB number: M-11025 Building 2: Name: Engr. Akhlaque Hossain, MIEB number: F-6826 Building 3: Name: Engr. Md. Daud Khalid Sarwar MIEB number: Not found Building 4: Name: Engr. Shamsul Alam MIEB number: M-10151	
Source of Findings:	Document Review: The IEB membership number is not present in the structural drawing for building-3.	
Suggested Plan of Action:		
Suggested Deadline Date:		
Standard:	Provide the name and firm of the structural engineer of record.	



		
Question:	Architect of Record	
Priority Level:		
Non-Compliance Level:		
Description:	For all buildings: Name: Architect Ziaul Haque chowdhary, MIAB number: C-029	
Source of Findings:	Document Review: Document review shows that architect for all buildings is: Name: Architect Ziaul Haque chowdhary, MIAB number: C-029	
Suggested Plan of Action:		
Suggested Deadline Date:		
Standard:	Provide the name and firm of the architect of record.	
Question:	Are credible structural design documents available for review and kept on site?	
Priority Level:	Medium	
Non-Compliance Level:	2	
Description:	Credible structural drawings are available for all buildings except for the steel frame portion of Building 4 (Production Building-2). The structural engineer's IEB membership number is not present in the structural drawing for Building 3. Also, design reports are not available for any of the buildings.	
Source of Findings:	Photograph: Select structural drawing for each main building.	
Suggested Plan of Action:	Have a qualified structural engineer prepare as-built drawings for Building 4 and provide the IEB membership number of the structural engineer of record for Building 3 as well as design reports for all buildings based on the requirements of Part 8 Section 8.19 of the Alliance Standard.	
Suggested Deadline Date:	15 Nov 2014	
Standard:	Alliance Standard Part 8 Section 8.19 Required Structural Documentation for New and Existing Factories	



		
Question:	Is a Geotechnical Report available for review and kept on site?	   
Priority Level:	Low	
Non-Compliance Level:		
Description:	Geo-technical report is available and kept on site for review.	
Source of Findings:	Document Review: Document review shows that Geo-technical report is available and kept on site for review.	
Suggested Plan of Action:		
Suggested Deadline Date:		
Standard:	Alliance Standard Part 8 Section 8.2 Structural Integrity of Existing Factory Buildings	
Question:	Can credible structural documentation indicating general conformance with 2006 BNBC or other comparable applicable international model building code be produced?	
Priority Level:	Medium	



Non-Compliance Level:	2	
Description:	The available structural design documents do not clearly demonstrate conformance with any applicable building code.	
Source of Findings:	Document Review: Documents reviewed on-site.	
Suggested Plan of Action:	Engage a qualified structural engineer to develop the required documents to confirm the structural integrity of the buildings. Documents must comply with Alliance Standard Part 8 Section 8.19 and 8.20.	
Suggested Deadline Date:	15 Nov 2014	
Standard:	Reference Alliance Standards Part 8 Section 8.2 Structural Integrity of Existing Factory Buildings	
Question:	If built after 2006, can documented compliance with the seismic and wind requirements of the 2006 BNBC be provided?	
Priority Level:	Medium	
Non-Compliance Level:	2	
Description:	Building-1 was constructed before 2006 and the rest of the buildings were constructed after 2006. However, none of the available structural documents indicate compliance with the seismic and wind design requirements of the BNBC.	
Source of Findings:	Document Review: Documents reviewed on-site.	
Suggested Plan of Action:	Have a qualified structural engineer document compliance with the seismic and wind requirements stated in the 2006 BNBC.	
Suggested Deadline Date:	15 Nov 2014	
Standard:	Alliance Standards Part 8 Section 8.17 Design for Lateral Loads and 2006 BNBC Part 6 Section 1.5	
Question:	Can documentation be provided that the building is compliant with the requirements for wind loading and storm surge loadings as detailed in BNBC Part 6 Section 1.5.3?	
Priority Level:	Medium	
Non-Compliance Level:	2	
Description:	The available structural documents do not indicate compliance with the wind load design requirements of the BNBC.	
Source of Findings:	Document Review: Documents reviewed on-site.	
Suggested Plan of Action:	Engage a qualified structural engineer to confirm satisfactory structural performance of the buildings under wind loading.	



