

Maritime Transportation System Recovery, and Hurricane Sandy Lessons Learned





Marine Transportation System Recovery

- **Nationally, the MTS is composed of approximately:**
 - 25,000 miles of navigable channels and rivers;
 - Over 3,700 Marine Facilities;
 - Over 1,400 Intermodal Connections;
 - Over 90,000 Aids to Navigation;
 - Link for over 174,000 miles of railway and 45,000 miles of interstate highways;
 - \$649 Billion to U.S. GDP and 13 million jobs;
 - Major Ports (LA/LB; New York; Houston/Galveston) could lose \$9.3 – \$21 Million PER DAY if closed.





What is MTS Recovery?

- MTS Recovery – Returning MTS infrastructure to a status that allows resumption of commerce to “near normal”.
- Recovery begins during the Response phase and continues into the initial part of the Restoration phase (usually 3-90 days in duration)
- Includes structural measures, e.g. ATON replacement or channel clearance
- Includes non-structural measures, e.g. COTP orders and emergency regulations
- Accomplished through activities and resources controlled by Coast Guard, other agencies and maritime industry partners





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MTS Recovery Strategic Guidance

- Maritime Transportation Security Act 2002
- National Security Presidential Directive 41/Homeland Security Presidential Directive 13 (Dec 2004)
- National Strategy for Maritime Security (Apr 2005)
- Maritime Infrastructure Recovery Plan (Apr 2006)
- Security and Accountability for Every Port (Safe Port Act) of 2006
- Strategy to Enhance International Supply Chain Security (Jul 2007)
- CBP/USCG Joint Protocols for the Expeditious Recovery of Trade





COAST GUARD MTS RECOVERY GUIDANCE

Commandant Instruction 16000.28 (series), MTS
Recovery and Resumption of Trade

Atlantic Area Instruction 16001.1 (series), Marine
Transportation System Recovery

D1 Instruction 160001.1, Marine Transportation System
Recovery



U.S. COAST GUARD



Atlantic Area SOP MTS Recovery

Atlantic Area SOP, MTS Recovery

Defines CG and ICS organizational roles and responsibilities for MTS recovery

Establishes information requirements to facilitate the reporting of MTS status and MTS recovery decision making



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Atlantic Area SOP, MTS Recovery (Cont)

Provides process and procedures for determining incident impact to the MTS and for facilitating the resumption of commerce following a Transportation Security Incident, or other significant marine transportation incident of significant threat

Provides guidance on tools available to assist personnel involved in MTS recovery activities

Provides guidance for the use of the Common Assessment and Reporting Tool (CART) application, the primary means of documenting and reporting MTS recovery status for transportation disruptions





CGDONEINST 16001.1

The D1 MTS instruction provides additional guidance and tasks for Sectors and District MTSRUs that are not covered in other instructions.





CGD ONEINST 16001.1

- District MTSRU will consist of four CG members which can be filled from members of both sector and District MTSRU
- District and Sector shall pre-identify two personnel for possible deployments to other sectors or districts for MTS recovery support during an MTS disruption





CGDONEINST 16001.1

- Sector MTSRUs will have at least four members on their team including the MTSRU leader.
- Sector MTSRU Leaders shall provide updated personnel lists to the District MTSRU coordinator annually in the second quarter of each fiscal year.
- District and Sectors need to maintain open lines of communications to better facilitate recovery of the MTS



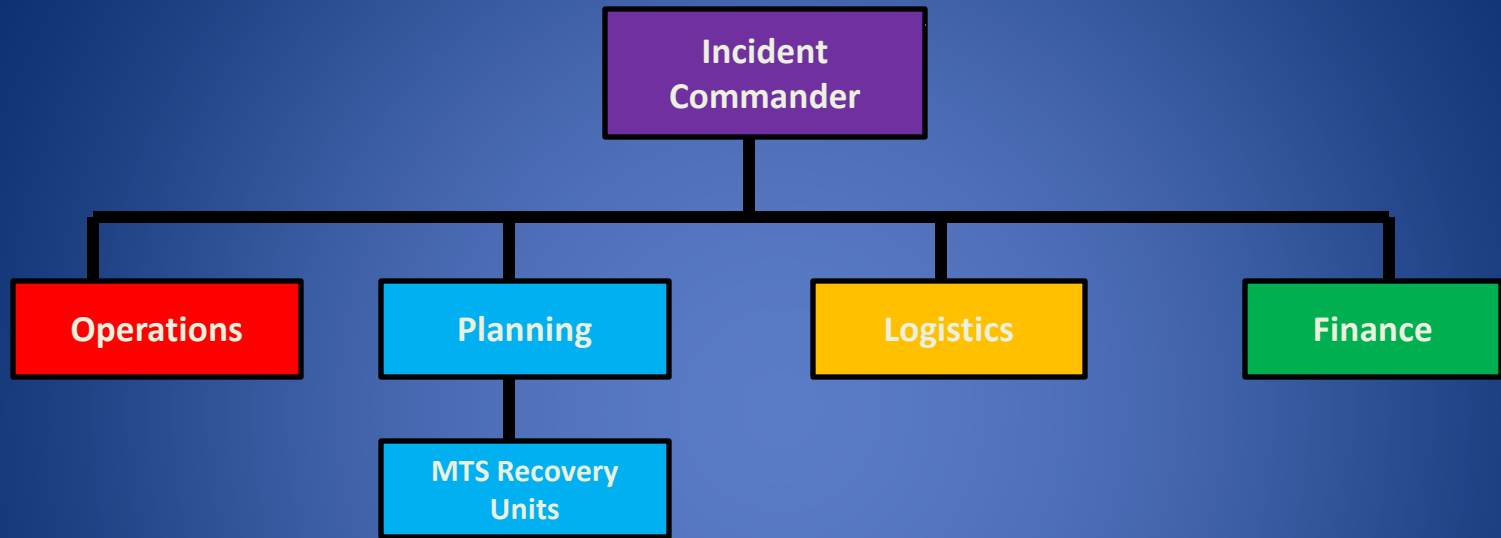


CGD ONEINST 16001.1

- During an incident the MTSRU leader will conduct daily port status teleconferences with MTS stakeholders. The District MTSRU Leader will participate in these conferences to obtain updated information for District briefs.
- Sectors shall conduct MTS recovery planning in conjunction with appropriate port partners and shall exercise the MTSRU and MTS recovery capabilities annually either as standalone exercises or as part of AMS /PREP exercises.



