

INITIAL STRUCTURAL INTEGRITY ASSESSMENT REPORT (SIAR)

Factory Name: **Noman Terry Towel Mills Ltd**
Address: **Vawal, Mirzapur, Gazipur Gazipur Dhaka Bangladesh**
Assessor: **Emkay Enterprises LTD**
Date: **22 Jun 2015**





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.



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GENERAL INFORMATION

General Information

Factory Name:	Noman Terry Towel Mills Ltd
Address:	Vawal, Mirzapur, Gazipur Gazipur Dhaka Bangladesh
Country:	Bangladesh
Province:	Dhaka
City:	Gazipur
Zip Code:	
Audit Duration:	3 Days 0 Hours
Re-Audit:	Re-Audit After 0 Months
Draft Report Date :	04 August 2015
Final Report Date :	13 August 2015
Are all Action Items From Previous Assessment Completed?:	N/A
Buildings in Complex :	There are 37 buildings. A. Main building: 13; B. Ancillary building: 24.
Number of Building Levels (Stories) :	01. Stitching building: 8 stories (G.F + 7); 02. Sizing & warping shed: Single story prefabricated shed; 03. Terry dyeing finishing shed: Single story prefabricated shed; 04. Yarn dyeing shed: Single story prefabricated shed with an independent mezzanine floor inside the shed; 05. Multipurpose go-down shed: Single story prefabricated shed with an independent mezzanine floor inside the shed; 06. Accessories go-down: Single story prefabricated shed; 07. Chemical go-down: Single story prefabricated shed with an independent mezzanine floor inside the shed; 08. Doubling and twisting shed: Single story prefabricated shed; 09. Shed-1 (Picanol): Single story prefabricated shed; 10. Shed-2 (Tsudakoma, Grey mending & Sectional warping): Single story prefabricated shed; 11. Shed-3 (Tsudakoma and R & D): Single story prefabricated shed; 12. Sizing & warping: Single story prefabricated shed; 13. Mending & Folding: Single story prefabricated shed.
Approximate Building Area (SF) :	Total: 1,204,063.00 SF, (Stitching building: GF: 56,900, 1st: 60,950, 2nd: 60,950, 3rd: 60,950, 4th: 60,950, 5th: 60,950, 6th: 60,950, 7th: 60,950; Sizing & warping shed: 41,500; Terry dyeing finishing shed: 151,690; Yarn dyeing shed: GF: 52,000, Mezzanine: 10,500; Multipurpose go-down shed: GF: 21,200, Mezzanine: 12,500; Accessories go-down: 7,000; Chemical go-down: GF: 8,200; Mezzanine: 4,460; Doubling and twisting shed: 53,700; Shed-1 (Picanol): 132,913; Shed-2: 88,425; Shed-3: 16,978; Sizing & warping: 100,095; Mending & Folding: 19,352).
Date of Building Construction :	01. Stitching building: 2009-2014; 02. Sizing & warping shed: 2009-2010; 03. Terry dyeing finishing shed: 2008-2010; 04. Yarn dyeing shed: 2008-2010; 05. Multipurpose go-down shed: 2009; 06. Accessories go-down: 2011; 07. Chemical go-down: 2009; 08. Doubling and twisting shed: 2008-2010. 09. Security office: 2011; 10. Fire pump house: 2012, 11. Boiler building: 2010; 12. Office building: 2008-2010; 13. REB substation: 2009 14. REB control room: 2009; 15. ETP: 2010-2011; 16. Lubricant go-down: 2014; 17.