Suggested Deadline Date:	15 Nov 2014	
Standard:	2006 BNBC Part 6 Section 1.5. Compliance may be waived if the Factory Owner provides satisfactory evidence of a cyclone operations plan that includes full evacuation of the factory in advance of any approaching cyclone"	
Question:	Has evidence of structural integrity been provided using a Preliminary Structural Assessment?	
Priority Level:	High	
Non-Compliance Level:		
Description:	Preliminary structural assessment has not been done.	
Source of Findings:	Document Review: Document review shows that preliminary structural assessment has not been done.	
Suggested Plan of Action:		
Suggested Deadline Date:		
Standard:	Reference Alliance Standards Part 8 Section 8.2 Structural Integrity of Existing Factory Buildings	
Question:	If the structure has been previously expanded, was the structural impact on the entire structure analytically evaluated and confirmed by a qualified structural engineer.	
Priority Level:	Medium	
Non-Compliance Level:	2	
Description:	An undocumented small RCC structure was observed at the top of Building 1 (serving as an "officers dining" area).	
Source of Findings:	Photograph: Undocumented "shed" structure.	
Suggested Plan of Action:	Have a qualified structural engineer complete an analytical evaluation of the structural impact of the addition.	
Suggested Deadline Date:	15 Nov 2014	
Standard:	Reference Alliance Standards Part 8 Section 8.1 Applicability of Building Code.	



Question:	Structural System Type as defined by 2006 BNBC Part 6 Chapter 1 Table 6.1.2.
Priority Level:	
Non-Compliance Level:	
Description:	Building 1: RCC flat slab system with periphery beam Building 2: RCC moment resisting frame system Building 3: RCC moment resisting frame system Building 4: Special structural system (RCC moment resisting frame at basement and PEB steel frame structure above grade)
Source of Findings:	Document Review: Document review shows that the structural systems are as follows: Building 1: RCC flat slab system with periphery beam Building 2: RCC moment resisting frame system Building 3: RCC moment resisting frame system Building 4: Special structural system (RCC moment resisting frame at basement and PEB steel frame structure above grade)
Suggested Plan of Action:	
Suggested Deadline Date:	
Standard:	2006 BNBC Part 6 Chapter 1 Table 6.1.2
Question:	What is the Structural Configuration?
Priority Level:	
Non-Compliance Level:	
Description:	The structural configuration of all the buildings is regular in both vertical and horizontal aspect.
Source of Findings:	Document Review: Document review shows that the structural configuration of all the buildings is regular in both vertical and horizontal aspect., Visual Assessment: by visual assessment shows that structural configuration of all the buildings is regular in both vertical and horizontal aspect.
Suggested Plan of Action:	
Suggested Deadline Date:	
Standard:	2006 BNBC Part 6 Chapter 1 Section 1.3.4





Question:	Is a clear and redundant load path to resist lateral loads provided?
Priority Level:	Medium
Non-Compliance Level:	2
Description:	Building 1: The structural system is a flat plate structure and hence the lateral load path is not apparent and further information (design report) is required to understand the redundancy against lateral loads. Building 2,3,4: The structural system is a moment resisting frame structure and hence the lateral load path is apparent and there is redundancy due to presence of several numbers of bays in both directions.
Source of Findings:	Photograph: The load path is apparent except for Building 1.
Suggested Plan of Action:	Have a qualified structural engineer complete further analysis of the Building 1 structure and develop a remediation plan if required.
Suggested Deadline Date:	15 Nov 2014
Standard:	Alliance Standards Part 8 Section 8.17 Design for Lateral Loads and 8.3.3. 2006 BNBC Part 6 Section 1.5
Question:	Are the available FoS for the columns adequate based on Preliminary calculation?
Priority Level:	High
Non-Compliance Level:	3
Description:	NDT (UPV testing) was performed for Buildings 1, 2 and 3. Column FoS calculations were performed considering both NDT compressive strength values (2,900 psi for Building 1 and 2,500 psi for Buildings 2 and 3) the Alliance Standard minimum compressive strength value for stone chip aggregate concrete (2,370 psi). 1) FoS results for Building-1 (2900 psi): Central: 2.62, Corner: 2.29, Edge: 1.88. FoS results for Building-1 (2370 psi): Central: 2.29, Corner: 1.98, Edge: 1.64. 2) FoS results for Building-2 (2500 psi): Central: No central column, Corner: 3.52, Edge: 2.67. FoS results for Building-2 (2370 psi): Central: No central column, Corner: 3.39, Edge: 2.58. 3) FoS results for Building-3 (2500 psi): Central: 2.28, Corner: 4.26, Edge: 2.86. FoS results for Building-3 (2370 psi): Central: 2.20, Corner: 4.10, Edge: 2.75. FoS of columns of all building are above the minimum value 1.86 except the edge columns of Building-01 considering the Alliance Standard minimum concrete compressive strength.
Source of Findings:	Uploaded Document: Column FoS calculations.
Suggested Plan of	Under guidance from a qualified structural engineer arrange Detail