Marine Transportation System Recovery



MTS Recovery in the Incident Command System (ICS)

Training and Qualification for Marine Transportation Recovery
Leader Type-3 Incidents (MTSL-3)

Type 1 & 2 Incident Qualifications



Marine Transportation System Recovery

- **Purpose of MTSRUs:**
 - To provide guidance to facilitate the recovery of the Marine Transportation System (MTS) following a significant transportation disruption.
 - A unit of the Planning Section of the Incident Command System (ICS) established for every incident that significantly disrupts the MTS.
 - This unit is primarily staffed by government personnel and augmented by local maritime industry expertise.



CG Members set priorities for vessel traffic movement, July 2008, at the MTSRU in New Orleans.



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CART

Common Assessment & Reporting Tool





Server maintenance may be performed on a weekly basis on Thursdays between the hours of 2000-2300 ET. There may be a brief interruption of service occasionally during this time. Every effort will be made to minimize any interruption of service.

Welcome to the Marine Transportation System Recovery Common Assessment and Reporting Tool.

Please enter your Username and Password. If you have problems logging in, please contact the administrator.

Username:

Password:

Login

Register

Recover Password

The inclusion of proprietary and personally identifiable information is NOT authorized. Inappropriate material is subject to removal by the CART Program Sponsor.

WE ARE CURRENTLY EXPERIENCING DIFFICULTIES WITH USER REGISTRATION. UNTIL A SOLUTION TO THE ISSUE IS FOUND, NEWLY REGISTERING USERS MAY NEED TO ATTEMPT REGISTRATION MULTIPLE TIMES BEFORE A SUCCESSFUL REQUEST IS SUBMITTED.

CART ACCESS AND/OR SERVICE HAS BEEN RESTORED WITH THE FOLLOWING LIMITATIONS:

1. DURING INITIAL EVENT CREATION ONLY: USERS SHOULD NOT ADD MORE THAN 150 EEIs. EXCEEDING THIS LIMIT MAY RESULT IN TIME-OUT ERROR. TO SATISFY USER NEEDS, EEI ADDITIONS TO EXISTING EVENTS CAN BE MADE WITH A MAXIMUM OF 150 EEIs PER UPDATE (AS MANY TIMES AS NECESSARY TO SATISFY REPORTING REQUIREMENTS).

2. HTML EXECUTIVE SUMMARY REPORTS: THERE IS A CODE/TEXT "WRITE OVER" ERROR THAT APPEARS ON THE EEI AVAILABILITY TABLE WHEN...



Active Events Navigation

Active Events Actions

Active Events

Name	Summary	Location	Start Date	End Date
Sector Ohio Valley MTS Status Report 2011	Event created to enable baseline report to be established.	Sector Ohio Valley	10/1/2009	
Sector LA-LB Port Status	Event created to establish baseline reporting	Sector LA-LB	8/2/2010	
Sector Hampton Roads Port Status	Event created to establish baseline report brief.	Portsmouth, Va	8/11/2010	
Sector Puget Sound Port Status	Event created to establish baseline reporting	Puget Sound AOR	9/16/2010	
Baseline Data Sector Charleston	Event created for Sector Charleston Baseline Data	Sector Charleston, SC	12/7/2010	
Sector Lake Michigan Port Status	SLM Marine Transportation System	Sector Lake Michigan AOR	1/24/2011	
Sector Jacksonville Baseline Event	Event created to establish baseline reporting of EEIs in Sector Jacksonville AOR.	Sector Jacksonville	1/26/2011	
EXERCISE-SECTOR MIAMI COOP-EXERCISE	Hurricane Kathleen, CAT 3 storm hits Dinner Key, just south of the Port of Miami. 15APR2011 0900-Preliminary damage assessment conducted from overflight by Sector Command: 1.One of the container cranes has collapsed at POMTOC facility in the Port of Miami. No injuries reported. 2.Numerous containers are scattered throughout the POM, including several floating in the water and partially submerged. Contents of containers and HAZMAT is unknown. 3.The SE 2nd Ave Bridge appears damages and a co...	Southeast Florida (Sector Miami AOR)	4/15/2011	
EXERCISE*** MSD	MSD Cincinnati is participating in a State and local EMA exercise. This is in conjunction with the NLE	Southwest Ohio,		

Marine Transportation System Recovery

- **Essential Elements of Information (EEIs)**
- **22 EEIs grouped in 5 categories:**
 - Waterways and Navigation Systems
 - Port Area - Critical Infrastructure
 - Port Area – Vessels
 - Offshore Energy
 - Monitoring Systems
- **EEIs within CART events are characterized in 1 of 3 categories—**
 - Fully Available (FA)
 - Partially Available (PA)
 - Not Available (NA)
- **Text block to identify what factors contribute to the EEI being partially or not available.**
 - Example:
 - Critical ATON off-station;
 - Bridge is stuck down restricting waterway traffic.