	Workshop-1: 2012; 18. Workshop-2: 2012; 19. Shed-1 (Picanol): 2008; 20. Shed-2: 2008; 21. Shed-3: 2009; 22. Sizing & warping: 2008; 23. Mending & Folding: 2008; 24. Multipurpose go-down: 2008; 25. Chiller room: 2009; 26. Workshop: 2009; 27. Yarn go-down: 2009; 28. Wastage go-down: 2009; 29. Lubricant/oil room: 2009; 30. Tsudakoma grey cloth go-down: 2008; 31. Lubricant go-down: 2009; 32. Chemical go-down: 2009; 33. Boiler house: 2008; 34. Power house (Generator room): 2008; 35. Pinacol grey cloth go-down: 2008; 36. Security & time office: 2009; 37. Condense Recovery Tank: 2009.
Date of Last Building Renovation/Addition :	None
Is the Building mixed use?:	No
Ancillary Structures in Complex :	There is 24 ancillary buildings.
Number of Ancillary Levels (Stories) :	01. Security office: Single story RCC building; 02. Fire pump house: Single story steel shed, 03. Boiler building: Two stories RCC building; 04. Office building: Two stories RCC building; 05. REB sub-station; 06. REB control room: Single story RCC building with steel shed on roof deck; 07. ETP; 08. Lubricant go-down: Single story steel shed; 09. Workshop-1: Single story steel shed; 10. Workshop-2: Single story steel shed; 11. Multipurpose go-down: Single story steel shed; 12. Chiller room: Single story RCC building; 13. Workshop: Single story steel shed; 14. Yarn go-down: Single story steel shed; 15. Wastage go-down: Single story steel shed; 16. Lubricant/oil room: Single story steel shed; 17. Tsudakoma grey cloth go-down: Single story steel shed; 18. Lubricant go-down: Single story steel shed; 19. Chemical go-down: Single story steel shed; 20. Boiler house: Single story steel shed; 21. Power house (Generator room): Two stories RCC building; 22. Pinacol grey cloth go-down: Single story steel shed; 23. Security & time office: Single story steel shed; 24. Condense Recovery Tank: Single story steel shed.
Approximate Ancillary Structures Area (SF) :	Total: 143,670.00 SF, (Security office: 600; Fire pump house: 800, Boiler building: GF: 4,785; 1st: 4,785; Office building: GF: 4,885; 1st: 4,885; REB sub-station: 4,620; REB control room: GF: 1,075, 1st: 1,075; ETP: 39,560; Lubricant go-down: 430; Workshop-1: 750; Workshop-2: 675; Multipurpose go-down: 10,332; Chiller room: 1,996; Workshop: 5,890; Yarn go-down: 5770; Wastage go-down: 1,726; Lubricant/oil room: 478; Tsudakoma grey cloth go-down: 15,068; Lubricant go-down: 2,776; Chemical go-down: 4,165; Boiler house: 3,874; Power house (Generator room): G.F: 20,131, 1st: 20,131; Pinacol grey cloth go-down: 20,988; Security & time office: 307; Condense Recovery Tank: 113).
Number of Occupants :	Total occupants: 5,806 (Stitching building: GF: 35, 1st: 923, 2nd: 976, 3rd: 761, 4th: 25, 5th: 269, 6th: Vacant, 7th: Vacant; Sizing & warping shed: 40 @ 3 shifts; Terry dyeing finishing shed: 164 @ 3 shifts; Yarn dyeing shed: 168 @ 3 shifts; Multipurpose go-down shed: 01 @ 3 shifts; Accessories go-down: 04 @ 3 shifts; Chemical go-down: 02 @ 3 shifts; Doubling and twisting shed: 90 @ 3 shifts; Security room: 05 @ 3 shifts; Fire pump house: 01, Boiler building: 01 @ 3 shifts; Office building: 28; REB sub-station: Nil; REB control room: 02; ETP: 03; Lubricant go-down: 01; Workshop-1: 15; Workshop-2: 15; Shed-1 (Picanol): 150 @ 3 shifts; Shed-2: 135 @ 3 shifts; Shed-3: 21 @ 3 shifts; Sizing & warping: 41 @ 3 shifts; Mending & Folding: 75 @ 3 shifts; Multipurpose go-down: 01 @ 3 shifts; Chiller room: 01 @ 3 shifts; Workshop: 10 @ 3 shifts; Yarn go-down: Nil; Wastage go-down: Nil; Lubricant/oil room: Nil; Tsudakoma grey cloth go-down: Nil; Lubricant godown: Nil; Chemical go-down: Nil; Boiler house: 01 @ 3 shifts; Power house (Generator room): 06 @ 3 shifts; Pinacol grey cloth go-down: Nil; Security & time office: 02 @ 3 shifts; Condense Recovery Tank: Nil).
Exterior Facade Description :	All steel shed structural have a brick masonry infill facade. For RCC frame structures have a brick masonry infill facade in which the exterior surface is plaster finished and painted.
Structural System Description :	Main Buildings: 01. Stitching building: Beam-Column RCC frame structure; 02. Sizing & warping shed: Single story prefabricated shed; 03. Terry dyeing finishing shed: Single story prefabricated shed; 04. Yarn dyeing shed: Single story prefabricated shed with an independent mezzanine floor inside the shed; 05. Multipurpose go-down shed: Single story prefabricated shed with an independent mezzanine floor inside the shed; 06. Accessories go-down: Single story prefabricated shed; 07. Chemical go-down: Single story prefabricated shed with an independent mezzanine floor inside the shed; 08. Doubling and twisting shed: Single story