Action:	Engineering Assessment of Building-01. This assessment should include destructive core testing to validate the in-situ concrete compressive strength of structural elements.	
Suggested Deadline Date:	15 Nov 2014	
Standard:	Provide results of preliminary calculations in space provided. a) column capacity; FoS > 1.86 - Safe b) column capacity; FoS 1.5 -1.86 - Needs Evaluation c) Column capacity; FoS 1.25-1.5 - Needs Evaluation d) Column capacity; FoS <1.25 - Unsafe In case of a critically low FoS (<1.25), consider Immediate Escalation Protocol	
Question:	Results of ferro-scanning for confirmation of steel rebar in the columns of the lowest tier were satisfactory.	
Priority Level:	Medium	
Non-Compliance Level:		
Description:	Results of ferro-scanning for confirmation of steel rebar in the columns of the lowest tier were satisfactory.	
Source of Findings:	Visual Assessment: Visual inspection shows that the result of ferro-scanning confirms that the number of rebars are matching with the structural design.	
Suggested Plan of Action:		
Suggested Deadline Date:		
Standard:	Alliance Standard Part 8 Section 8.3 Preliminary Structural Assessment	
Question:	What are the full dead and live loads of the floor slabs and decks?	
Priority Level:		
Non-Compliance Level:		
Description:	Building 1: Slab thickness is 8". Therefore dead load is $100 + 25 (FF) = 125$ psf and live load is estimated approximately 42 psf. Building 2: Slab thickness is 6". Therefore dead load is $75 + 25 (FF) = 100$ psf and live load is estimated approximately 42 psf. Building 3: Slab thickness is 6.5". Therefore dead load is $82 + 25 (FF) = 107$ psf and live load is estimated approximately 60 psf at ground and 1st floors. Building 4: Slab thickness is 6". Therefore dead load is $75 + 25 (FF) = 100$ psf and live load is estimated approximately 100 psf for ground floor.	
Source of Findings:	Visual Assessment: Visual assessment supported by document review shows dead and live loads as follows: Building 1: Slab thickness is 8". Therefore dead load is $100 + 25 (FF) = 125$ psf and live load is estimated approximately 42 psf. Building 2: Slab thickness is 6". Therefore dead load is $75 + 25 (FF) = 100$ psf and live load is estimated approximately 42 psf Building 3: Slab thickness is 6.5". Therefore dead load is $82 + 25 (FF) = 107$ psf and live load is estimated approximately 60 psf at ground and 1st floors. Building 4: Slab thickness is 6". Therefore dead load is $75 + 25 (FF) = 100$ psf and live load is estimated	