Marine Transportation System Recovery

- **Executive Summary Reports—**
 - CART allows users to generate standard incident reports for all registered events
 - Roll-up Options—District, Sector, COTP, MSU
 - Report Formats—HTML, PDF, XML
 - Report Sections—Port Status, Summary, EEI details, EEI trends





Baseline Data Navigation
» Create New EEI Instance
Baseline Data Actions

Baseline Data ⓘ
+ Add new EEI instance
Show: District One New York - All COTP Zones - - All MSUs - Deep Draft Channel

		Instance Name	Eei Type	Sector
✕	Details	Raritan Bay Reach	Deep Draft Channel	New York
✕	Details	Ward Point Secondary Channel	Deep Draft Channel	New York
✕	Details	Raritan River Cutoff	Deep Draft Channel	New York
✕	Details	Raritan River	Deep Draft Channel	New York
✕	Details	Bay Ridge Channel	Deep Draft Channel	New York
✕	Details	Buttermilk Channel	Deep Draft Channel	New York
✕	Details	New Jersey Pierhead Channel	Deep Draft Channel	New York
✕	Details	Bayonne Terminal Channel	Deep Draft Channel	New York
✕	Details	Newark Bay Channel	Deep Draft Channel	New York
✕	Details	Port Elizabeth Channel	Deep Draft Channel	New York
✕	Details	Claremont Terminal Channel	Deep Draft Channel	New York
✕	Details	National Dock Channel	Deep Draft Channel	New York
✕	Details	Port Newark Pierhead Channel	Deep Draft Channel	New York
✕	Details	Lower Hudson River	Deep Draft Channel	New York
✕	Details	Middle Hudson River	Deep Draft Channel	New York

MTS Executive Summary (MTS - 209)

D1 Hurricane Sandy, Sectors NNE, Boston, SENE, LIS, New York Executive Summary

Incident Name: D1 Hurricane Sandy
Location: Sectors NNE, Boston, SENE, LIS, New York
Sector(s): Boston , Long Island, Southeast New England, New York, Northern New England
COTP Zone(s): Boston , Long Island, Southeast New England, New York, Northern New England
MSU(s):
Start Date: 10/26/2012
End Date: 12/20/2012

Incident Summary:

14 Nov 12 - 0800: Recovery from SANDY continues. SEC NY continues to conduct facility assessments. The Port of New York is open to all commercial vessel traffic, with the following restrictions: the Arthur Kill Channel, south of the Goethals Bridge, is limited to no-wake operation due to pollution incident work. Recreational vessel traffic restrictions are noted in the Port of New York Port Status tab. Electrical power restoration continues throughout the AOR, however, many facilities remain affected due to various reasons (i.e., loss of electrical power, flooding and damage). Facilities continue repairs and preparations to bring themselves online. There are no critical ATON discrepancies. Point Judith and Old Harbor affected for recreational vessel traffic due to ATON discrepancies. Point Judith Harbor and Harbor of Refuge is open during daylight hours only allowing the commercial fishing fleet to put to sea and ferries with COTP waivers.



Baseline Data Navigation

[» Create New EEI Instance](#)

Baseline Data Actions

Baseline Data

[+ Add new EEI instance](#)

Show:

District One

New York

- All COTP Zones -

- All MSUs -

Bulk Liquid Facilities

		Instance Name	Eei Type	Sector
	Details	Phillips 66 Bayway (Formerly Conoco Phillips Bayway)	Bulk Liquid Facilities	New York
	Details	Hess Corp Second Reserve (Port Reading)	Bulk Liquid Facilities	New York
	Details	Kuehne Chemical Company Inc.	Bulk Liquid Facilities	New York
	Details	Buckeye Perth Amboy (Formerly CHEVRON)	Bulk Liquid Facilities	New York
	Details	IMTT Bayonne	Bulk Liquid Facilities	New York
	Details	Hess Corp. Roseton Terminal	Bulk Liquid Facilities	New York
	Details	Hess First Reserve AKA Hess Perth Amboy	Bulk Liquid Facilities	New York
	Details	GenOn Sayreville Power PL (Formerly Reliant)	Bulk Liquid Facilities	New York
	Details	GenOn Werner Power Plant (Formerly Reliant)	Bulk Liquid Facilities	New York
	Details	Kinder Morgan (Perth Amboy), LLC.	Bulk Liquid Facilities	New York
	Details	HESS Bronx (Formerly Stuyvesant Fuel Terminal CO. LLC)	Bulk Liquid Facilities	New York
	Details	Motiva Enterprises Sewaren	Bulk Liquid Facilities	New York
	Details	Kinder Morgan Staten Island	Bulk Liquid Facilities	New York
	Details	PSEG Sewaren Generating Station	Bulk Liquid Facilities	New York
	Details	Bayside Fuel Oil Shore Parkway	Bulk Liquid Facilities	New York

Marine Transportation System Recovery

MTS Executive Summary (MTS - 209)

Deepwater Horizon oil spill, Mississippi Canyon 252 Executive Summary

Incident Name: Deepwater Horizon oil spill
Location: Mississippi Canyon 252
Sector(s): Mobile, New Orleans
COTP Zone(s): Mobile, New Orleans, Morgan City
MSU(s): Sector New Orleans, MSU Baton Rouge, MSU Morgan City, MSU Houma
Start Date: 04/28/2010
End Date: N/A
Incident Summary:
 Oil cleanup is ongoing as a result of the explosion of the Deepwater Horizon offshore drilling unit.

SAVANNAH

Recovery - Open

The Port of Savannah remains open with no restrictions. All facilities operational as normal. No reported sightings of oil/sheen within the port.

Latest updated: 05/05/2010

SAN JUAN

Recovery - Open

The Port of San Juan remains open with no restrictions. All facilities operational as normal. No reported sightings of oil/sheen within the port.

