

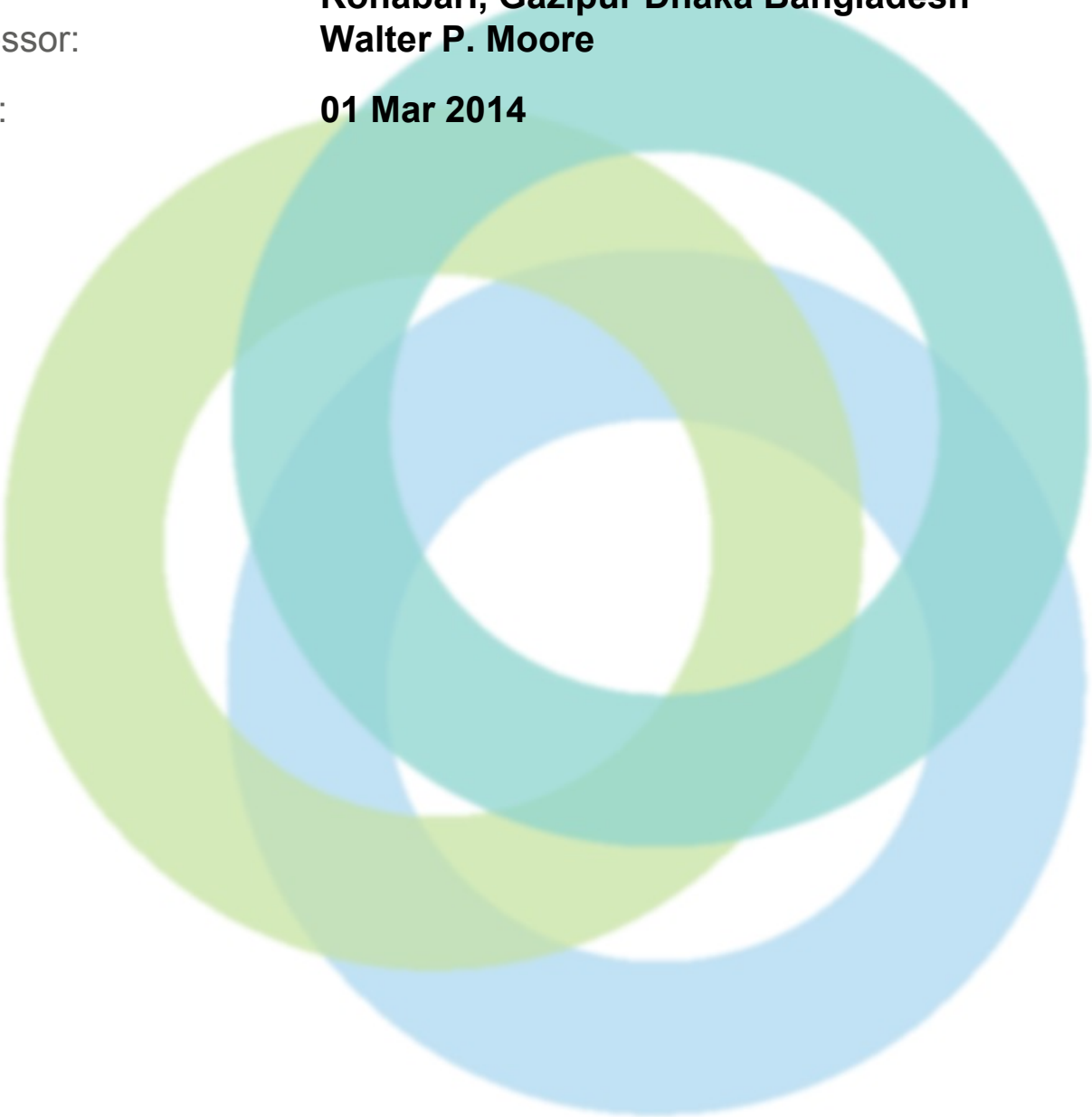
# EQUIVALENT INITIAL STRUCTURAL SAFETY ASSESSMENT

Factory Name: **GENESIS WASHING LTD**

Address: **Kodda Nandun, Kodda Baza, Gazipur Sadar, Gazipur  
Konabari, Gazipur Dhaka Bangladesh**

Assessor: **Walter P. Moore**

Date: **01 Mar 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](http://www.bangladeshworkersafety.org).