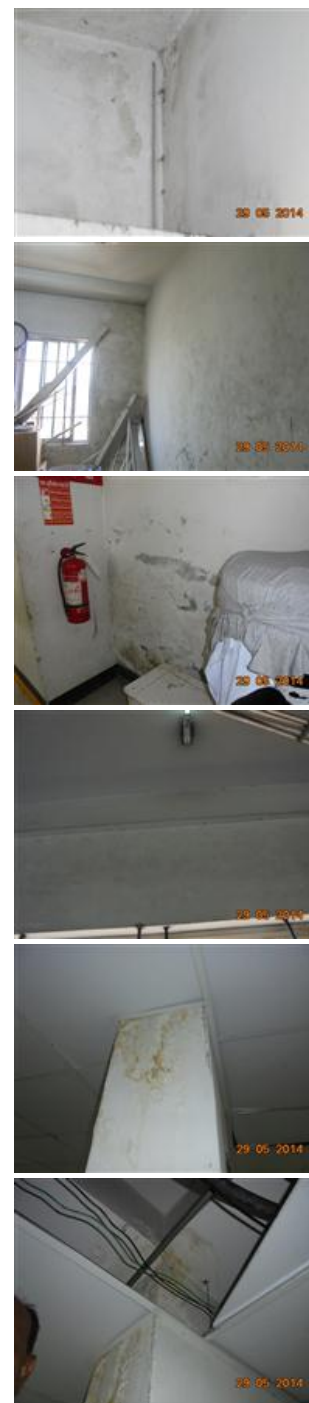
	approximately 100 psf for ground floor.	
Suggested Plan of Action:		
Suggested Deadline Date:		
Standard:	Provide information regarding the dead and live loads of the floor slabs and decks.	
Question:	Have provisions been made in floors or decks for a concentrated load (such as heavy equipment, water tanks, stored materials, etc) applied at a location wherever this load acting upon an otherwise unloaded floor would produce stresses greater than those caused by a uniform load?	
Priority Level:	Medium	
Non-Compliance Level:	2	
Description:	The following concentrated loads were noted without any evidence that the structural impact of each had been considered: Building 1: 4 rooftop water tanks (5000 liter capacity each), Washing machines at ground floor and Knitting machines at first floor. Building 2: Generator at Ground Level. Building 3: Circular knitting machine (3100 kg) at Level 1. Building 4: Dyeing machine at Ground Level.	    
Source of Findings:	Photograph: Concentrated loads.	
Suggested Plan of Action:	Engage a qualified structural engineer to confirm and document that provisions have been made to accommodate concentrated loads. If provisions have not been made, have a qualified structural engineer develop a remediation plan.	
Suggested Deadline Date:	15 Nov 2014	
Standard:	Alliance Standard Part 8 Section 8.13 and 8.14	



		
Question:	Where density of operations, storage of materials, or equipment weights require live load capacity in excess of 2.0 kN/m2 (42 psf), do the design documents confirm that the required load capacity exists? Or has the load capacity been analytically confirmed and certified by an Alliance-qualified structural engineer?	
Priority Level:	Medium	
Non-Compliance Level:	2	
Description:	The estimated floor load was noted to exceed 42 psf at the following locations: Building 3: Ground Level and Level 1 (60 psf). Building 4: Ground Level (100 psf).	
Source of Findings:	Photograph: Heavy floor loading.	
Suggested Plan of Action:	Have a qualified structural engineer confirm that capacity to support the load is available. Load Plans complying with Alliance Standard Part 8 Section 8.20.4.3 should also be developed.	
Suggested Deadline Date:	15 Nov 2014	
Standard:	Alliance Standards Part 8 Section 8.15 Minimum Floor Design Loads	
Structural System Construction		
Question:	Have all areas of needed maintenance, including areas with efflorescence, dampness, standing water on rooftops, and corrosion been addressed.	
Priority Level:	Medium	
Non-Compliance Level:	1	
Description:	Dampness was noted in the buildings in the following locations: Building 1: Ceiling of Level 1, walls of Level 9 and ground floor. Building 3: Wall of Level 1. Building 4: Column and beams at the Basement Level.	
Source of Findings:	Photograph: Dampness at different building locations.	
Suggested Plan of Action:	Under guidance from a qualified structural engineer, address all areas of needed maintenance by correcting the identified issues.	



Suggested Deadline Date:	15 Nov 2014
Standard:	Alliance Standard Part 8 Section 8.26 Durability and Maintenance
Question:	The exterior façade is free of cracking.
Priority Level:	Low
Non-Compliance Level:	
Description:	The exterior façade is free of cracking.
Source of Findings:	Visual Assessment: Visual inspection shows that the exterior façade is free of





	cracking	
Suggested Plan of Action:		
Suggested Deadline Date:		
Standard:	Alliance Standard Part 8 Section 8.2	
Question:	Are expansion joints provided at appropriate intervals on the exterior façade?	
Priority Level:	Low	
Non-Compliance Level:		
Description:	There is no expansion joint in the building.	
Source of Findings:	Visual Assessment: There is no expansion joint in the building.	
Suggested Plan of Action:		
Suggested Deadline Date:		
Standard:	Alliance Standard Part 8 Section 8.2 Structural Integrity of Existing Factory Buildings	
Question:	Is expansion joint material free from cracking and other forms of deterioration?	
Priority Level:	Low	
Non-Compliance Level:		
Description:	There is no expansion joint in the building.	
Source of Findings:	Visual Assessment: There is no expansion joint in the building.	
Suggested Plan of Action:		
Suggested Deadline Date:		
Standard:	Alliance Standard Part 8 Section 8.26 Durability and Maintenance	
Question:	Is the building free of active signs of water intrusion or ponding due to lack of performance of the façade system?	
Priority Level:	Low	
Non-Compliance Level:		
Description:	There is no sign of water intrusion, ponding or dampness due to lack of performance of the façade.	



