ashton bulk
materials handling

# Letters of Reference

# &

# Recommendation

LOGAN ENGINEERING CONSULTING PTY LTD
ACN No.615 249 235

Unit 7, 62 Looranah Street, Jindalee
QLD 4074, Australia
T: +61 7 3279 6270 F: +61 7 3279 1985
www.loganeng.com

04th December 2018

**TO WHOM IT MAY CONCERN**

**Subject: Tandem Rotary Tippler Design by Ashton Bulk Ltd for Transnet Port Terminal in Saldanha, South Africa**

This letter is an endorsement for the services of Ashton Bulk Ltd. for the design of a new tandem rotary wagon tippler for Transnet Port Terminal (TPT) in Saldanha, South Africa. I worked closely with Ashton Bulk Ltd., in particular with Mr. Joe Dudman, in my capacity as a Principal Consultant of Logan Engineering Consulting (LEC) Pty Ltd, carrying out a detailed structural design review of a new tandem rotary wagon tippler and the associated positioner and gripper structures designed by Ashton Bulk Ltd. The tippler is of a dual-wagon rotary type for the TPT iron ore export terminal at Saldanha, South Africa (designated as Tippler T3), designed in accordance with the requirements of BS EN13001-3-1. LEC was appointed as the independent third-party design reviewer for this project by World Crane Services (WCS) FZE, who was appointed as the main contractor for managing the design review and fabrication inspection by TPT.

Independent detailed finite element modeling and analysis of the tippler, positioner, and gripper structures were carried out as part of the detailed structural design review using MSC.FEA (a combination of MSC.Patran pre- and post- processing software and MSC.Nastran finite element solver), which complemented Ashton Bulk Ltd.'s design approach. The detailed structural design review was carried out concurrently while Ashton Bulk Ltd.'s design process which was underway; a number of milestone design review meetings were held to discuss any anomalies identified in LEC's design review process. This has resulted in a number of design iterations and amendments to the design of the tippler structure in order to satisfy the requirements of the relevant standards and codes.

Throughout the design phase of this project, Ashton Bulk Ltd. has demonstrated the technical expertise and professionalism expected from a reputable bulk materials handling equipment designer.

Should you have any further questions, please do not hesitate to contact me.

Yours faithfully,

**Dr. Logan Loganathan**

FIEAust, RPEQ, C.P.Eng, NER, APEC Engineer, IntPE(Aus)
Managing Director and Principal Consultant
Logan Engineering Consulting (LEC) Pty Ltd
Mobile: +61 409 648 854
logan@loganeng.com

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L&T Metallurgical & Material Handling

*Larsen & Toubro Limited*
*Metallurgical & Material Handling*
*Godrej Water Side, Tower 2,*
*11th Floor, DP – 5, Sector V,*
*Salt lake City, Kolkata – 700091*

3rd April, 2015

## To Whom it may concern

Dear Sirs,

Sub: Equipment Design, Engineering and Supply Reference.

Larsen & Toubro Limited, India and M/s. Ashton Bulk Ltd., U.K. have a technical collaboration agreement relating to the engineering of specific lines of Material handling equipment since 2010. This letter is to confirm that under the collaboration agreement, the equipment type and quantities listed on the appended page and summarized below have been designed and engineered by Ashton Bulk as part of Larsen & Toubro supply and installation contracts.

| Sl. No. | Equipment Description | Quantity |
|---|---|---|
| 1. | Rotary Crescent ('C' Type) Tippler – Single Wagon * | 16 |
| 2 | Side Unloading Tippler – Single Wagon | 13 |
| 3 | Side Arm Charger - Train & Wagon Positioning | 32 |
| 4 | Wagon Traverser & Pusher | 7 |
| 5 | Ducking (Bypass) Tripper | 3 |
| 6 | Bucket Wheel Stacker Reclaimer – C Frame | 6 |
| 7 | Rotary Crescent ('C' Type) Tippler – Tandem Wagon | 2 |

Note: Tippler designs designated thus * are approved by Indian Railways as compliant with their Research Designs & Standards Organisation (RDSO) Technical Pamphlet G33 Revision 1.

These machines are in various stages of manufacture, commissioning, handover and operation. Equipment those are operational, are working satisfactorily and have achieved their required performance.

Yours faithfully,

For and on behalf of Larsen & Toubro Ltd

(DIPANKAR ROY)
Vice-President & Head
Corporate Centre – MMH IC

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# L&T Project & Customer Listing

**Updated:** Aug - 2016

| SL No. | Customer | Project | | | | | | |
|---|---|---|---|---|---|---|---|---|
| | | Crescent Rotary Tipplers | Side Arm Chargers | Traverser & Pusher | 'C' Frame Bucket Wheel Stacker Reclaimers (Up to 10,000tph) | Ducking Bypass Tripper for BW Stacker Reclaimers | Side Unloading Tipplers | Tandem Crescent Tipplers |
| 1 | TLS - RMHS 2 | | 3 | | | | | |
| 2 | Indiabulls Nashik I | | | 3 | | | | |
| 3 | Rajpura | 4 | 4 | | | 2 | | |
| 4 | Indiabulls Amravati II | 2 | 2 | 2 | | | | |
| 5 | GMR | 3 | 3 | 3 | | | | |
| 6 | Nighrie | 1 | 1 | | | | | |
| 7 | Bara | 4 | 4 | | | | | |
| 8 | Lalitpur | 4 | 4 | | | | | |
| 9 | Vizag | | | | 2 | | | |
| 10 | Parsekente | | | | | 1 | | |
| 11 | Chabra | | 4 | | | | 4 | |
| 12 | Dhamra II | | | | 4 | | | |
| 13 | Malwa II | | 2 | | | | 2 | |
| 14 | Kota* | | 2 | | | | 2 | |
| 15 | Suratgarh* | | 4 | | | | 4 | |
| 16 | DB Power* | | 2 | | | | 2 | |
| 17 | Batinda Refinery | | 1 | 1 | | | 1 | |
| 18 | Khargone | | | | | | 1 | |
| 19 | JSLP | | | | | | | 2 |
| 20 | NTPC Tanda | 1 | | | | | 3 | |
| 21 | 10,000 tph Stacker Reclaimer Development Project | | | | 1 | | | |
| | TOTAL MACHINES (excluding Development) | 19 | 36 | 9 | 6 | 3 | 19 | 2 |
| | | 94 | | | | | | |