Latest updated: 05/05/2010

TAMPA

Recovery - Open

The Port of Tampa remains open with no restrictions. All facilities operational as normal. No reported sightings of oil/sheen within the port. The Port of St. Petersburg remains open with no restrictions. All facilities operational as normal. No reported sightings of oil/sheen within the port. The Port of Manatee remains open with no restrictions. All facilities operational as normal. No reported sightings of oil/sheen within the port. COTP Issued MSIB applicable to arriving vessels transiting from areas affected by the oil spill.

Latest updated: 05/07/2010

PORT EVERGLADES

Recovery - Open

Port Everglades remains open with no restrictions. All facilities operational as normal. No reported sightings of oil/sheen within the port.

Latest updated: 05/07/2010

CHARLESTON

Recovery - Open

The Port of Charleston remains open with no restrictions. All facilities operational as normal. No reported sightings of oil/sheen within the port.

Latest updated: 05/11/2010

KEY WEST

Recovery - Open

The Port of Key West remains open with no restrictions. All facilities operational as normal. No reported sightings of oil/sheen within the port. COTP Key West issued MSIB applicable to arriving vessels transiting from areas affected by the oil spill.

Latest updated: 05/19/2010

JACKSONVILLE

Recovery - Open

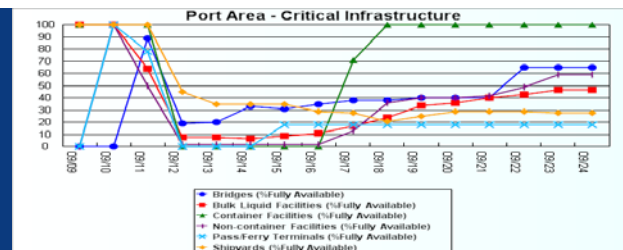
The Port of Jacksonville remains open with no restrictions. All facilities operational as normal. No reported sightings of oil/sheen within the port.

Latest updated: 05/24/2010

Latest updated: 05/02/2010

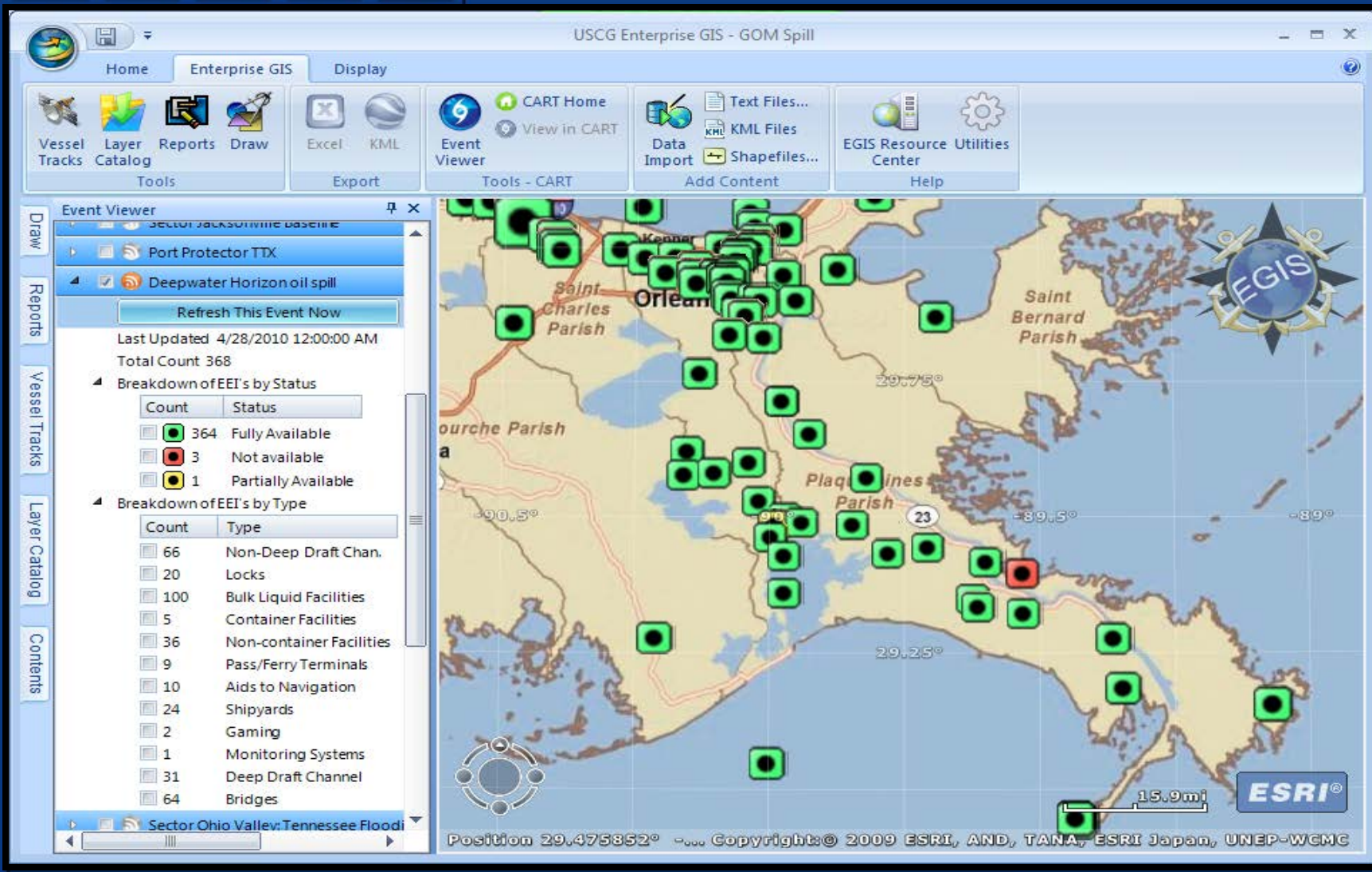
EEI	Base	FA	PA	NA	Comment
Waterways and Navigation Systems					
Aids to Navigation	10	10	0	0	
Deep Draft Channel	31	31	0	0	
Non-Deep Draft Chan.	66	63	1	2	
Locks	20	19	0	1	
Vessel Salvage/Wrecks	-	-	-	-	
Oil Pollution Incidents	-	-	-	-	
HAZMAT Incidents	-	-	-	-	
Port Area - Critical Infrastructure					
Bridges	64	64	0	0	
Bulk Liquid Facilities	100	100	0	0	
Container Facilities	5	5	0	0	
Non-container Facilities	36	36	0	0	
Shipyards	24	24	0	0	
Pass/Ferry Terminals	9	9	0	0	
Barge Fleet Areas	-	-	-	-	
Port Area - Vessels					
Passenger and Ferries	-	-	-	-	
Gaming	2	2	0	0	
Commercial Fishing (total available)	Pre Incident	-	Current	-	
Small Passenger (total available)	Pre Incident	-	Current	-	
Barge Traffic (total available)	Pre Incident	-	Current	-	
Offshore Energy					
Offshore Platforms	-	-	-	-	
Offshore Production (liquid hydrocarbons) bbl/day	Pre Incident	-	Current	-	
Offshore Production (natural gas) mcf/day	Pre Incident	-	Current	-	
Offshore Renewable Energy Installations	-	-	-	-	
Offshore Platforms (Top 100 Producers GOM)	-	-	-	-	
Monitoring Systems					
Monitoring Systems	1	1	0	0	