Source of Findings:	Visual Assessment: Visual inspection shows that there is no sign of water intrusion, ponding or dampness due to lack of performance of the façade.	
Suggested Plan of Action:		
Suggested Deadline Date:		
Standard:	Alliance Standard Part 8 Section 8.26 Durability and Maintenance	
Question:	Are the performance of key structural elements such as columns, slender columns, flat plates and transfer structures satisfactory?	
Priority Level:	High	
Non-Compliance Level:		
Description:	The performance of the key structural elements are satisfactory.	
Source of Findings:	Visual Assessment: Visual inspection shows that the performance of the key structural elements are satisfactory.	
Suggested Plan of Action:		
Suggested Deadline Date:		
Standard:	Alliance Standard Part 8 Section 8.3.3	
Question:	Is the structural system free of settlement cracking, excessive perimeter separations, and unlevel floors attributable to foundation settlements?	
Priority Level:	High	
Non-Compliance Level:		
Description:	The structural system is free of settlement, cracking, excessive perimeter separation etc for both main buildings. which shows no noticeable settlement has occurred.	
Source of Findings:	Visual Assessment: Visual inspection shows that The structural system is free of settlement, cracking, excessive perimeter separation etc for both main buildings. which shows no noticeable settlement has occurred.	
Suggested Plan of Action:		
Suggested Deadline Date:		
Standard:	Reference Alliance Standards Part 8 Structural Design Section 8.2 Structural Integrity of Existing Factory Buildings	



Question:	Is the structural system free of deflections (sagging), rotations (twisting), perceivable vibrations, or other noticeable movements of the structure?	
Priority Level:	High	
Non-Compliance Level:		
Description:	The structural system is free of deflections (sagging), rotations (twisting), perceivable vibrations, or other noticeable movements for both main structures.	
Source of Findings:	Visual Assessment: Visual inspection shows that the structural system is free of deflections (sagging), rotations (twisting), perceivable vibrations, or other noticeable movements for both main structures.	
Suggested Plan of Action:		
Suggested Deadline Date:		
Standard:	Reference Alliance Standards Part 8 Structural Design Section 8.2 Structural Integrity of Existing Factory Buildings	
Question:	Is the structural system free of distress, separations, or cracking that indicates lack of performance or overstress of the lateral load-carrying system?	
Priority Level:	High	
Non-Compliance Level:		
Description:	There is no visible sign of distress or crack that may indicate lack of performance or over-stress of the lateral load-carrying system for structures.	
Source of Findings:	Visual Assessment: Visual inspection shows that there is no visible sign of distress or crack that may indicate lack of performance or over-stress of the lateral load-carrying system for structures.	
Suggested Plan of Action:		
Suggested Deadline Date:		
Standard:	Alliance Standard Part 8 Section 8.3.3	
Question:	Is the structural system free of distress, settlement, shifting, or cracking in columns or walls?	
Priority Level:	High	
Non-Compliance Level:		
Description:	There were no sign if distress, settlement, shifting & cracks found in the columns.	



Source of Findings:	Visual Assessment: Visual inspection shows that There were no sign if distress, settlement, shifting & cracks found in the columns.	
Suggested Plan of Action:		
Suggested Deadline Date:		
Standard:	Alliance Standard Part 8 Section 8.3.3	
Question:	Have any previous repairs to correct structural deficiencies or to reinforce the existing structure been completed?	
Priority Level:		
Non-Compliance Level:		
Description:	No strengthening or retrofitting has been done on the structural members of the main buildings.	
Source of Findings:	Visual Assessment: Visual inspection backed by document review shows that no strengthening or retrofitting has been done on the structural members of the main buildings	
Suggested Plan of Action:		
Suggested Deadline Date:		
Standard:		
Question:	Was masonry-chip aggregate concrete (MCAC) used in the construction of the building?	
Priority Level:		
Non-Compliance Level:		
Description:	The main structures are constructed with stone chip aggregate concrete.	
Source of Findings:	Visual Assessment: The main structures are of stone chips.	
Suggested Plan of Action:		
Suggested Deadline Date:		
Standard:	Reference Alliance Standards Part 7 Building Materials Section 7.2 Masonry-chip aggregate concrete (MCAC)	
Question:	If yes, have the structural members constructed with MCAC been investigated by an appropriate program of in-situ testing and representative destructive testing or core samples?	



