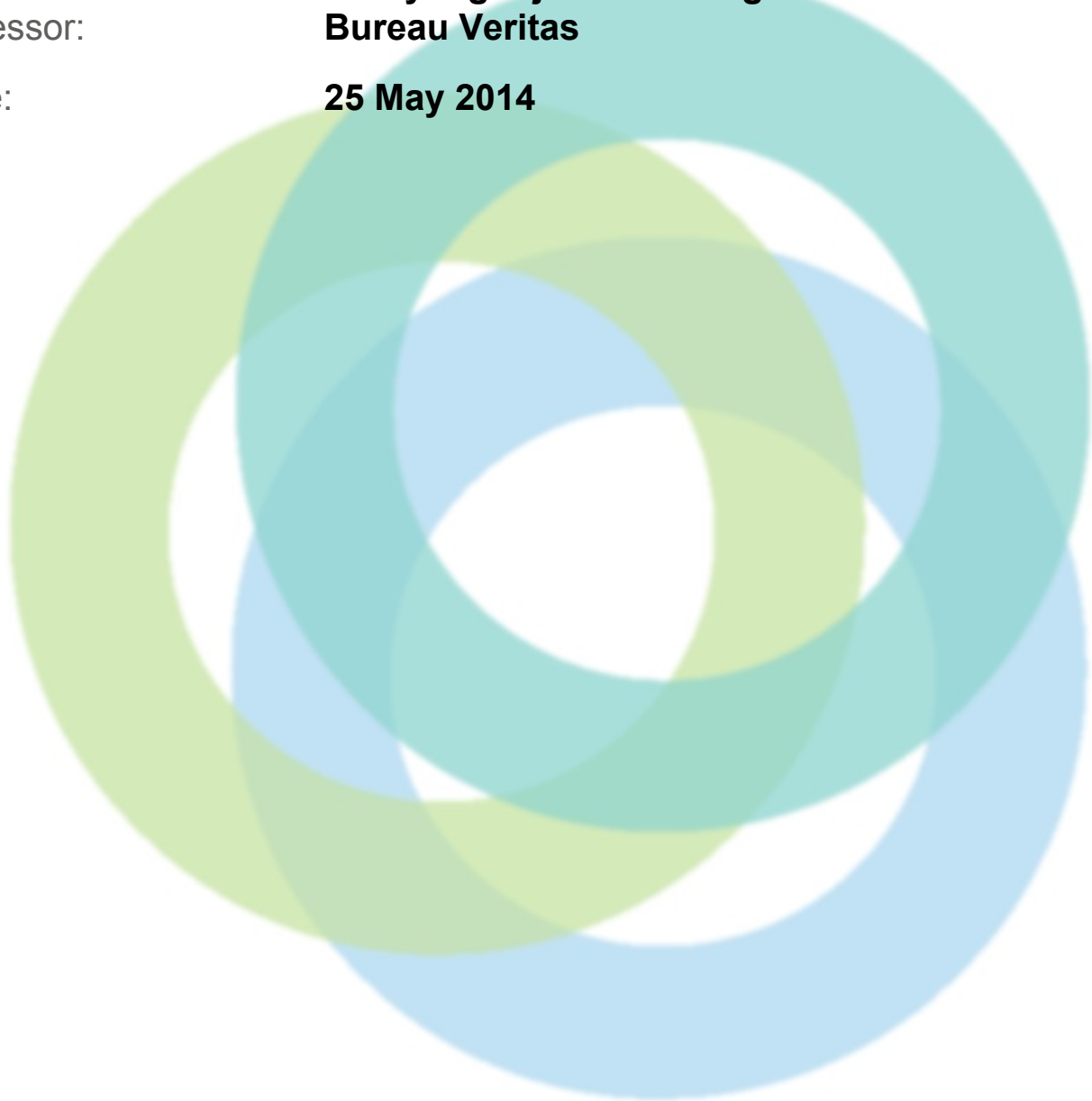


INITIAL STRUCTURAL INTEGRITY ASSESSMENT REPORT (SIAR)

Factory Name: **N.K.K KNITWEAR LTD**
Address: **KUTUBALI, FATULLAH, NARAYANGANJ, DHAKA**
Narayangonj Dhaka Bangladesh
Assessor: **Bureau Veritas**
Date: **25 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.