Base = Baseline (pre-incident number) [FA = Fully Available PA = Partially Available NA = Not available] [*Case Opened **Case Investigated ***Case Closed] [Alpha ** Bravo ** Charlie] [Alpha ** Bravo ** Charlie]



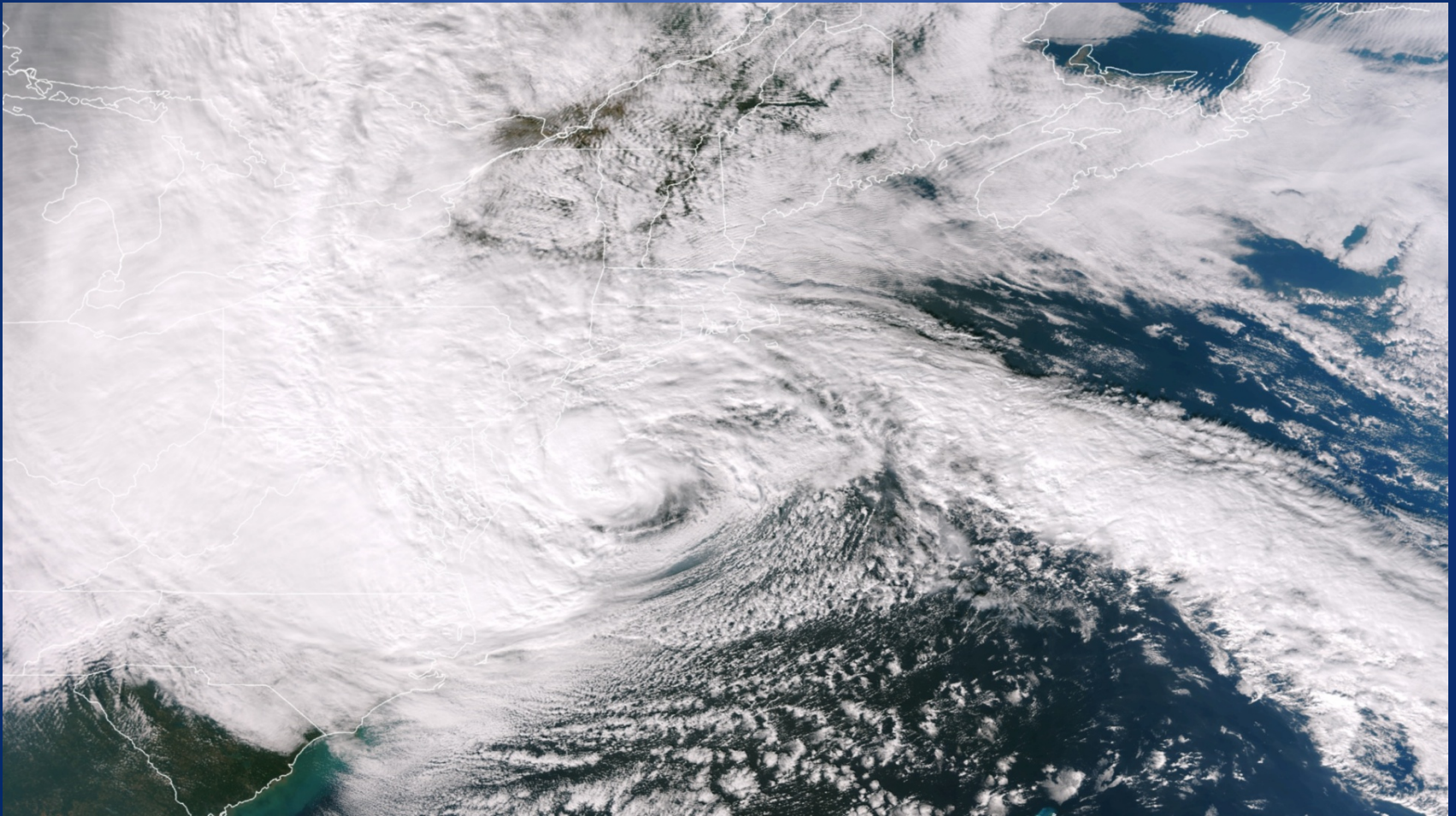
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Marine Transportation System Recovery



