“Environmental Challenges from Cargo Growth At The Port Of New York and New Jersey”

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Port Authority Marine Terminals

New York:

• Brooklyn PA Marine Terminal
• Red Hook Container Terminal
• Howland Hook Marine Terminal

New Jersey:

• Port Newark
• Elizabeth PA Marine Terminal
• PA Auto Marine Terminal
Port of New York and New Jersey

- Third largest in US
- Landlord port, 3000 acres, 120 tenants
  - Containers, Autos, Bulks, Warehouses
- 2006: 5.1M TEU, 7% increase
- Projected cargo at 7% growth rate
  - 2010: 6.4M TEU
  - 2016: 10.0M TEU
- Economic engine: 233,000 jobs, $12B wages, $6B in taxes
- Triple Bottom Line
  - Regional Prosperity + Financial Return + Environment and Security
Our Approach

Proactive Environmental Strategy

- Comply with all regulations.
- Incorporate Sustainable Design into development
- Exceed all mitigation requirements associated with development.
- Undertake Voluntary Green Initiatives to address Environmental Impacts of Port Operations.
What We Are Doing to Handle Growth – Waterside

Harbor Deepening Project
• Deepening Key Channels to 50’ to accommodate larger ships
• Completion of all channels to 50’ by 2014

Environmental Challenges
• Air Quality
• Loss of Wetlands
• Managing Dredged Material
Case Study Addressing Growth - Waterside

Actions to reduce Air Emissions:

- Developed Harbor Air Management Plan
  - Retrofit Staten Island Ferry Fleet
  - Replace Engines on Marine Vessels

Results: Generate over 400 tons/yr of NOx Reduction, which is expected to double by 2009 and continue well beyond HDP completion.
Staten Island Ferry Barberi in Drydock for Engine Retrofit
Case Study Addressing Growth – Waterside Cont.

Actions to reduce Wetland Loss:

• Wetland Creation and Enhancement:
  1. Medwick Park, Carteret, NJ
  2. Woodbridge Creek Ecosystem Restoration, Woodbridge, NJ
  3. Salt Marsh Mitigation at Keyspan, Staten Island, NY
  4. Elders Island Restoration, Jamaica Bay, Queens, NY
Woodbridge Creek Ecosystem Restoration, Woodbridge, NJ
Elders Island Restoration, Jamaica Bay, Queens, NY.
Case Study Addressing Growth – Waterside Cont.

Beneficial Reuse of Dredged Material:
- Creation of Artificial Reefs
- Shoreline Stabilization
- Brownfield Site Remediation
- Cap Historic Area Remediation Site
What We Are Doing to Handle Growth – Land Side

• Rail Enhancement:
  - $530M infrastructure – 1M lift capacity 2009
  - $50M to NY and NJ for Rail Improvements
  - On Dock Rail- Elizabeth, Newark, Staten Island
  - Expanded Support Yard – Accommodate 2 mile train
  - Reactivation of Staten Island RR and Arthur Kill Lift Bridge

• Virtual Container Yard ($100K)
• Infrastructure for Electric Cranes
• Promoting SmartWay Partnership
Chemical Coast North Connector - Development Program
What our Tenants Are Doing to Handle Growth – Land Side

Marine Tenant Actions:

• Installed Electric Cranes
• Reoriented Footprints
• Installed Electronic Gates
• Extended gate hours
• Modernized CHE: Over 30% Reduction across all pollutants
• Ultra Low Sulfur Fuel for Non-road Equipment
• Use of CNG, Propane and Electrical Forklifts
Installed Electrical Cranes
Additional Environmental Stewardship Programs

Harbor Restoration
- $60M Environmental Site Acquisition & Preservation
- $9M Hudson-Raritan Estuary Restoration Project
- Wetland Creation
- $31M Contaminant Studies and Reduction Strategies
- Harbor Roundtable

Portfields
- Warehouse/DC

Green Port Program
- EMS, Green Practices Task Force, Tenant Training
Challenges (Issues that we have No Direct Control)

- Capacity of Off Port Road and Rail Network
- Emissions From Regional Trucks
- Emissions From Vessels Calling Port
- Emissions From Terminal Operations (Tenants)
The End

- Environmental Aspect To Everything We Do
- Concepts From EMS
- Partnerships Successful
  - HAMP, Wetlands, Rail
- Environmental & Business Goals Not Mutually Exclusive
  - CHE
  - Electric Cranes