GENERAL INFORMATION

General Information	
Factory Name:	N.K.K KNITWEAR LTD
Address:	KUTUBALI, FATULLAH, NARAYANGANJ, DHAKA Narayanganj Dhaka Bangladesh
Country:	Bangladesh
Province:	Dhaka
City:	Narayanganj
Zip Code:	1420
Audit Duration:	1 Days
Re-Audit:	Re-Audit After 0 Months
Draft Report Date :	06-18-2014
Final Report Date :	10-13-2014
Are all Action Items From Previous Assessment Completed?:	N/A
Buildings in Complex :	There are 3 buildings in the factory premises out of which one is main building and two are ancillary buildings. The buildings are named as: 1) Eight story RCC Main Building (One eight story building-2 and one six story building-1 are connected by expansion joint), 2) Single story pre-fabricated boiler, compressor & wastage room, 3) Single story pre-fabricated generator room.
Number of Building Levels (Stories) :	1) Eight story RCC main building, Stories above grade: 8, Stories below grade: 0, 2) Six story RCC main building, Stories above grade: 6, Stories below grade: 0, (One eight story building-2 and one six story building-1 are connected by expansion joint), 2) Single story pre-fabricated boiler, compressor & wastage room, Stories above grade: 1, Stories below grade: 0, 3) Single story pre-fabricated generator room. Stories above grade: 1, Stories below grade: 0.
Approximate Building Area (SF) :	Total area of all buildings in the factory premises: 131735 sft. Building wise breakdown as follows: 1) Eight story RCC Main Building: 126840 sft, (Ground floor: 16995 sft, 1st floor: 16995 sft, 2nd floor: 16995 sft, 3rd floor: 16995 sft, 4th floor: 16995 sft, 5th floor: 16995 sft, 6th floor: 8290 sft, 7th floor: 8290 sft. Roof:8290 sft) 2) Single story pre-fabricated boiler, compressor & wastage room: 1950 sft, 3) Single story pre-fabricated generator room: 2945 sft.
Date of Building Construction :	Factory personnel informed the date of construction as follows: 1) Eight story RCC Main Building: Eight story part finished in 2007 and six story part finished in 1996.
Date of Last Building Renovation/Addition :	No record for date of renovation or addition was found from factory personnel.
Is the Building mixed	No


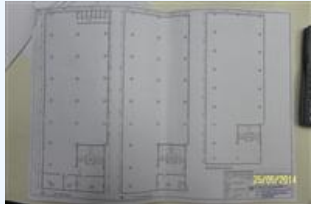


use?:	
Ancillary Structures in Complex :	1) Single story pre-fabricated boiler, compressor & wastage room, 2) Single story pre-fabricated generator room.
Number of Ancillary Levels (Stories) :	1) Single story pre-fabricated boiler, compressor & wastage room: Stories above grade: 1, Stories below grade: 0, Occupied levels: 1, 1) Single story pre-fabricated generator room: Stories above grade: 1, Stories below grade: 0, Occupied levels: 1.
Approximate Ancillary Structures Area (SF) :	1) Single story pre-fabricated boiler, compressor & wastage room: 1950 sft, 2) Single story pre-fabricated generator room: 2945 sft.
Number of Occupants :	Total no. of occupant: 1173. 1) Eight story RCC Main Building: 1170, (Ground floor: 62, 1st floor: 191, 2nd floor: 38, 3rd floor: 258, 4th floor: 253, 5th floor: 252, 6th floor: 78, 7th floor: 38), 2) Single story pre-fabricated boiler, compressor & wastage room: 2, 3) Single story pre-fabricated generator room: 1.
Exterior Facade Description :	Both building 1 and 2 is RCC frame structure with infilled masonry wall. Exterior face of the masonry wall is of plaster and paint works. The main door of the building is a steel door and the windows are of sliding glass type.
Structural System Description :	Both building 1 and building 2 are RCC moment resisting frame structure with monolithic beam slab (only 1st floor of building 2 is flat plate system). Foundation is isolated footing for building 1 and pile footing for building 2. Framing is regular.





