Facilities Engineering Seminar
Panel V: Equipment, Automation & Operation
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Marine Terminal Innovations at Maher Terminals, Elizabeth, NJ
Presentation

- Reconstruction Overview
- Paperless Gate Facilities
- Grounded Reefer Plugs
- Skybridges
Terminal Reconstruction

- Involves Combining Two Discontinuous Terminals Into One Complete Terminal.
- Once Complete, The New Terminal will Cover Approx. 450 Acres in Area.
Consolidated Terminal

- About 35 Separate Projects
- 10,000 Feet of Contiguous Berth
- New Grades, Paving, and Utilities
- Remodeled Office Space
- New Maintenance Facility
Contiguous Berth
OCR Paperless Gate System
Gate System

- SAIC Technology for Data Collection
- Direct Interface with the MTLS Container Terminal Management System
- CBP RPM System Directly Integrated
Paperless Gate System Benefits

- Increase Gate Moves Per Hour
- Decrease Trucks’ Turnaround-times
- Increase Throughput And Overall Terminal Efficiency
- Reduce Idling Time - Improve Environmental Performance
- Increase Manpower Efficiency, Thereby Reducing Operating Costs
- Improves Security
Gate Flow
Gate Infrastructure

- Included The Following Work Elements:
  - Pavement Reconstruction/Overlay, Grading, And Drainage
  - Lighting and Fire Protection
  - Hundreds of Foundations
  - Thousands Of Feet Of New Duct Bank, Consisting Of Single Conduit Banks To Duct Banks Of Over 40 Conduits
  - Extension Of Site Electrical System
  - Canopy Structures
  - CEV Buildings
Reliability

- Fully Redundant
  - Equipment is Doubled at Portals
  - Two Dedicated Substations And Backup Generators
  - Multiple Servers and UPS Required Controlled Environment (CEV Buildings)
Integrated RPM

- Integrated RPM System
- Downstream Side of Outbound Portals
- Double System for Increased Velocity and Redundancy
- Driver Directed to Secondary Screening at Outbound Lanes
Grounded Reefer Plugs

1200 Grounded Reefer Slots
Grounded Reefer Slots

- Reefer Outlet Poles
  - Two Rows of Poles separated by Access Roadway
  - 6 Outlets per Pole

- Served by Bucket Truck
- Can Access 12 Receptacles from One Set-Up
Grounded Reefer Slots
Grounded Reefer Slots

- LED Lights Indicate Connection Status to Operator
- Strobe Signals Power Loss

- Much Lower Initial Capital Cost
- More Efficient Use of Manpower
Straddle Carrier Skybridges

Marine Buildings with Skybridge Parking for Strads
Straddle Carrier Skybridges

- Skybridges Allow Operators to Climb Stairs in Buildings to Access Straddle Carriers
- Up to 20 Strads can Stage at One Skybridge
- Significant Loss-Time-Injury Rate Associated With Scaling Straddle Carriers
- Increased Efficiency At Operator Breaks
Thank You