



U.S. Committee on the Marine Transportation System

# Preparedness Task Team Final Report

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Best Practices for Preventing and Managing  
Breakaway Vessels

**September 2011**

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# Preparedness Task Team Final Report

## Best Practices for Preventing and Managing Breakaway Vessels

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## Preparedness Task Team Final Report:

### Best Practices for Preventing and Managing Breakaway Vessels

#### A. CMTS Background for Task Team

The Committee on the Marine Transportation System (CMTS) is a Cabinet level committee comprised of the 20 Federal Departments, Independent Agencies and White House Offices that are engaged in the Nation's marine transportation system. At the 10 September 2009 CMTS Coordinating Board (CB) meeting, the CB approved the implementation of the Preparedness Task Team and charged the Task Team with reviewing and making recommendations for addressing the issue of breakaway vessels that could impact infrastructure during heavy weather events. The Task Team was co-chaired by USACE and USCG.

#### Task Team Membership

US Army Corps of Engineers (USACE)  
US Coast Guard (USCG)  
Maritime Administration (MARAD)  
National Oceanographic and Atmospheric Administration (NOAA)  
Department of Energy (DOE)  
United States Transportation Command (USTRANSCOM)  
National Transportation Safety Board (NTSB)  
Bureau of Ocean Energy, Management, Regulation and Enforcement (BOEMRE)  
International Trade Administration (ITA)

The Task Team members agreed there was a need to capture lessons learned from recent natural disasters impacting the marine transportation system, particularly the waterways in the Gulf of Mexico area. These events included Hurricanes Katrina, Rita and Wilma in 2005, and Hurricanes Fran, Gustov and Ike in 2008. The research highlighted one of the most significant avoidable threats posed during heavy weather events involved breakaway vessels which hit infrastructure assets such as levees, guide walls, and bridges, threatening the assets' structural integrity. Breakaway vessels include but are not limited to barges, floating platforms, and permanently moored structures.

Although this report focused on hurricane-related events involving vessels in the Gulf of Mexico, the same authorities and best practices outlined in this report can be applied to other weather-related events such as river flooding and icing, to other parts of the country, and to other potential breakaway objects such as logs and floating debris that could adversely affect maritime-related activities. A review of weather-related breakaways revealed that while the Gulf Coast experiences the most frequent occurrences, breakaway vessels occur in many areas causing varying degrees of damage. This includes log floats breaking free in high water in the Northwest; over 58 breakaways involving 238 barges on the Ohio River near Pittsburgh between 2000 and 2010; and damages to the mooring tower in James River by the ex-MONONGAHELA, among others.

The degree to which commerce, communities, and the environment are affected will be specific to each event and location. This considered the time from the time normal operations are disrupted until normal operating conditions are restored and normal operations resumed. Other types of damages that might be incurred include the following: direct physical damage to the infrastructure (e.g., damaged bridge abutments, breached levees, broken pipelines, channel obstructions) as well as the costs for removing the vessel or other floating asset; social impacts due to closed roads and bridges that could impede immediate emergency response and delivery of materials needed for event response and recovery; induced flooding along river banks if the breakaway causes a damming effect on a bridge or breaches a levee. In addition, there is the potential for environmental damage from leaking fuel tanks or spilled cargo, depending on the type of vessel that breaks away and the nature of the impact.

## B. Team’s Process

The Task Team developed the scope below as a plan for addressing the various issues that were identified.

Task Description	Deliverable/Product	Milestone
Define significant infrastructure (SI)	Define SI for the purposes of this template / MOU	Jan-2010
Define vessel and floating infrastructure	Define vessel and floating infrastructure for the purposes of this template / MOU	Jan-2010
Identify key stakeholders	Contact industry and other organizations that could support the development of the template / MOU	Feb 2010
Identify and document breakaway issues in other areas outside of the Gulf region	A list of the breakaway incidents and the impacts of those incidents on the operations of the port.	Mar - 2010
Develop process to identify SI	For the purposes of this template / MOU develop a process to identify and protect SI from breakaways among stakeholders	Apr 2010

Communications Plan	Communications plan for outreach on template / MOU	May 2010
Template / MOU	Develop a template / MOU addressing the protection of CI from breakaways	Jun 2010
Workshop / test program	Verify template / MOU and task team assumption in D8/New Orleans area.	Jun 2011

