Critical Issues Facing The Marine Terminal Industry: The Next Quarter Century

Jim Devine
Industry Consultant

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It’s a Long List!
Meet the Needs/Demands Of Customers while Maintaining Economic Viability

- Steamship Lines
- Trucking Companies
- Railroads
- Local Community
Critical Issues

What Do You Think?
Critical Issues, My List

1. Improved Worker Safety
2. Increased Terminal Capabilities
3. Labor Issues
4. Environmental Compliance
5. Port Authority Requirements
6. Chassis Availability
7. Shortage of Trucking Power
8. Required Infrastructure Support
9. Adequate Electrical Infrastructure
10. Security
11. Who Owns the Terminal
12. Sea Level Rise
Key Attributes Driving the Global Terminal Redevelopment

1. Improved Worker Safety

2. Increased Terminal Capabilities

3. Labor Issues

4. Environmental Compliance
Improved Worker Safety
Signal Mutual Indemnity Association LTD

Notes
1) A major injury is defined to be one where the total incurred loss >$100,000.
2) There were only 3 known fatalities in the stevedoring industry through 12 months.
3) The 2013/14 incident rate for all claims in the stevedoring industry through 12 months was approximately 1065 claims per 200,000 manhours.
4) The 2013/14 incident rate for major injuries in the stevedoring industry through 12 months was approximately 0.54 claims per 200,000 manhours.

<table>
<thead>
<tr>
<th>Region</th>
<th>Claim Counts</th>
<th>Major Injuries ex Fatalities</th>
<th>Number of Fatalities</th>
<th>Percent Major Ex Fatalities</th>
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<tr>
<td>Northeast</td>
<td>642</td>
<td>30</td>
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<td>0</td>
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<td>1</td>
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<tr>
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<td>51</td>
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<tr>
<td><strong>Total</strong></td>
<td><strong>2238</strong></td>
<td><strong>113</strong></td>
<td><strong>3</strong></td>
<td><strong>5.0%</strong></td>
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Increased Terminal Capability

Typical Container Storage Density per Acre of Yard Storage(*) for various Modes of Operation at Marine Container Terminals

- Containers on Chassis (“wheeled”) 60
- Top Handler/Reach Stacker 150
- Straddle Carrier 225
- Rubber Tired Gantry Crane (“RTG”) 240
- Rail Mounted Gantry Crane (“RMG”) 360

(*)based on standard 40-foot long container
Labor Issues

- Needed to Improve their Safety
- Needed to Improve their Productivity
- Needed to Improve Terminal Efficiency
What Is/Was
What Is/Was
Environmental Issues

Five Acres of Wetlands;
Two Acres of Open Water
Issue Resolved

One year—Approximately $5 mil
In Permitting and Mitigation

2012
Grand Opening Summer 2014
Global Terminal Bayonne
Fact Sheet

• 100 Acres to 170 Acres
• Four Years to Build—2010 to 2014
• Project Cost Approximately $325 mil
  – Civil Works—$85 mil
  – Equipment—$110 mil
  – IT—$25.5 mil
  – 900ft Berth Extension—$100 mil
  – Environmental—$5 mil
• Characteristics of RMG Expansion
  – 10 RMG Stacks
  – 20 RMG Cranes
  – Stacks 9 Wide, 1 over 5, 37 TEUs in Length
  – Approximately 2.5 Acres each
  – Design Capacity—66,000 per year, per stack
Global Terminal Bayonne

Fact Sheet Continued

- **Project Suppliers**
  - Navis—N4 TOS
  - Nascent—Gate Design and Hardware
  - Now Solutions—GPS
  - APS—Ship to Shore OCR
  - Cisco—Network Background
  - Fidelity Comtect—Vehicle Wireless
Next Generation
Next Generation
Next Generation
Next Generation
Next Generation
Next Generation
Next Generation
Next Generation
Next Generation
Sea Level Rise
History is littered with examples of those who failed to adapt to new operating environments.