ASSESSMENT FINDINGS

Structural System Design

Question:	Are Certificates of Occupancy available for review?	
Priority Level:	Low	
Non-Compliance Level:		
Description:	Certificates of Occupancy available for review.	
Source of Findings:	Document Review: Document reviewed on site.	
Suggested Plan of Action:		
Suggested Deadline Date:		
Standard:	Alliance Standard Part 8 Section 8.3 Preliminary Structural Assessment	
Question:	Structural Engineer of Record	
Priority Level:		
Non-Compliance Level:		
Description:	Name: Engr. S. M. Shaheedullah IEB No.: F-682 Company: Shaheedullah and New Associates Ltd.	
Source of Findings:	Document Review: Documents reviewed on site.	
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 both building 1 & 2 there is no Architect of Record available.	
Source of Findings:	Document Review: Document Review shows that for both building 1 & 2 there is no Architect of Record available.	
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:	There is no credible design document available on site for review. As built architectural and structural drawings are found partially. No foundation details are provided for building 2. Also slab details are missing. some columns are found mismatched. Again no design report is available which is required as per BNBC 2006 clause 1.9.1.1. For both building 1 & 2 there is no Architect of Record available.	
Source of Findings:	Document Review: Documents reviewed on site.	
Suggested Plan of Action:	Have a qualified structural engineer prepare credible as-built documents as well as design report.	
Suggested Deadline Date:	07 Aug 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:	The Geotechnical report is available and kept on site (photocopy).	
Source of Findings:	Document Review: Documents reviewed on site.	
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	




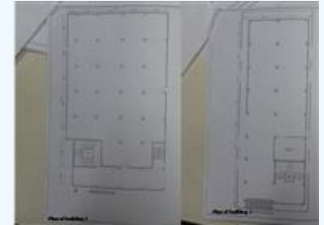
Non-Compliance Level:	2	
Description:	The buildings were constructed before year 2006. No analytical confirmation indicating general conformance with any code is available.	
Source of Findings:	Document Review: Documents reviewed on site.	
Suggested Plan of Action:	Engage a qualified structural engineer 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:	07 Aug 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:		
Description:	The building was designed and constructed before 2006	
Source of Findings:	Document Review: Document Review shows that the building was designed and constructed before 2006	
Suggested Plan of Action:		
Suggested Deadline Date:		
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:	There is no clear information available on the design document to understand the consideration of storm surge and wind loading in the design of the building.	
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 and storm surge.	
Suggested Deadline Date:	07 Aug 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:	There was no preliminary structural assessment done in these buildings.	
Source of Findings:	Document Review: Documents reviewed on site.	
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:		
Description:	There is no evidence of previous expansion of these structures.	
Source of Findings:	Document Review: Document Review shows that there is no evidence of previous expansion of these structures.	
Suggested Plan of Action:		
Suggested Deadline Date:		
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 is a moment resisting frame structure. Building 2 is also moment resisting frame structure, however only 1st floor has flat plate system.	