- Significant Infrastructure (SI)- The definition used by the Task Team is not necessarily the same definition used for Critical Infrastructure and Key Resources for the security purposes, but rather infrastructure – Federal, non-Federal and privately owned – that sits on or near the waterway and could be negatively impacted if hit by a breakaway. The discussion centered on levees, pipelines, water intakes, bridges etc as possible structural assets to consider.
- Vessels and floating infrastructure – The definition used by the Task Team was for “Intentionally floating debris”. This was defined as vessels of all sizes, barges, floating platforms, and permanently moored structures – items that we have a reasonable expectation of being able to control their location prior to an event. The team did not include tree limbs, fishing nets, garbage, or large pieces of debris; even though the team recognized the potential threat to structures from these items floating in the water or flying through the air during storms. There is no reasonable means of pre-planning and controlling their location prior to the event and hence no meaningful way to prevent the damage they will cause during a storm.
- Key stakeholders - The Task Team agreed that this effort required input from subject matter experts external to the Federal Government. The group developed a short list of experts from various maritime stakeholder segments – including commercial and non-commercial users from both coastal and inland arenas.
- Breakaway issues outside of the Gulf of Mexico region – As previously described, the Task Team agreed to research events beyond what had been documented during the 2005 Hurricane season in the Gulf.
- Communication plan – The Task Team agreed in order for any recommendations from the Task team to be valuable, they needed to identify how the results would be communicated to interested stakeholders. This included presentations at the US Coast Guard Harbor Safety Conference, the annual meeting of the Gulf Intracoastal Canal Association, and various regional users groups such as the Atlantic Intracoastal Waterway Association. In addition, the final report will be approved by the CMTS CB and shared among the member agencies for socialization with their respective stakeholders.

- Vetting intermediate results with US Coast Guard Sector New Orleans – In December of 2010, the Task Team presented their initial findings and a draft Memorandum of Understanding (MOU) to the leadership of USCG Sector New Orleans, USCG Eighth District, and USACE New Orleans District for their review and input as to their usefulness. The input provided from these activities suggested that, in addition to the findings, a collection of Best Practices from around the country would make the report a much more useful product. Feedback from these activities also suggested the initial MOU did not acknowledge all heavy weather events that could precipitate a breakaway; local conditions and operating environment; or stakeholder considerations. The Template MOU at Appendix 2 incorporates many of the suggestions. However, the Task Team acknowledges that the MOU is intended to provide a framework that can and indeed should be tailored to meet the specific needs of a locality or region to prevent and effectively manage breakaway events.

### **C. Mechanisms and Best Practices**

Within existing authorities for both Federal and local governments, there are several mechanisms that can and have been considered to address the specific needs of a port community to prevent breakaway vessels. The responsible agency or planning body should establish procedures and protocols for initiating contingency plans based on pre-defined trigger events. The use of Regulated Navigation Areas, Safety Zones, or Restricted Areas are viable mechanisms for limiting access to vessels immediately before and during an event, as are the use of vessel traffic services. For liability purposes, care should be taken to identify those areas where it is unsafe to moor vessels, as opposed to those areas where vessels could safely moor. The responsible agency or planning body will need to assess the appropriate length of time necessary to initiate the selected mechanism. Consideration should also be given to State or local authority to limit access near pertinent infrastructure.

The Task Team surveyed various US Coast Guard Sectors to collect known Best Practices for preventing breakaways. The collection of Best Practices assembled here serve as examples, not as an all-inclusive list of options, for use in local environments to best address the prevention of breakaway vessels.

**Pre-Season Preparedness Seminars** – The Port of Pittsburgh, through the auspices of the Harbor Safety Committee, the US Coast Guard, as well Federal and Industry Partners hosts an annual seminar before the beginning of the flood season to address the protocols, procedures, roles and expectations for preventing and managing breakaways in order to avoid serious damage to life or property.

**Fleeting Area Facility Inspections** - In addition to the seminar above, the US Coast Guard and the US Army Corps of Engineers in Pittsburgh conduct joint random fleeting area facility inspections to check for worker safety, training practices, condition of materials used to secure barges, fleeting permits and currency of the approved Waterfront Facility Operations Guide.

