



## **Impacts of Super Storm Sandy on The Port of New York and New Jersey**

**May 7, 2013**

**IAPH**

**World Ports Conference**



# 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)



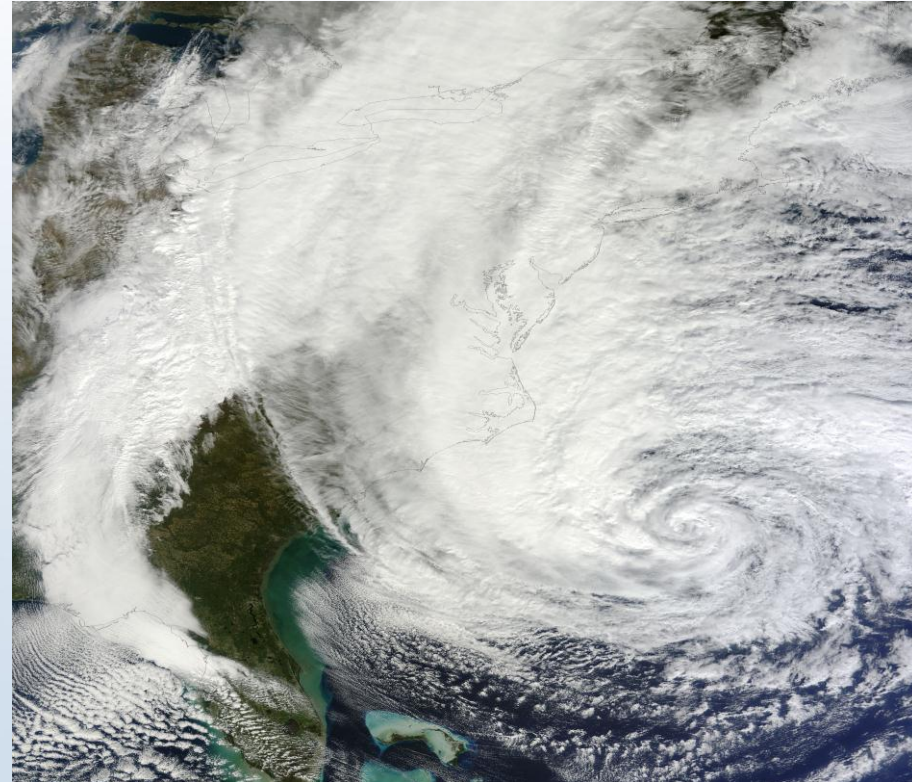
## Super Storm Sandy was Unique

- Took a dramatic left turn
- Mixed with a frontal system
- Hit just North of Atlantic City NJ as a post-tropical cyclone with hurricane force winds
- Came very late in the season



# Port Authority of NY & NJ

- **Largest Atlantic storm in history**
- **1,100miles across affecting 24 states**
- **Peak storm surge occurred at high tide and created a 13.8 ft water level rise above mean low water**
- **Did over \$75B in damage in the region**





# Preparation

- 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. 28<sup>th</sup>, 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'.

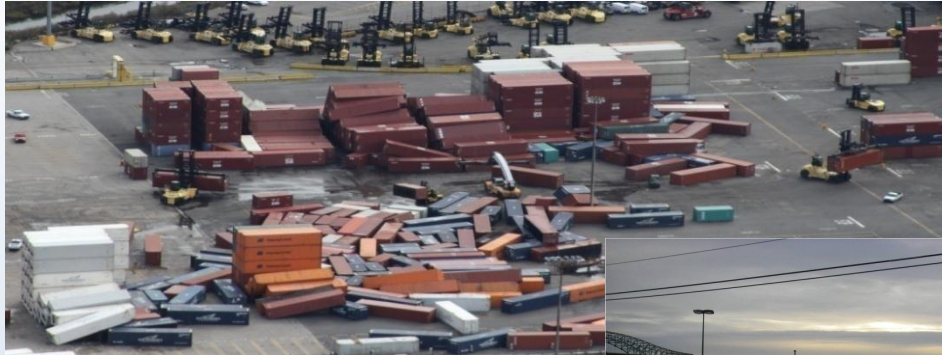


# During the Storm

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



# Sandy's Aftermath



# 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





# The Access Road at Port Jersey Point



# Greenville Yards Jersey City



# Rail Car Float Broken in Half



# 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 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.



# November 7 Nor'easter



# What We Learned

- We can do a better job protecting some critical infrastructure but will not be able to prevent all threats
- Fuel and Electrical Power were key to restoration
- Keeping all personnel out of harms way until after the storm allowed us to quickly get refocused and response was effective
- Communications with other government agencies, tenants and our own work force was vital
- Effective control over the port by Port Authority Police resulted in no deaths or serious injuries and no criminal activity during restoration
- Hurricane Plans, based on previous sever weather events were useful and will be updated.



# Next Steps

- Repair, Restore, Replace actual damage
- Undertake certain mitigation measures now
- Take a long term view with Resiliency as our goal
  - Work with Regional, State and Federal Agencies
  - Take advantage of outside resources
  - Establish Agency Steering Committee
  - Prioritize projects and integrate into future operating and capital budgets





# RESILIENCE