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Hurricane Sandy, October 29, 2012



Sector NY Maritime Transportation Recovery Unit



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**

Access Road Port New Jersey



Red Hook Barge “New York” sitting on Berth Number 6



Port of NY/NJ Container Terminal





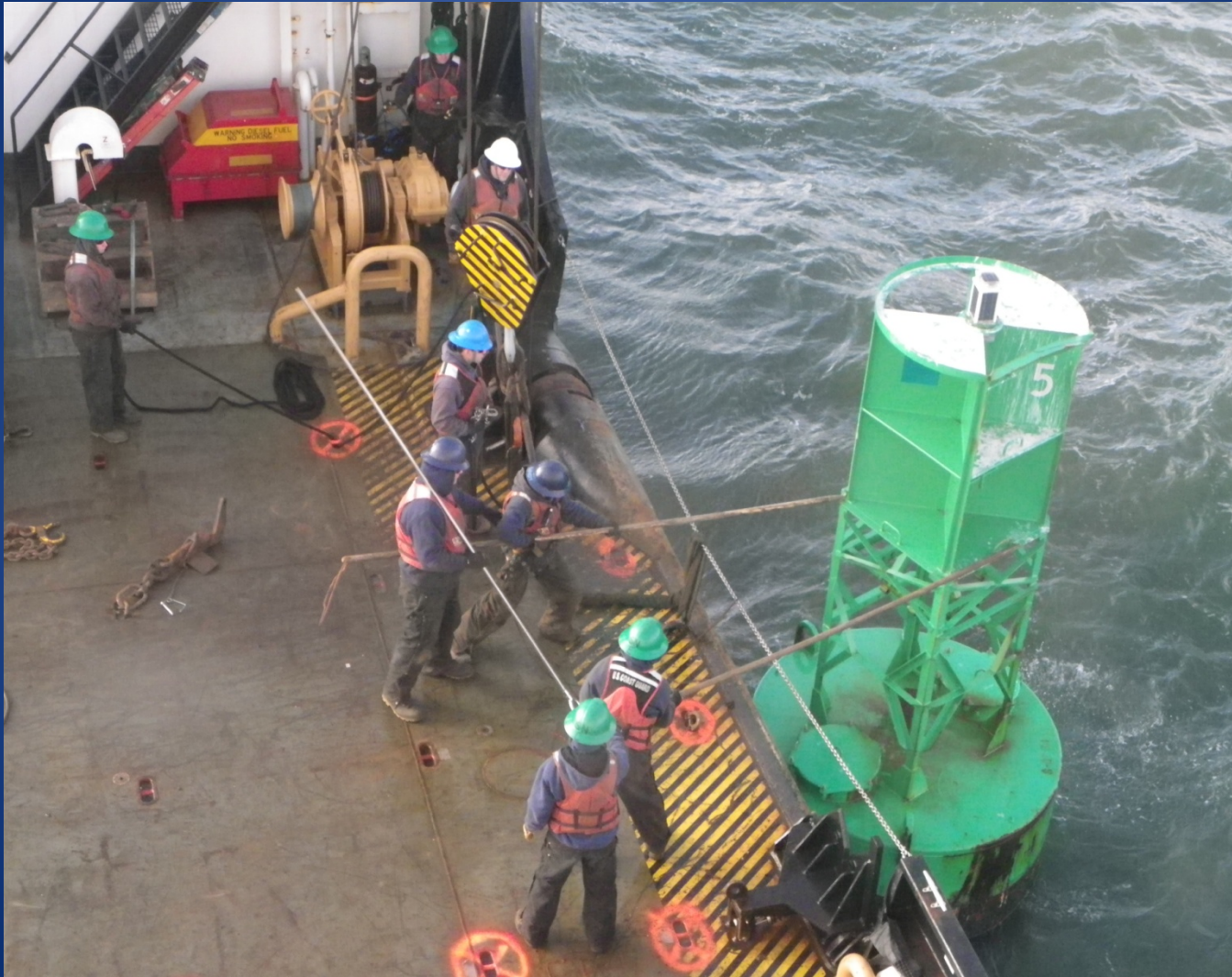
Crane Wheel Motor Housings



Motiva (Seawaren, NJ)