**Regulated Navigation Area (RNA)** – USCG Sector New Orleans published a Restricted Navigation Area (RNA) that limits the mooring of vessels within the Inner Harbor Navigation Channel, the Harvey Canal and the Algiers Canal to protect floodwalls, levees, and adjacent communities from potential hazards associated with vessels being in these areas during a hurricane (e.g., storm force winds, storm surge). Other USCG sectors, such as USCG Sector Hampton Roads, have also considered the use of Limited Access Areas to prevent the damage caused by breakaways during heavy weather.

**Formal Agreements** – On the Gulf Coast, the US Coast Guard, US Army Corps of Engineers, the Gulf Intracoastal Canal Association (GICA) and the American Waterways Operators established a Memorandum of Understanding (GICA MOU) that outlines the roles, responsibilities and expectations for each of the signatories in the planning, preparation and response to hurricanes in the Gulf of Mexico. The GICA MOU is reviewed and validated annually at the end of hurricane season to address any lessons learned from the previous season. The signatories also meet before the beginning of each hurricane season to re-familiarize themselves with the agreed upon protocols and procedures that have been codified in the GICA MOU.

**Formalized Severe Weather Practices** – USCG Sector New York has instituted a Vessel Traffic Service (VTS) Severe Weather Practices. The User's Manual is available to all stakeholders via the internet and delineates the specific hazardous conditions under which special reporting points are established, as well as the imposition of vessel operating requirements and vessel traffic routing schemes. VTS is also used in Houston-Galveston and elsewhere to monitor and control traffic during heavy weather conditions. The USCG Captain of the Port (COTP) for Houston-Galveston has also developed a policy that prevents mooring, lightering or bunkering in specific areas of the port under adverse conditions. The COTP uses the local Vessel Traffic Service as a communication tool for monitoring vessel movements and activities in the higher risk areas.

**Outer Continental Shelf** – BOEMRE has regulatory authority over all MODUs conducting drilling operations on the Outer Continental Shelf (OCS) and BOEMRE has issued detailed guidance to improve mooring practices for the MODUs (see <http://www.gomr.boemre.gov/homepg/whatsnew/hurricane/index.html> ) Breakaway vessels have also been a problem in the offshore region, and in particular there have been Mobile Offshore Drilling Units (MODUs) in the Gulf of Mexico that have experienced mooring failures during recent hurricanes and caused infrastructure damage by dragging their anchors across subsea pipelines and nearly collided with other vessels and structures in the offshore region. This included bridges and other infrastructure along the coastline.

## Appendix 1 - Authorities and Considerations

This appendix contains a list of the general authorities given to the various parties engaged in prevention of breakaway vessels.

## **USCG**

The provisions of Title 33, Code of Federal Regulations, Parts 160 and 165, mandate that Coast Guard Captains of the Port (COTP) take the lead in ensuring the safety of ports. Specifically, COTPs are authorized to establish safety zones, to direct the handling, loading, unloading, storage, and movement of dangerous cargoes aboard waterfront facilities, and to order vessels to operate or anchor in whatever manner is necessary to protect life, property, and the environment.

## **USACE**

The provisions of Title 33, Code of Federal Regulations, Parts 334, Danger Zone and Restricted Area Regulations allow USACE to establish either a:

Danger zone is a defined water area (or areas) used for target practice, bombing, rocket firings or other especially hazardous operations, normally for the armed forces. The danger zones may be closed to the public on a full-time or intermittent basis, as stated in the regulations. Or a,

Restricted area is a defined water area for the purpose of prohibiting or limiting public access to the area. Restricted areas generally provide security for Government property and/or protection to the public from the risks of damage or injury arising from the Government's use of that area.

## **DOE**

The Office of Electricity Delivery and Energy Reliability (OE) has the statutory responsibility for providing Government oversight for energy restoration as outlined under the National Response Framework (NRF) and the Emergency Support Function 12 (ESF-12). In addition the National Nuclear Safety Administration (NNSA) has the regulatory authority for Nuclear Safety and Security and provides support to nuclear incidents.