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prefabricated shed; 09. Shed-1 (Picanol): Single story prefabricated shed; 10. Shed-2 (Tsudakoma, Grey mending & Sectional warping): Single story prefabricated shed; 11. Shed-3 (Tsudakoma and R & D): Single story prefabricated shed; 12. Sizing & warping: Single story prefabricated shed; 13. Mending & Folding: Single story prefabricated shed. Ancillary Buildings: 01. Security office: Single story RCC building; 02. Fire pump house: Single story steel shed, 03. Boiler building: Two storied Beam-Column RCC frame structure building; 04. Office building: Two storied Beam-Column RCC frame structure building; 05. REB sub-station; 06. REB control room: Single story RCC building with steel shed on roof deck; 07. ETP; 08. Lubricant go-down: Single story steel shed; 09. Workshop-1: Single story steel shed; 10. Workshop-2: Single story steel shed; 11. Multipurpose go-down: Single story steel shed; 12. Chiller room: Single story RCC building; 13. Workshop: Single story steel shed; 14. Yarn go-down: Single story steel shed; 15. Wastage go-down: Single story steel shed; 16. Lubricant/oil room: Single story steel shed; 17. Tsudakoma grey cloth go-down: Single story steel shed; 18. Lubricant go-down: Single story steel shed; 19. Chemical go-down: Single story steel shed; 20. Boiler house: Single story steel shed; 21. Power house (Generator room): Two storied Beam-Column RCC frame structure building; 22. Pinacol grey cloth go-down: Single story steel shed; 23. Security & time office: Single story steel shed; 24. Condense Recovery Tank: Single story steel shed.

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:	Results of ferro-scanning for confirmation of steel rebar in the columns of the lowest tier were satisfactory.
Priority Level:	Medium
Non-Compliance Level:	2
Description:	1. Boiler & Generator building: According to structural drawing of boiler and generator building, column steel amount should be 20nos but as per scan report number of steel found of 16nos which was also proved by the exposed steel at roof of which picture
Source of Findings:	Visual Assessment: During visual assessment it was found that 1. Boiler & Generator building
Suggested Plan of Action:	As part of preparing as-built drawings (detailed elsewhere in this audit), have a qualified structural engineer verify as-built column reinforcement in all applicable buildings via additional ferro-scanning.
Suggested Deadline Date:	30 Sep 2015
Standard:	Alliance Standard Part 8 Section 8.3 Preliminary Structural Assessment





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:	Heavy equipment like boilers are present at boiler building and also at generator building 1st floor. Also some coolers are present at the roof of both boiler and generator building. There is no design report which can confirm the consideration of these I
Source of Findings:	Photograph: 1. Heavy equipment at boiler building 1st floor. 2. Heavy equipment at generator building 1st floor.(boiler) 3. Cooler at roof top of both boiler building and generator building. 4. RCC water tank of generator building., Visual Assess, Photograph: 1. Heavy equipment at boiler building 1st floor. 2. Heavy equipment at generator building 1st floor.(boiler) 3. Cooler at roof top of both boiler building and generator building. 4. RCC water tank of generator building., Visual Assess
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:	30 Sep 2015
Standard:	Alliance Standard Part 8 Section 8.13 and 8.14
Question:	Are Certificates of Occupancy available for review?
Priority Level:	Low
Non-Compliance Level:	2
Description:	Occupancy certificate for buildings was not available during this inspection.
Source of Findings:	Document Review: No occupancy certificate was found during this inspection.
Suggested Plan of Action:	Apply to appropriate authority in an expeditious manner for issuance of the Certificates of Occupancy for each building and ancillary structure according to building use.
Suggested Deadline Date:	30 Sep 2015
Standard:	Alliance Standard Part 8 Section 8.3 Preliminary Structural Assessment