## GENERAL INFORMATION

| General Information                                       |                                                                                                                                      |
|-----------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------|
| Factory Name:                                             | GENESIS WASHING LTD                                                                                                                  |
| Address:                                                  | Kodda Nandun, Kodda Baza, Gazipur Sadar, Gazipur Konabari, Gazipur Dhaka Bangladesh                                                  |
| Country:                                                  | Bangladesh                                                                                                                           |
| Province:                                                 | Dhaka                                                                                                                                |
| City:                                                     | Konabari, Gazipur                                                                                                                    |
| Zip Code:                                                 | 1346                                                                                                                                 |
| Audit Duration:                                           | 1 Days                                                                                                                               |
| Re-Audit:                                                 | Re-Audit After 0 Months                                                                                                              |
| Draft Report Date :                                       | June 6 2014                                                                                                                          |
| Final Report Date :                                       | November 7 2014                                                                                                                      |
| Are all Action Items From Previous Assessment Completed?: | N/A                                                                                                                                  |
| Buildings in Complex :                                    | 1-story factory building, a 1-story Boiler/Generator/Control building, a 2-story Compressor building, and a 2-story office building. |
| Number of Building Levels (Stories) :                     | 1                                                                                                                                    |
| Approximate Building Area (SF) :                          | Unknown                                                                                                                              |
| Date of Building Construction :                           | 2003, 2011                                                                                                                           |
| Date of Last Building Renovation/Addition :               | 2012 - Office building mezzanine                                                                                                     |
| Is the Building mixed use?:                               | No                                                                                                                                   |
| Ancillary Structures in Complex :                         | 3 - Boiler/Generator/Controls building, Compressor building, office building                                                         |
| Number of Ancillary Levels (Stories) :                    | Boiler/Generator/Controls building is 1 story. The compressor building is 2 stories and the office building is 2 stories             |

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|----------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Approximate Ancillary Structures Area (SF) : | Unknown                                                                                                                                                                                                                                                                                                                   |
| Number of Occupants :                        | 1825                                                                                                                                                                                                                                                                                                                      |
| Exterior Facade Description :                | Masonry Infill with Plaster/Paint                                                                                                                                                                                                                                                                                         |
| Structural System Description :              | The main factory building is a single story steel frame structure. The building lateral system appears to be beam-column moment frames. The boiler and compressor buildings are cast-in-place concrete structures. The office building was reported to be a 2-story steel frame structure with a composite concrete floor |



## ASSESSMENT FINDINGS

### Structural System Design

|                           |                                                                                                                                                                                        |
|---------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Question:                 | Is a clear and redundant load path to resist lateral loads provided?                                                                                                                   |
| Priority Level:           | Medium                                                                                                                                                                                 |
| Non-Compliance Level:     | 2                                                                                                                                                                                      |
| Description:              | The lateral system for the factory building appears to be beam-column moment frames. However, it is not clear whether a clear and redundant path is available to resist lateral loads. |
| Source of Findings:       | Document Review: Document review, visual assessment, Visual Assessment, Document Review: Document review, visual assessment, Visual Assessment                                         |
| 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:  | 31 Dec 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 Certificates of Occupancy available for review?                    |
| Priority Level:           | Low                                                                    |
| Non-Compliance Level:     | 1                                                                      |
| Description:              | Certificates of occupancy are not available for review                 |
| Source of Findings:       | Document Review: Document Review                                       |
| Suggested Plan of Action: | Provide Certificates of Occupancy for review.                          |
| Suggested Deadline Date:  | 31 Dec 2014                                                            |
| Standard:                 | Alliance Standard Part 8 Section 8.3 Preliminary Structural Assessment |