## **State, Local and Tribal**

State, Local and Tribal authorities also have specific responsibilities and statutory requirements to address planning, preparedness and response activities; for example, Local Emergency Planning Committees (LEPC) and local law enforcement agencies.

## Appendix 2 – Template MOU

MEMORANDUM OF UNDERSTANDING BETWEEN THE  
GOVERNMENT, GOVERNMENT#2, PARTY #1, PARTY #2, AND  
PARTY #3 REGARDING OPERATIONS DURING  
(HURRICANE/ICE/FLOOD/ETC.) SEASON

1. PARTIES. The parties to this Memorandum of Understanding (MOU) are the GOVERNMENT (e.g., U.S. Coast Guard, USACE) and the following companies:

- PARTY #1
- PARTY #2
- PARTY #3

2. AUTHORITY. This MOU is authorized under the provisions of the Ports and Waterways Safety Act. (or other authority per primary Government agency)

3. PURPOSE. The purpose of this MOU is to provide vessel or other maritime owners and operators with policy and guidance for preventing breakaways in this area during (hurricane/ice/flood) season when such heavy weather events are forecast for this area. (Hurricane/Ice/Flood) season generally occurs from month/day through month/day each year. The GOVERNMENT (U.S. Coast Guard and other Federal agencies as appropriate) will use this policy as criteria to ensure the safety of those vessels that will remain at those facilities with safety being the highest priority.

4. RESPONSIBILITIES. The USCG encourages all vessel owners and operators to review the adequacy of mooring arrangements for barges and vessels, and to prepare contingency plans for responding to a break-away.

A *breakaway* is defined as anytime a vessel, barge or group of barges breaks completely from its moorings. The only exception to this definition is when vessel lines part following a collision or an allision, or when the barge or group of barges is actively being worked.

Owners and operators should make sure that all mooring devices, wires, chains, lines, and connecting gear are of sufficient strength and in sufficient number to withstand forces that may be exerted on them by moored barges. The USCG strongly encourages owners and operators to conduct periodic surveillance, especially when heavy weather is predicted and visual inspection or moorings be completed in a timely manner after a storm has moved through. Where vessels, barges, and marine equipment are improperly moored and the owners have knowledge of impending adverse weather conditions and do not take precautions, a failure to act may constitute negligence and create liability for the owner/operator. If a barge does breakaway owner/operators shall take

immediate action to report the breakaway to the USCG by radio, phone, or other means of rapid communication.

Owners/operators have a responsibility for ensuring proper rescue of barges if they breakaway!

a. The US Coast Guard agrees to:

- Set a safety zone for the AREA 24 hours prior to projected landfall of a hurricane that restricts vessel movements along the AREA. Hold conference calls with all port stakeholders beginning 96 hours prior to a projected hurricane landfall.
- Other provisions.

b. The US Army Corps of Engineers agree to:

- Limit the number of barges transiting locks.
- Closes its facilities 12 hours before land fall of the hurricane
- Other provisions.

c. PARTY #1 agrees to:

- Limit the number of barges in the area.
- Stop operations 12 hrs before land fall of the hurricane.
- Other provisions.

d. PARTY #2 agrees to:

- Limit the number of vessels in the area.
- Stop operations 12 hrs before land fall of the hurricane.
- Other provisions.

e. PARTY #3 agrees to:

- Limit the number of (other floating assets) in the area.
- Stop operations 12 hrs before land fall of the hurricane.
- Other provisions.

## 5. POINTS OF CONTACT.

GOVERNMENT

GOVERNMENT

PARTY #1

PARTY #2

PARTY #3

6. OTHER PROVISIONS. Nothing in this MOU is intended to conflict with current law or regulation or the directives of the GOVERNMENT or the Department of GOVERNMENT AGENCY. If a term of this MOU is inconsistent with such authority, then that term shall be invalid, but the remaining terms and conditions of this MOU shall remain in full force and effect.

7. EFFECTIVE DATE. The terms of this MOU will become effective on January 1, 20XX.

8. MODIFICATION. This MOU may be modified upon the mutual and written consent of all parties.

9. TERMINATION. The terms of this MOU, as modified with the consent of all parties, will remain in effect until terminated by any party. Any party, upon 30 days written notice to the other parties, may terminate this agreement.