Priority Level:	Medium
Non-Compliance Level:	
Description:	The main structure members is of stone chips.
Source of Findings:	Visual Assessment: visually observed that structure system is of stone chips
Suggested Plan of Action:	
Suggested Deadline Date:	
Standard:	Reference Alliance Standards Part 7 Building Materials Section 7.2 Masonry-chip aggregate concrete (MCAC)
Question:	Are any structural elements constructed with MCAC exposed to rainfall or other sources of water sealed with a protective coating to prevent water intrusion?
Priority Level:	Medium
Non-Compliance Level:	
Description:	The main structures is of stone chips.
Source of Findings:	
Suggested Plan of Action:	
Suggested Deadline Date:	
Standard:	Alliance Standards Part 7 Building Materials Section 7.2 Masonry-chip aggregate concrete (MCAC).
Question:	Are structural steel members free of corrosion, physical damage or other types of deterioration?
Priority Level:	Medium
Non-Compliance Level:	
Description:	There is no sign of corrosion in the steel members of building-4 and building-1 roof top shed.
Source of Findings:	Visual Assessment: Visual inspection shows that there is no sign of corrosion in the steel members of building-4 and building-1 roof top shed.
Suggested Plan of Action:	
Suggested Deadline Date:	





Standard:	Alliance Standard Part 8 Section 8.26	
Question:	For post-tensioned reinforced concrete systems or elements, cored holes have not compromised the post-tensioned strands.	
Priority Level:	High	
Non-Compliance Level:		
Description:	Post-tensioned reinforced concrete systems or elements have not been used in the structures.	
Source of Findings:	Document Review: Post-tensioned reinforced concrete systems or elements have not been used in the structures. , Visual Assessment: Post-tensioned reinforced concrete systems or elements have not been observed in the structures.	
Suggested Plan of Action:		
Suggested Deadline Date:		
Standard:	Not Applicable	
Question:	Is the structure free from any major/progressive distress?	
Priority Level:	High	
Non-Compliance Level:		
Description:	There is no sign of progressive distress in the structures.	
Source of Findings:	Visual Assessment: Visual inspection shows that there is no sign of progressive distress in the structures.	
Suggested Plan of Action:		
Suggested Deadline Date:		
Standard:	Alliance Standards Part 8 Section 8.3.3	



Question:	Are all non-structural elements suspended from, attached to, or resting atop the structure adequately anchored and braced to resist earthquake forces?	 
Priority Level:	Medium	
Non-Compliance Level:	1	
Description:	The following elements were noted to not contain adequate bracing or anchorage to resist seismic forces: -Building 1: 4 plastic water tanks at rooftop, storage racks at Level 7.	
Source of Findings:	Photograph: Unbraced and unanchored elements.	
Suggested Plan of Action:	Adequately anchor and brace all non-structural elements to resist earthquake forces to comply with the BNBC and Alliance Standard.	
Suggested Deadline Date:	15 Nov 2014	
Standard:	Alliance Standards Part 8 Section 8.18 Seismic Bracing of Key Non-Structural Elements and 2006 BNBC Part 6	
Question:	If the building is currently being renovated or expanded, are the Construction Practices and Safety requirements of Section 9 being followed?	
Priority Level:	Medium	
Non-Compliance Level:		
Description:	The buildings are currently not being renovated or expanded.	
Source of Findings:	Visual Assessment: Visual inspection shows that the buildings are currently not being renovated or expanded.	
Suggested Plan of Action:		
Suggested Deadline Date:		
Standard:	Alliance Standard Part 9 Construction Practices and Safety.	
Structural Safety Programs		
Question:	Have Load Plans been prepared for each floor documenting the actual maximum operational loading that is intended and/or allowable on each floor.	
Priority Level:	Low	
Non-Compliance Level:	3	
Description:	There is no load plan available showing the actual maximum operational loading that is allowable.	
Source of Findings:	Document Review: Documents reviewed on-site.	