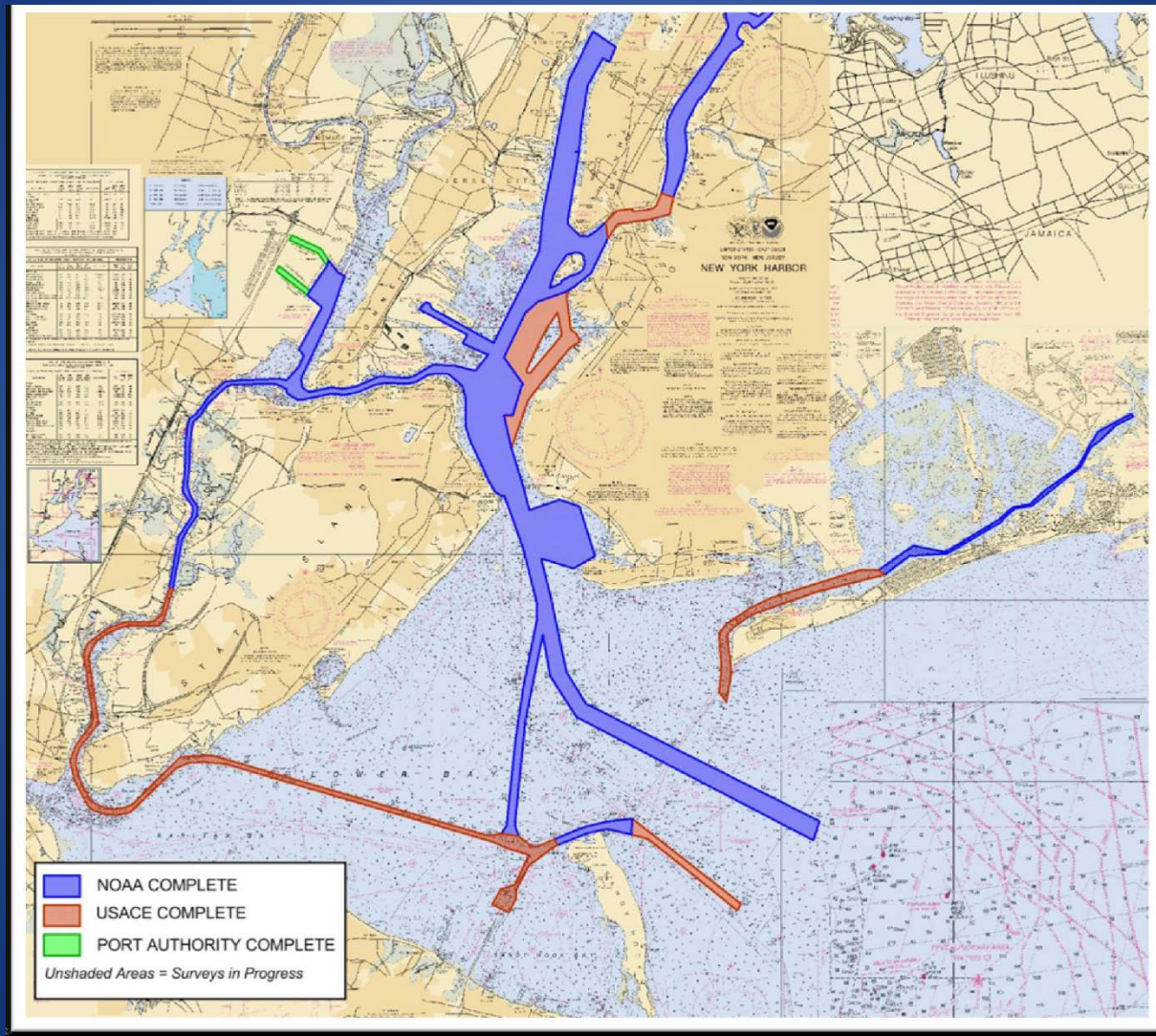
Navigation Hazard Remediation



NOAA and Army Corps Channel Surveys



Channel Assessment & Surveys



Vessel Traffic Service New York

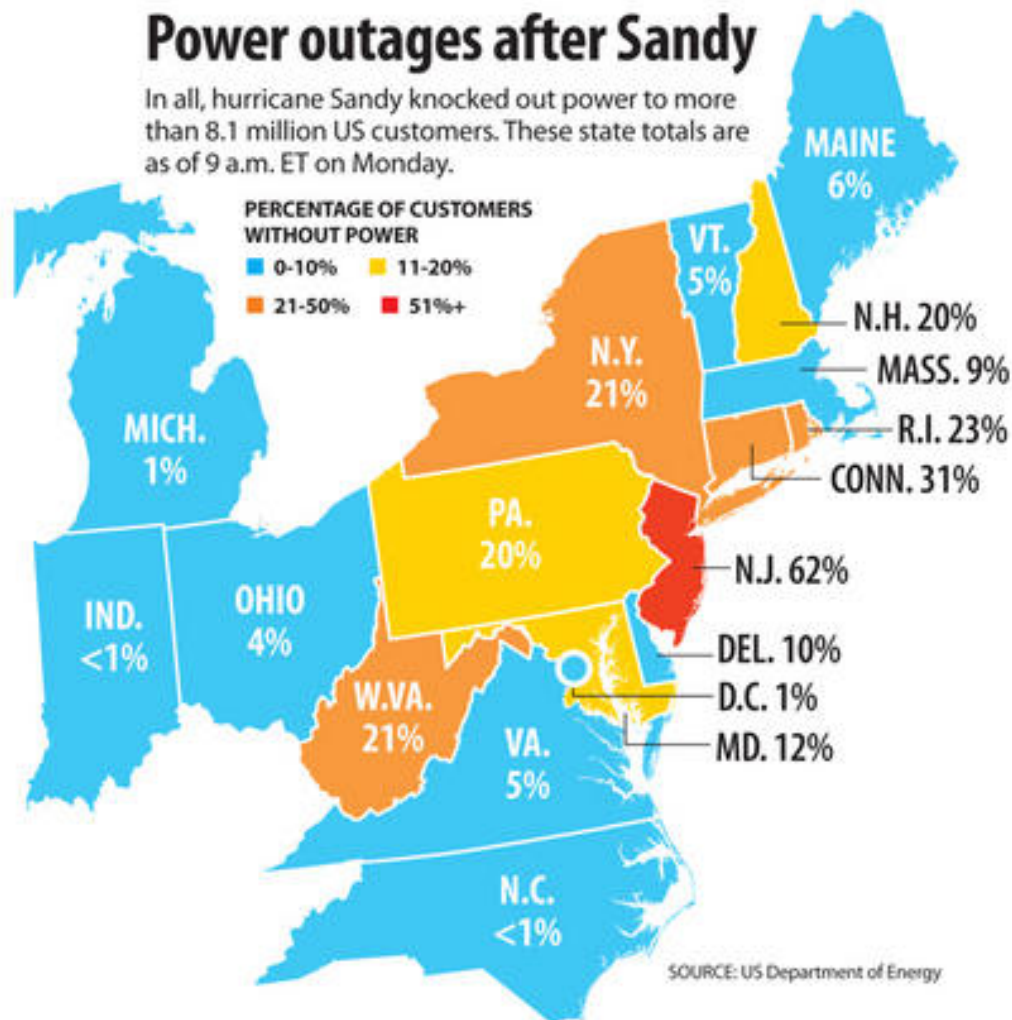
Managed Vessel Queue



MTS Recovery Challenges

Power outages after Sandy

In all, hurricane Sandy knocked out power to more than 8.1 million US customers. These state totals are as of 9 a.m. ET on Monday.