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Government Representative 1      Government Representative 2

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Party 1                                  Party 2                                  Party 3

## Appendix 3 – Additional Materials for Best Practices



## USCG Marine Safety Unit

Pittsburgh, PA

# “Lessons Learned”

LT John Downing  
MST1 Brent King

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## 2010 Barge Breakaway Seminar

# Why are we here?

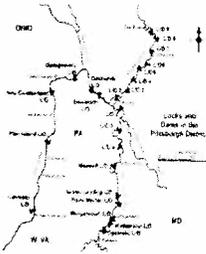
### *Learn from Past incidents*

- 1985 Maxwell Lock and Dam 17 Incident
- 1990 Maxwell Lock and Dam Incident
- 1998 Anne Holly Incident
- In addition to a brief overview of marine incidents casualties for 2010

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## 2010 Barge Breakaway Seminar



The COTP Pittsburgh Zone consists of 328 miles of navigable waterways on the Ohio, Monongahela, and Allegheny Rivers

23 Locks & Dams

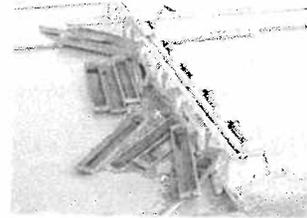
113 total bridges (10 major highway bridges in city limits)

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## 2010 Barge Breakaway Seminar

The Election Day Flood  
November 1985  
Maxwell Locks and Dam  
Monongahela River



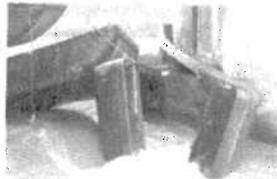
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## 2010 Barge Breakaway Seminar

### 1985 Maxwell Lock & Dam:

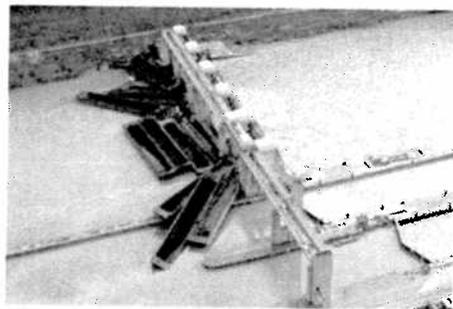
- 118 barges broke loose from their moorings: 18 of them sank at Maxwell Locks and Dam and 7 blocked navigation at Locks and Dam 2 on the Monongahela River.



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## 2010 Barge Breakaway Seminar



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### 2010 Barge Breakaway Seminar



**Maxwell Lock & Dam:**

- January 1990 ice began to form and float free down the Monongahela River.
- One barge broke free from fleeting area causing 19 barges to break away and become lodged in the Maxwell Lock and Dam.

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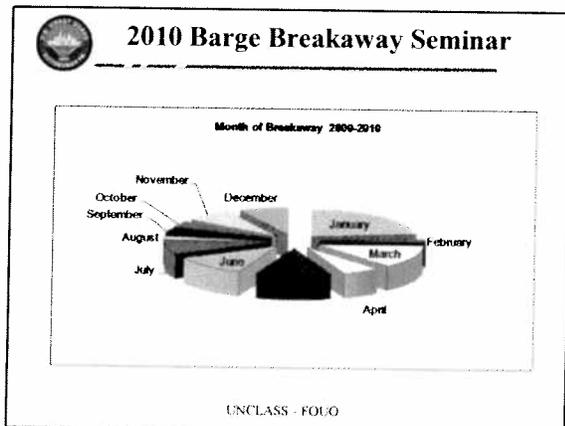
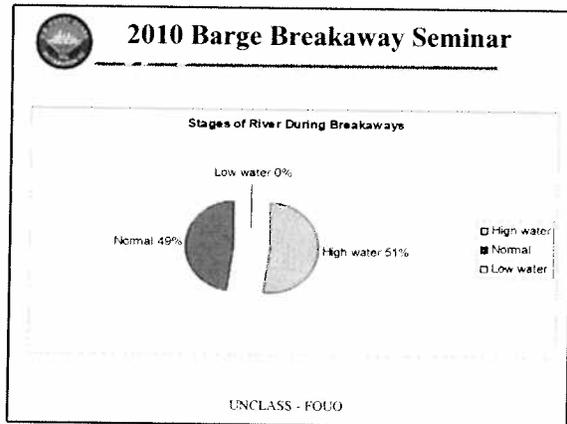
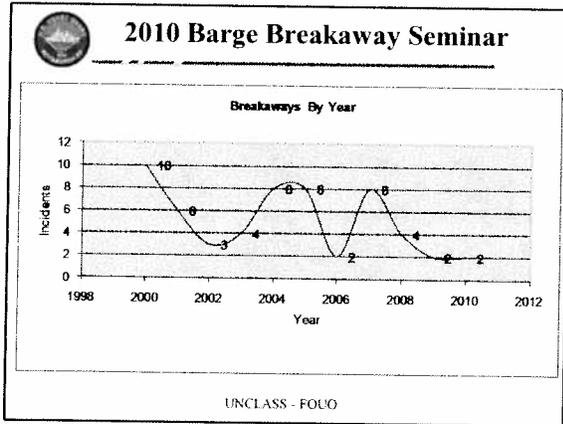
### 2010 Barge Breakaway Seminar