Suggested Plan of Action:	Have a qualified structural engineer develop Floor Loading Plans per the requirements of Part 8 Section 8.20.5.3.	
Suggested Deadline Date:	15 Nov 2014	
Standard:	Alliance Standard Part 8 Section 8.10 Floor Loading Plans (Load Plans)	
Question:	Are Floor Load Plans posted as required?	
Priority Level:	Low	
Non-Compliance Level:	3	
Description:	Floor load plans have not been posted.	
Source of Findings:	Visual Assessment: Load plans are not posted.	
Suggested Plan of Action:	Have a qualified structural engineer prepare load plans including the information required in Section 8.20 of the Alliance Standard. Floor load plans should be visibly posted on all levels of all buildings.	
Suggested Deadline Date:	15 Nov 2014	
Standard:	Alliance Standard Part 8 Section 8.20.5.3	
Question:	Are floor loads in compliance with posted plans?	
Priority Level:	Medium	
Non-Compliance Level:		
Description:	The floor load plan is not available so it is not posted for both the main and the ancillary buildings.	
Source of Findings:	Document Review: No floor load plan was documented.	
Suggested Plan of Action:		
Suggested Deadline Date:		
Standard:	Alliance Standard Part 8 Section 8.10 Floor Loading Plans (Load Plans).	
Question:	Are areas used for storage of work materials and work products, clearly marked to indicate the acceptable loading limits as described in the Load Plan for that floor?	
Priority Level:	Low	
Non-Compliance Level:	3	
Description:	Storage areas have not been marked to indicate acceptable loading limits.	



Source of Findings:	Visual Assessment: No acceptable loading limit markings.
Suggested Plan of Action:	Provide signage or the appropriate markings at all areas used for storage to indicate the acceptable loading limits detailed in the Load Plan.
Suggested Deadline Date:	15 Nov 2014
Standard:	Alliance Standard Part 8 Section 8.11 Floor Load Markings
Question:	Is a program in place to ensure that the live loads for which a floor or roof is or has been designed will not be exceeded?
Priority Level:	Medium
Non-Compliance Level:	3
Description:	There is no program that will ensure that the designated load in each floor will not be exceeded.
Source of Findings:	Document Review: No documented load management plan.
Suggested Plan of Action:	Develop a program to ensure that all live loads for which a floor or roof has been designed for will not be exceeded. The designated Load Manager shall oversee this program and ensure it is enforced.
Suggested Deadline Date:	15 Nov 2014
Standard:	Alliance Standard Part 13 Section 13.7 and Part 8 Section 8.9.
Question:	Is a designated representative (Factory Load Manager), who is onsite full time, trained regarding the structural floor capacity, and serves as an ongoing vendor resource and monitor of operational factory floor loadings?
Priority Level:	Low
Non-Compliance Level:	3
Description:	There is no designated representative (Factory Load Manager), who is onsite full time, trained regarding the structural floor capacity, and who serves as an ongoing vendor resource and monitor of operational factory floor loading.
Source of Findings:	Document Review: No documented Factory Load Manager.
Suggested Plan of Action:	Designate a representative as the Factory Load Manager. The Factory Owner shall ensure that at least one individual, the Factory Load Manager who is located onsite full time at the factory, is trained in calculating operational load characteristics of the specific factory. The Factory Load Manager shall serve as an ongoing resource to RMG vendors and be responsible to ensure that the factory operational loads do not at any time exceed the factory floor loading limits as described on the Floor Loading Plans.
Suggested Deadline Date:	15 Nov 2014

Factory Name: **RUPA KNITWEAR (PVT) LTD**
 Address: **Kunia, Board Bazar, Gazipur Gazipur Dhaka Bangladesh**

Assessor: **Bureau Veritas**
 Date: **29 May 2014**



ALLIANCE
 FOR BANGLADESH WORKER SAFETY

Standard:	Alliance Standards Part 8 Section 8.9 Factory Load Manager	
Question:	For post-tensioned reinforced concrete systems or elements, is a program in place to ensure post-tensioned strands are located before core drilling begins?	
Priority Level:	Medium	
Non-Compliance Level:		
Description:	Post-tensioned reinforced concrete systems or elements have not been used in the structures.	
Source of Findings:	Document Review: Post-tensioned reinforced concrete systems or elements have not been used in the structures. , Visual Assessment: Post-tensioned reinforced concrete systems or elements have not been observed in the structures.	
Suggested Plan of Action:		
Suggested Deadline Date:		
Standard:	Alliance Standard Part 8 Section 8.26 Durability and Maintenance	