SOURCE: US Department of Energy

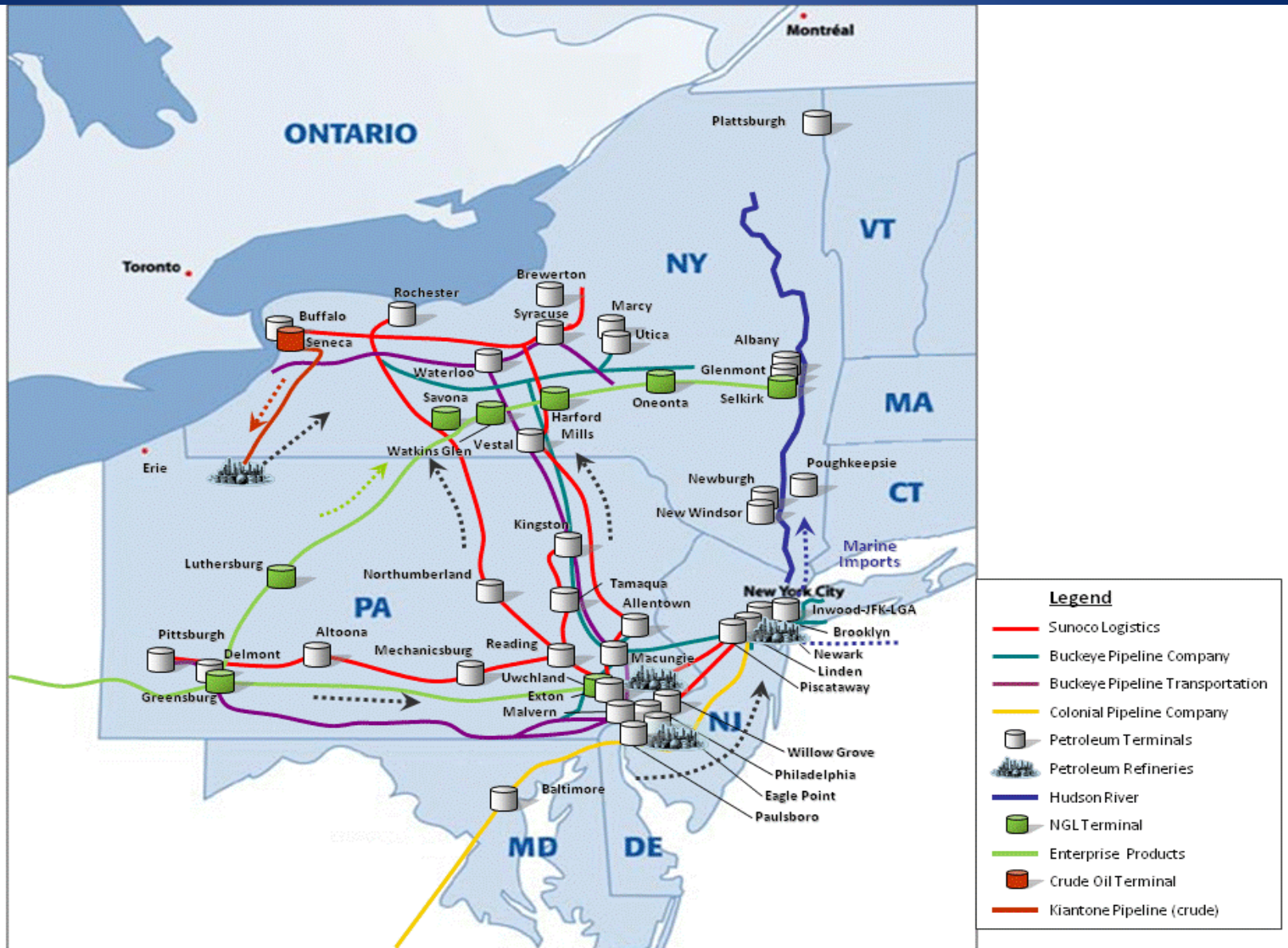
STATE	CURRENT CUSTOMER OUTAGES
1. New Jersey	2,498,447
2. New York	1,967,874
3. Pennsylvania	1,267,512
4. Connecticut	626,440
5. Maryland	311,020
6. Massachusetts	298,072
7. Ohio	254,207
8. West Virginia	212,183
9. Virginia	182,811
10. New Hampshire	141,992
11. Rhode Island	116,308
12. Maine	90,727
13. Michigan	68,619
14. Delaware	45,137
15. Vermont	17,959
16. Indiana	7,537
17. North Carolina	4,005
18. District of Columbia	3,583

RICH CLABAUGH/STAFF

Wide Spread Power Outages



Entire NE Fuel Supply Disrupted



MTS Recovery Lessons Learned Following Hurricane Sandy

- Hurricane Season Planning and Preparation
- Communications and Conference Calls
- Staging of Personal and Resources
- Validation of Essential Elements of Information
- Experience and knowledge of Stakeholders
- Loss of Power Grid
- Loss of Communications
- Lack of Fuel For Everyone