America’s front door.
We make a big world smaller.

Superstorm Sandy
The Experience of The Port Authority of New York and New Jersey

December 7, 2012

American Association of Port Authorities
We wish to thank you for your patience as the port recovered from Hurricane Sandy, and express our gratitude to the entire New York and New Jersey port community for its extraordinary effort in bringing this vital resource back on line.

THE PORT AUTHORITY OF NY & NJ
2012 - Year of Disruptions
Port Authority of NY & NJ

Responsible for
Airports
Tunnels & Bridges
PATH
Port of NY & NJ
World Trade Center

Established in 1921 by an act of US Congress

Financially self-supporting through user fees and bond issues.

Landlord Port

Board of Commissioners chosen by Governors of NY(6) and NJ(6)
• Notification to tenants began Thursday, Oct. 25 (USCG Sector NY Hurricane/Severe Weather Plan + PA’s Emergency Op’s. Plan)

• PA Emergency Operations Center activated on Oct. 28

• Until Sunday, Oct. 28th, there was a false sense of security

• Oct. 28 National Weather Service briefing indicated surge of 6-11’ above normal high tide

  ▪ PA decision to close terminals to all but essential personnel by 2359 hours

• Mon - Oct. 29 – 1200 hours --- all tenant personnel and PA contract security ordered off port; Port Commerce and PAPD staff vacated at 1915 hours (just prior to surge)

• Mon., Oct 29 – 2000 hours --- NOAA reported water levels at the Battery and Bergen Point @ 9-10’ above MHW; winds @ 80-90 mph; surge 13 -14’.
During the Storm

- Not much could be done
- Keep staff safe
- Hunker down
Damages Incurred

• Extensive infrastructure damage
  - Flooding (Water level in buildings @ 3-5’)
  - Utilities --- general commercial power, motors, controllers
  - Sewage/fire pump motors and controllers
  - Loss of rail relays and switches
  - Security fencing and guard booths destroyed
  - Damage to cranes and cargo handling equipment
  - Debris in roadways, channels and berths
  - Road and rail track damage
  - Total loss of rail car float and rail transfer bridge at Greenville

• Cargo impacts
  - Toppled container stacks
  - Lost containers
  - Autos destroyed by flooding and fire

• Cruise Passenger Auto Damages
Container Terminals
Crane Wheel Motor Housings
Typical Fence Line Damage
Red Hook Barge “New York”
Sitting on Berth 6
Fence / Rail Damage
Port Newark
Chassis Took a Huge Hit
Port Drayage Trucks
Auto Damage
Access Road at Port Jersey
Greenville Yards Jersey City
Cross Harbor Rail Car Float Broken in Half
International Motor Freight
Empty Container Depot
Empty Container Depot
November 7 Nor’easter
Estimated Diversions

- 57 vessels diverted to other US East Coast ports
- Estimated cargo lost:
  - Containers = 15,000
  - Autos = 9,000
- 1 cruise ship diverted from PA’s Brooklyn Cruise Terminal to the Manhattan Cruise Terminal.
Recovery Timeline

• Tues, Oct. 30 - Assessment, response, recovery and restoration begins

• Friday, Nov. 2 – USCG re-opens Port to deep draft commercial traffic

• Friday, Nov. 2 - First vessel arrival at PA facilities = *Brilliance of the Seas at Cape Liberty*

• Sat. Nov. 3 - Power restored at Elizabeth

• Sun. Nov. 4 – Maher / APM work 5 vessels

• Mon. Nov. 5 – Truck gates at all container terminals opened for business

• Mon./Tues. Nov. 5 & 6 – All remaining container terminals work their first vessels
Estimated Costs

Operating Costs
- To date: $1.4m
- Anticipated additional: $3.7m

Lost Revenue from Port Operations
- $1.2m (2012 + 2013)
- Anticipated additional: $390,000 every 3 months Cross Harbor Rail operation is out of service.

Capital Costs
- Range = $34m - $52m
What Will We Do Differently?

- Future builds based on cost-benefit considerations.
- Evaluate localized power/electric stations fueled by natural gas and/or diesel to service key infrastructure.
- Relocate overhead electric lines to underground duct banks.
- Evaluate vertical parking structures.
- Protect pump stations and other fire protection systems from flooding.
- Consider increasing elevations of port facilities under development.
What Will We Do Differently? (cont’d.)

• Develop contingency plans for moving goods, supplies and materials throughout region when road/rail/air/port facilities are compromised

• We are working to adjust capital plans to:
  - Fast-track improvements to drainage/sewage/fire protection systems; pump houses, electric substations and electric components – upgrade where necessary
  - Design redundant power and communications systems
  - Re-evaluate design criteria using latest storm recurrence intervals, storm surge levels, wind and wave data

• We will harden our facilities and invest wisely!
Lessons Learned

• Having a good communications plan and emergency communications infrastructure in place is critical.

• Provide sufficient advance information and industry will respond.

• Qualifications of personnel responding to assist in recovery is more important than the number responding.

• Emergency broadcast messages must be concise enough for both email and text formats.

• Availability of traffic/street lights is critical to recovery — work can be done on 24-hour basis vs. daylight hours only.

• Document baseline power requirements for each facility and each tenant beforehand — will facilitate procurement of temporary generators.
THE PORT OF NY & NJ IS OPEN FOR BUSINESS.

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