**Anne Holly Incident:**

- April 4, 1998 the towing vessel Anne Holly pushing 14 barges allided with the Eads Bridge breaking the tow.
- 3 barges struck the Admiral Casino with 2400 people aboard nearly causing one of the worst maritime catastrophes on record.



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### 2010 Barge Breakaway Seminar

**Typical Causal Factors Leading to Breakaways:**

- Ice
- Wind
- Material Condition of Equipment
- River Level
  - Water Current Speed
  - Rapid Rise Fall
- Vigilance (lack of attention)/Situational Awareness

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 **2010 Barge Breakaway Seminar**

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Types/Sources of Barge Breakaway:

- From Tow already underway
  - Normally originated by a Marine Casualty
- From Fleeting Area/Facility

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 **2010 Barge Breakaway Seminar**

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Breakaway Prevention (Safeguards):

- Outreach
- Regulatory:
  - U.S. Army Corps of Engineers
  - U.S. Coast Guard
    - Fleeting Facility Area Inspection Program
  - State
  - Local/Municipalities

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Breakaway Response (Enforcement):

- Notification of Incident / UMIB
- Corral Barges / Assess Damages & Impact
- Cease Operations at originating Facility
- Legal Litigation / Fines for negligent Operation

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 **2010 Barge Breakaway Seminar**

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Statistics for the previous 9 months (CY10):

- 2 Barge Breakaway incidents
- 3 Barges involved
- 1 Incident on the Ohio River, 1 incident on the Allegheny River
- Both incidents occurred due to strong winds and inattention to lines

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 **2010 Barge Breakaway Seminar**

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Preventative Measures and Technologies:

- Leaving line quality (use higher quality lines)
- Familiarity/situational awareness of river(s)
- Breakaway alarms
- Watertight integrity of barges
- High water action plans
- Cameras monitoring fleet
- Conduct regular training

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### Breakaway alarms:

- An alarm received when the line attached from a fixed point on shore/mooring cell to the barge breaks, notifying personnel of a breakaway
- Useful only if alarm is monitored

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## 2010 Barge Breakaway Seminar

### CCTV:

- Can be useful for 24/7 manned fleets or unmanned fleets, but only if monitored by somebody.
- Can be monitored remotely

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## 2010 Barge Breakaway Seminar

### Other Items To Be Aware of

#### Quality of leaving lines:

- Using good quality lines (with a rated tensile strength requirement) decreases the possibility of breakaways
- Date the line
- Chafed lines need to be removed and replaced.

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## 2010 Barge Breakaway Seminar

### Situational Awareness:

- Vessels unfamiliar with the rivers need to proceed at a safe, slow speed in order to adequately and correctly judge the characteristics of the rivers and tow their barges accordingly.
- Ensure fleet watch, especially during high water periods
- Supervisors should check fleet and operations

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### Leaky barges:

- Barges with holes can also cause barge breakaways.
- Companies are not obligated to receive leaky barges in their fleeting areas if they feel any concerns
- Are possibly a reportable marine casualty / submit a CG-2692. See barge seaworthiness guide for more details

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### 2010 Barge Breakaway Seminar

- **Material Failure:**  
Includes any physical part of a vessel which ceases proper function or operation and causes vessel to sustain a marine casualty.
- **Minor Injury:**
  - Any injury that does not result in broken bones (other than fingers, toes, or nose), loss of limbs, severe hemorrhaging, severe muscle, nerve, tendon, or internal organ damage, or in hospitalization for more than 48 hours within 5 days of the injury.