### Structural System Construction





|                           |                                                                                                                                                                                                                                                   |
|---------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 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:              | Various non-structural elements are not adequately anchored and braced to resist earthquake forces. These include the following: Steam pipes, Storage Racks and Other Equipment                                                                   |
| Source of Findings:       | Visual Assessment: Visual observations                                                                                                                                                                                                            |
| 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:  | 31 Dec 2014                                                                                                                                                                                                                                       |
| Standard:                 | Alliance Standards Part 8 Section 8.18 Seismic Bracing of Key Non-Structural Elements and 2006 BNBC Part 6                                                                                                                                        |
| 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:              | As part of the follow up work by Bureau Veritas (detailed elsewhere) conducted following the site visit by Walter P Moore, it was determined that MCAC was used in construction of the Compressor Building.                                       |
| Source of Findings:       | Visual Assessment: visual assessment                                                                                                                                                                                                              |
| Suggested Plan of Action: | Within the Compressor Building, 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. |
| Suggested Deadline Date:  | 31 Dec 2014                                                                                                                                                                                                                                       |
| Standard:                 | Alliance Standards Part 7 Building Materials Section 7.2 Masonry-chip aggregate concrete (MCAC).                                                                                                                                                  |



### Structural Safety Programs

|                       |                                                  |
|-----------------------|--------------------------------------------------|
| Question:             | Are floor loads in compliance with posted plans? |
| Priority Level:       | Medium                                           |
| Non-Compliance Level: | 2                                                |
| Description:          | There are no posted plans.                       |



|                           |                                                                                                                                                                                                         |  |
|---------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--|
| Source of Findings:       | Visual Assessment: Visual assessment                                                                                                                                                                    |  |
| Suggested Plan of Action: | Once floor loads plans are posted redistribute floor loads to comply with the Floor Loading Plans.                                                                                                      |  |
| Suggested Deadline Date:  | 31 Dec 2014                                                                                                                                                                                             |  |
| Standard:                 | Alliance Standard Part 8 Section 8.10 Floor Loading Plans (Load Plans).                                                                                                                                 |  |
| 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:              | There is not 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.                                                                   |  |
| Source of Findings:       | Document Review: Document review and visual assessment, Visual Assessment, Document Review: Document review and visual assessment, Visual Assessment                                                    |  |
| 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:  | 31 Dec 2014                                                                                                                                                                                             |  |
| Standard:                 | Alliance Standard Part 13 Section 13.7 and Part 8 Section 8.9.                                                                                                                                          |  |
| Question:                 | Are Floor Load Plans posted as required?                                                                                                                                                                |  |
| Priority Level:           | Low                                                                                                                                                                                                     |  |
| Non-Compliance Level:     | 2                                                                                                                                                                                                       |  |
| Description:              | Floor Load Plans are not posted as required.                                                                                                                                                            |  |
| Source of Findings:       | Visual Assessment: Visual assessment                                                                                                                                                                    |  |
| 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:  | 31 Dec 2014                                                                                                                                                                                             |  |
| 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:              | Areas used for storage of work materials and work products, are not clearly marked to indicate the acceptable loading limits as described in the Load Plan for that floor.                                                               |  |
| Source of Findings:       | Visual Assessment: Visual assessment                                                                                                                                                                                                     |  |
| 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:  | 31 Dec 2014                                                                                                                                                                                                                              |  |
| Standard:                 | Alliance Standard Part 8 Section 8.11 Floor Load Markings                                                                                                                                                                                |  |
| 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:     | 1                                                                                                                                                                                                                                        |  |
| Description:              | Load Plans have not been prepared for each floor documenting the actual maximum operational loading that is intended and/or allowable on each floor.                                                                                     |  |
| Source of Findings:       | Visual Assessment: Visual assessment                                                                                                                                                                                                     |  |
| 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:  | 31 Dec 2014                                                                                                                                                                                                                              |  |
| Standard:                 | Alliance Standard Part 8 Section 8.10 Floor Loading Plans (Load Plans)                                                                                                                                                                   |  |
| 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:     | 1                                                                                                                                                                                                                                        |  |
| Description:              | There is not 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.   |  |
| Source of Findings:       | Document Review: Document review, visual assessment, Visual Assessment, Document Review: Document review, visual assessment, Visual Assessment                                                                                           |  |
| 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 |  |



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|                          | characteristics of the                                     |  |
| Suggested Deadline Date: | 31 Dec 2014                                                |  |
| Standard:                | Alliance Standards Part 8 Section 8.9 Factory Load Manager |  |