Source of Findings:	Visual Assessment: Visual inspection conducted.	
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:	These are regular structures both vertically and horizontally.	
Source of Findings:	Document Review: Documents reviewed on site., Visual Assessment: Visual inspection conducted.	
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:	Since in building 1 there are multiple moment resisting frames, the lateral load path is clear and redundancy is available. However building 2 has a flat plate on the 1st floor hence the lateral load system may not be apparent and the redundancy is not known.	
Source of Findings:	Visual Assessment: Visual inspection conducted.	
Suggested Plan of Action:	Have a qualified structural engineer complete further analysis of the structure and develop a remediation plan if required.	
Suggested Deadline Date:	07 Aug 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:	FoS of columns of building 1 is noted as below: Central Column: 2.39 Corner Column: 2.98 Edge Column: 2.17 The FoS of all columns are within acceptable limit for building 1. FoS of columns of building 2 is noted as below: Central Column: 2.32 Corner Column: 1.60 Edge Column: 2.11 The FoS of Corner Column is noted to be inadequate.	
Source of Findings:	Uploaded Document: Uploaded calculation of FoS	
Suggested Plan of Action:	Engage a qualified structural engineer and carry out Detail Structural Assessment. This assessment should include destructive core testing to validate the in-situ concrete compressive strength of structural elements.	
Suggested Deadline Date:	07 Aug 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:	Result of ferro-scanning confirms that the number of rebars are matching with the structural design.	
Source of Findings:	Visual Assessment: Visual inspection conducted.	
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:	For building 1 and 2, slab thickness is 6". Therefore, dead load is $75+25(FF)=100$ psf. Live load is assumed 42 psf.	
Source of Findings:	Visual Assessment: Visual inspection conducted.	
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:	There is one water tank having a capacity of 5 tons in building 1 and 4 water tanks having a capacity of 3 tons each in building 2 for water storage. There is no analytical information on the provision of these tanks in the design.	
Source of Findings:	Visual Assessment: Visual inspection conducted.	
Suggested Plan of Action:	Engage a qualified structural engineer to confirm and document that provisions have been made to accommodate these water tanks. If provisions have not been made, have a qualified structural engineer develop a remediation plan.	
Suggested Deadline Date:	07 Aug 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/m ² (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:		
Description:	The density of operation does not exceed 42 psf.	
Source of Findings:	Visual Assessment: Visual inspection conducted.	
Suggested Plan of Action:		
Suggested Deadline Date:		
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:	2
Description:	Dampness was addressed in almost all the floors of building 1 and building 2. Temperature and shrinkage cracks are found at different floors. Standing water is noted on the roof top of both the buildings. There is no maintenance program for all areas including areas with efflorescence, dampness, standing water on rooftops, and corrosion.
Source of Findings:	Document Review: Documents reviewed on site., Visual Assessment: Visual inspection conducted.
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:	07 Aug 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 conducted.
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:	Building 1 and building 2 are separated by expansion joint, but this expansion joint does not go through facade.
Source of Findings:	Visual Assessment: Visual inspection conducted.
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:	1	
Description:	Expansion joints do not have adequate clearance.	
Source of Findings:	Visual Assessment: Visual inspection conducted..	
Suggested Plan of Action:	Have a qualified structure engineer recommend required clearance and expansion joint material and then have a remediation plan developed.	
Suggested Deadline Date:	18 Aug 2014	
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:	1	
Description:	There are sign of dampness on the exterior walls of both the buildings. This needs to be remedied.	
Source of Findings:	Visual Assessment: Visual inspection conducted.	
Suggested Plan of Action:	Have the exterior façade repaired to ensure prevention of dampness.	
Suggested Deadline Date:	18 Sep 2014	
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:	3	
Description:	Clear cover of one column of six story building (Building-1) is found damaged in some locations due to corrosion of rebars. Even some spalled concrete was found on the 2nd floor column where rebars got exposed and it is clear that the rebars are corroded. Some cracks are also observed on that column but the cracks are not deep into core.	