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### 2010 Barge Breakaway Seminar

- Majority of material failures that are reported are engineering casualties such as generator failures and other component failures including hydraulic hoses, shaft bearings, and steering components.

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### 2010 Barge Breakaway Seminar

- Majority of minor injuries that are reported consist of sprained/strained knees and backs as well as minor lacerations.
- Effective safe work practices may reduce amount of minor injuries aboard vessels.

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## USCG Marine Safety Unit Pittsburgh, PA

# “Fleet Sweep”

ENS Robyn Hoskins  
MSTC Johnny Hall

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## What is the Fleet Sweep program?

### Fleet Sweep = Partnership

- Fleet Sweep is an inspection program that builds upon a joint partnership between the USACE, USCG, and Industry stakeholders.
- Goals
  - reduce the risk of barge breakaways
  - advance maritime safety and security through collaboration with all stakeholders
  - eliminate breakaways on the Rivers.

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## Why does Fleet Sweep exist?

- Between 2000-2010 there were 58 breakaways involving 283 barges
- Many factors contribute to fleeting area barge breakaways, i.e. impact from large items floating downriver, high winds and current, rapid changes in water levels, and barge fleeting practices
- Barge fleeting practices seem to be a key factor to historical breakaways

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## USCG Responsibilities

- USCG and USACE personnel will conduct joint random fleeting area facility inspections.
- Purpose of inspection is to check following:
  - The condition of the materials used to secure the barges
  - Ascertain overall worker safety efforts
  - Verify training practices
  - Verify fleets are in compliance with fleeting permits
  - Affirm the use and currency of the approved Waterfront Facility Operations Guide.

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## USACE Responsibilities

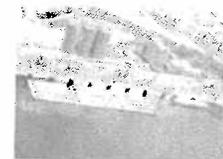
- USACE receives, reviews, approves, and oversees the location and placement of each fleeting area facility in addition to issuing fleeting permits.
- The USACE requires a Waterfront Facility Operations Guide for each fleeting area. The guide must contain a high water action plan.

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## Compliance

- Inspections conducted by land and water
- Monitoring to verify compliance with permit conditions
- Protection of resources and public interest
- Voluntary compliance focus
- Revocation and penalty options



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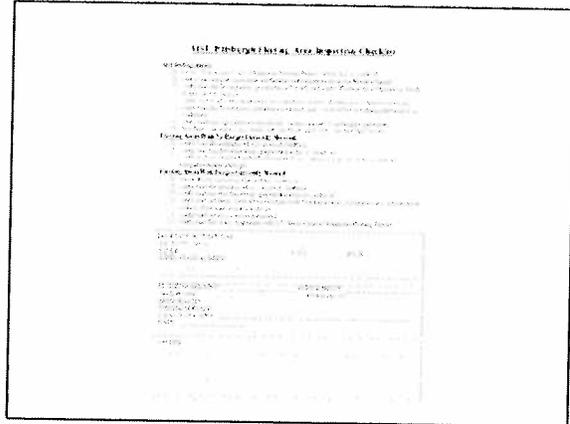


## Procedures

- Review Army Corps Permit
- Review the Waterfront Facility Operations Guide
- Make Suggestions on what should be added (i.e. Contact Lists, Procedures for severe weather)
- Inspection of the dock and mooring lines for safety and prevention compliance



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## Common Problems

- Typical problems discovered
  - Fleeting Area information is not up to date
  - Fleet not in accordance with permit
  - Poor storage and/or replacement of frayed mooring lines
  - Mooring lines not clear of debris
  - Fleeting Permit is not on site or no knowledge of the permit
  - Guide not updated or not on site
  - Improper equipment, poor fleet configuration

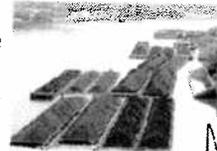


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## Since November 2009

- 125 Barge Fleeting Areas have been inspected
- 24 Barge Fleeting areas were missing ACOE Permits
- 12 Barge Fleeting areas were missing Operations Manuals
- 42 Barge Fleeting areas were found to be inactive



