

INITIAL STRUCTURAL INTEGRITY ASSESSMENT REPORT (SIAR)

Factory Name: **Lyric Industries (Pvt.) Ltd**
Address: **East Mouchak, Cha Bagan Road, Mouchak, Kaliakoir,
Gazipur Bangladesh**
Assessor: **Shaheedullah**
Date: **16 Jul 2017**





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:	Lyric Industries (Pvt.) Ltd
Address:	East Mouchak, Cha Bagan Road, Mouchak, Kaliakoir, Gazipur Bangladesh
Country:	Bangladesh
Province:	
City:	Gazipur
Zip Code:	1751
Audit Duration:	2 Days
Re-Audit:	Re-Audit After 0 Months
Draft Report Date :	19/07/2017
Final Report Date :	24/07/2017
Are all Action Items From Previous Assessment Completed?:	N/A
Buildings in Complex :	There are 7 buildings in the factory complex. Out of 7 buildings 1 is production building and other 6 are ancillary buildings. i) 5-storied Production Building.
Number of Building Levels (Stories) :	i) 5-storied Production Building: 5-story above grade.
Approximate Building Area (SF) :	i) 5-storied Production Building: 1,71,770 sft.
Date of Building Construction :	2015-2016.
Date of Last Building Renovation/Addition :	N/A.
Is the Building mixed use?:	Yes
Ancillary Structures in Complex :	Name of 6 Ancillary buildings are: i) 1-storied Utility Building. ii) 1-storied Security and Fire control Room. iii) 1-storied Wastage Store building. iv) 1-storied underground Pump House with Underground Reservoir. v) 1-storied Shower Stand (Block 1&2). vi) 1-storied Sewage treatment Plant (STP) with underground tanks.
Number of Ancillary Levels (Stories) :	i) 1-storied Utility Building: 1-story above grade. ii) 1-storied Security and Fire control Room: 1-story above grade. iii) 1-storied Wastage Store building: 1-story above grade. iv) 1-storied underground Pump House with

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	Underground Reservoir: Story below grade. v) 1-storied Shower Stand (Block 1&2): 1-story above grade. vi) 1-storied Sewage treatment Plant (STP) with underground tanks: Silo, tanks below grade. Chemical room & pump room above grade.
Approximate Ancillary Structures Area (SF) :	i)) 1-storied Utility Building: 2,160 sft ii) 1-storied Security and Fire control Room: 530 sft. iii) 1-storied Wastage Store building: 566 sft. iv) 1-storied underground Pump House with Underground Reservoir: 500 sft. v) 1-storied Shower Stand (Block 1&2): 300 sft. vi) 1-storied Sewage treatment Plant (STP) with underground tanks: 1,030 sft
Number of Occupants :	737 persons
Exterior Facade Description :	i) 5-storied Production Building: Rc frame work infill with 10"/5" thick masonry wall, Aluminum window and Aluminum Louver.
Structural System Description :	i) 5-storied Production Building: Frame work of the building is composed of Rc slab, beams and columns supported by isolated spread footings and combined footings.
Issues were not found during the structural integrity assessment that required the Emergency Escalation Protocol (and referral to NTC Review Panel)?:	Yes



ASSESSMENT FINDINGS

Structural System Design

Question:	Are credible structural design documents available for review and kept on site?
Priority Level:	Medium
Non-Compliance Level:	2
Description:	Architectural and Structural design drawings are available but those drawings are not proper and "as-built".
Source of Findings:	Document Review: Seen all documents
Suggested Plan of Action:	Have a qualified structural engineer prepare credible as-built documents based on the requirements of Part 8 Section 8.19 of the Alliance Standard.
Suggested Deadline Date:	15 Sep 2017
Standard:	Alliance Standard Part 8 Section 8.19 Required Structural Documentation for New and Existing Factories
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:	Credible structural documentation indicating general conformance with BNBC 2006 has not been found.
Source of Findings:	Document Review: Seen all documents
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 Sep 2017
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:	Documentation compliance with the seismic and wind requirements of BNBC 2006 has not been found.
Source of Findings:	Document Review: Seen all documents
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 Sep 2017
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:	Documentation compliance with the requirements for wind loading and storm surge loadings as detailed in BNBC part6, section 1.5.3 has not been found.
Source of Findings:	Document Review: Seen all documents
Suggested Plan of Action:	Engage a qualified structural engineer to confirm satisfactory structural performance of the buildings under wind loading.
Suggested Deadline Date:	15 Sep 2017
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:	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:	Overloading in excess of 42 psf on account of gardening has been noticed over a part of existing roof (After vertical expansion of one additional floor, in near future, existing roof shall be used as production floor).
Source of Findings:	Photograph: Picture attached, Visual Assessment: Visual inspection
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 Sep 2017
Standard:	Alliance Standards Part 8 Section 8.15 Minimum Floor Design Loads
Question:	Are Certificates of Occupancy available for review?
Priority Level:	Low
Non-Compliance Level:	2
Description:	Certificate of Occupancy is not available.
Source of Findings:	Document Review: Seen all documents
Suggested Plan of Action:	Provide Certificates of Occupancy for review.
Suggested Deadline Date:	15 Sep 2017
Standard:	Alliance Standard Part 8 Section 8.3 Preliminary Structural Assessment

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:	Sign of standing water has been noticed over roof top.
Source of Findings:	Photograph: Picture attached, Visual Assessment: Visual inspection
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 Sep 2017
Standard:	Alliance Standard Part 8 Section 8.26 Durability and Maintenance
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:	2
Description:	One plastic water tank of 2000 Liter and three outdoor units of air conditioning system over the roof and steel racks in 1st floor of production building have been noticed without seismic anchorage.





Source of Findings:	Photograph: Picture attached, Visual Assessment: Visual inspection
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 Sep 2017
Standard:	Alliance Standards Part 8 Section 8.18 Seismic Bracing of Key Non-Structural Elements and 2006 BNBC Part 6

Structural Safety Programs

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:	2
Description:	Floor load program for floors ensuring the live loads for which a floor has not been designed has been prepared.
Source of Findings:	Document Review: Seen all documents
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 Sep 2017
Standard:	Alliance Standard Part 13 Section 13.7 and Part 8 Section 8.9.
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:	2
Description:	Floor load plans have not been prepared.
Source of Findings:	Visual Assessment: Visual inspection
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 Sep 2017
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:	2
Description:	Floor load plans have not been prepared.
Source of Findings:	Visual Assessment: Visual inspection
Suggested Plan of Action:	Have a qualified structural engineer prepare load plans including the information required in Section 8.20 of the Alliance Standard.
Suggested Deadline Date:	15 Sep 2017
Standard:	Alliance Standard Part 8 Section 8.20.5.3
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:	2
Description:	Load limits have not been marked.
Source of Findings:	Visual Assessment: Visual inspection
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 Sep 2017
Standard:	Alliance Standard Part 8 Section 8.11 Floor Load Markings
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:	2
Description:	Factory load manager has not been designated.
Source of Findings:	Document Review: Seen all documents
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	15 Sep 2017

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Date:	
Standard:	Alliance Standards Part 8 Section 8.9 Factory Load Manager