Source of Findings:	Visual Assessment: Visual inspection conducted.
Suggested Plan of Action:	Engage a qualified structural engineer to confirm structural performance of the structure by Detail Structural Assessment.
Suggested Deadline Date:	17 Aug 2014
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. which shows no noticeable settlement has occurred.
Source of Findings:	Visual Assessment: Visual inspection conducted.
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:	There is no sign of deflections (sagging), rotations (twisting), perceivable vibrations, or other noticeable movements of the structure in the structural system.
Source of Findings:	Visual Assessment: Visual inspection conducted.
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.
Source of Findings:	Visual Assessment: Visual inspection conducted.
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:	3
Description:	Clear cover of one column of six story building (Building-1) is found damaged in some locations due to corrosion of rebars. Even some loose concrete found on 2nd floor column where rebars got exposed when the loose concrete is removed and it is clear that the rebars are corroded. Some cracks are also observed on that column but the cracks are not entered into core.
Source of Findings:	Visual Assessment: Visual inspection conducted.
Suggested Plan of Action:	Have a qualified structural engineer provide further testing and analysis of distress, settlement, shifting, or cracking in columns or walls and provide a remediation plan to correct noted issues.
Suggested Deadline Date:	17 Aug 2014
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:	From visual inspection no major column repair or previous structural strengthening was observed. However, masonry wall of 1st floor showed significant number of repair and/or reconstruction.
Source of Findings:	Visual Assessment: Visually confirmed
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:	Masonry-chip aggregate concrete (MCAC) was used in the construction of the building 1.	
Source of Findings:	Visual Assessment: Visual inspection conducted.	
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:	3	
Description:	The structural members constructed with MCAC have not been investigated by an appropriate program of in-situ testing and representative destructive testing or core samples. The column stress was calculated taking into account the strength of concrete from test results of NDT, which shows FoS of Corner Columns noted below the acceptable value in building 2.	
Source of Findings:	Visual Assessment: Visual inspection and calculation shows that the corner columns of building 2 are over-stressed.	
Suggested Plan of Action:	Engage a qualified structural engineer and carry out Detail Structural Assessment to identify what remedial action is appropriate, which may include retrofitting. As part of the detailed assessment outlined elsewhere, conduct destructive core testing to validate the in-situ concrete compressive strength of structural elements.	
Suggested Deadline Date:	07 Aug 2014	
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:	1	
Description:	Roof top of building 1 and 2 are not coated or sealed to prevent water intrusion.	
Source of Findings:	Visual Assessment: Visual assessment shows that roof top of building 1 and 2 are not coated or sealed to prevent water intrusion.	
Suggested Plan of Action:	Provide a protective coating at the structural elements constructed with MCAC exposed to rainfall or other sources of water. Have protective coating approved by the Alliance or a qualified structural engineer. Or provide 2% slope on the exposed surface to prevent accumulation of water.	
Suggested Deadline Date:	18 Sep 2014	
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:	Structural steel members of ancillary sheds are free of corrosion, physical damage or other types of deterioration	
Source of Findings:	Visual Assessment: Visual inspection conducted.	
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:	No post-tensioned reinforced concrete systems or elements are available.	
Source of Findings:	Document Review: Document Review shows that no post-tensioned reinforced concrete systems or elements are available., Visual Assessment: Visually	



	post-tensioned reinforced concrete systems or elements	
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 visible in the structure.	
Source of Findings:	Visual Assessment: Visual inspection of the structure shows that there is no sign of progressive distress visible in the structure.	
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?	 <p>Building 2 roof top</p>
Priority Level:	Medium	
Non-Compliance Level:	1	
Description:	There are some racks in almost all floors of both the building which are needed to be braced and anchored adequately to resist earthquake forces. There are four plastic water tanks with considerable height on the roof of the buildings which are also needed to be anchored and braced to resist earthquake forces.	
Source of Findings:	Visual Assessment: Visual inspection conducted.	
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:	07 Aug 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:	No renovation or expansion work is ongoing.
Source of Findings:	Visual Assessment: From visual inspection, no renovation work is ongoing.
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:	07 Aug 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 are not posted.
Source of Findings:	Visual Assessment: Visual inspection of the factory does not show floor load plans being posted at each floor.
Suggested Plan of Action:	Have a qualified structural engineer prepare load plans including the information required in Section 8.20 of the Alliance Standard and have it posted in all required location. Floor load plans should be visibly posted on all levels of all buildings.
Suggested Deadline Date:	07 Aug 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:	No floor load plan is available.
Source of Findings:	Document Review: Documents reviewed on site.
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:	There is no marking on the floor to designate spaces and height for storage of work materials.
Source of Findings:	Visual Assessment: Visual inspection conducted.
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:	19 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: Documents reviewed on site.
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:	19 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 serves as an ongoing vendor resource and monitor of operational factory floor loadings.	
Source of Findings:	Document Review: Documents reviewed on site.	
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:	24 Jul 2014	
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:	No post-tensioned reinforced concrete systems or elements were available.	
Source of Findings:		
Suggested Plan of Action:		
Suggested Deadline Date:		
Standard:	Alliance Standard Part 8 Section 8.26 Durability and Maintenance	

Factory Name: **N.K.K KNITWEAR LTD**

Address: **KUTUBALI, FATULLAH, NARAYANGANJ, DHAKA Narayangonj Dhaka Bangladesh**

Assessor: **Bureau Veritas**

Date: **25 May 2014**



ALLIANCE
FOR BANGLADESH WORKER SAFETY