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## Future Plans

- Continue to foster the partnership between USCG, USACE, and stakeholders
- Increase partnerships with River Industry and waterway users
- Heighten maritime domain awareness



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## **New Orleans – Restricted Navigation Area (RNA), as listed in the Federal register**

**Purpose and Basis for Rule** - The legal basis for this interim rule is the Coast Guard's authority to establish regulated navigation areas under [33 CFR part 165](#) and the statutes and delegation cited therein. The purpose of this interim rule is to establish an RNA to protect floodwalls and levees in the New Orleans area from possible storm surge damage from moored barges and vessels, and to avoid damaging flooding in the New Orleans area that could result from any resulting damage to floodwalls and levees. We request public comments on this interim rule and will amend or rescind it if public comments indicate a need to do so. Moreover, we intend to reevaluate the need for the RNA established by this interim rule, upon completion of the U.S. Army Corps of Engineers Gulf Intracoastal Waterway Surge Barrier project and the West Closure Complex project, both scheduled for completion by June 1, 2011. Show citation box

During Hurricanes Katrina and Gustav, multiple barges and vessels were moored next to or nearby floodwalls and levees surrounding the City of New Orleans. During Hurricane Gustav, several vessels broke free in the Inner Harbor Navigation Canal and nearly damaged the Almonaster Street Bridge. If the storm surge had been higher, they might have struck and damaged nearby floodwalls, re-creating the flooding of New Orleans that followed Katrina. As a result, following the 2008 hurricane season, the State of Louisiana requested that the Coast Guard prohibit vessels from the IHNC, in New Orleans. Subsequent to this request, the Coast Guard determined that certain regions in the New Orleans area are at risk of flooding from vessels which might break free during a storm and damage floodwalls and levees. This interim rule attempts to respond to these perceived risks.

**Discussion of Rule** - Under the interim rule, all vessels are prohibited from being within the Inner Harbor Navigation Canal, Harvey Canal, and Algiers Canal during severe hurricane conditions. Those conditions include:

- (1) Predicted winds of 74 miles per hour (mph) or more and/or a predicted storm surge of 8 feet or more for the Inner Harbor Navigation Canal;
- (2) Predicted winds of 111 mph or more and/or a predicted storm surge of 10.5 feet or more for the Harvey and Algiers Canals through post storm landfall, or other hurricane or tropical storm conditions as determined by the Captain of the Port;
- (3) Other hurricane or tropical storm conditions expected to inflict significant damage to low lying and vulnerable shoreline areas, as determined by the COTP through National Weather Service/Hurricane Center weather predictions.

The affected areas include:

(1) The Inner Harbor Navigation Canal from Mile Marker 22 (West of Chef Menteur Pass) on the Gulf Intracoastal Waterway, west through the Gulf Intracoastal Waterway and the Inner Harbor Navigation Canal, out to Lake Ponchartrain and to the Mississippi River in New Orleans, LA;

(2) The Harvey Canal, between the Lapalco Boulevard Bridge and the intersection of the Harvey Canal and the Algiers Canal;

(3) The Algiers Canal, from the Algiers Lock to the intersection of the Algiers Canal and the Harvey Canal.

Vessels will not be permitted to stay in these areas past 24 hours in advance of and through the storm passage, except with a mooring plan approved by the Captain of the Port. In the event that a particularly dangerous storm is predicted to have winds and/or storm surge which significantly exceeds the conditions outlined above, the Captain of the Port could implement the provisions of this regulated navigation area 72 hours in advance of the above stated conditions.

The surge levels of concern were determined to be at 8 feet for the IHNC and 10.5 feet for the Algiers and Harvey Canals respectively through collaboration between the U.S. Coast Guard, the National Weather Service (NWS), the National Oceanic and Atmospheric Administration (NOAA), and the U.S. Army Corps of Engineers (USACE). Currently, in the Harvey and Algiers Canals, a surge of 10.5 feet is required for vessels to reach and cause damage to floodwalls and levees. A surge of 8 feet is required to overtop portions of the Gulf Intracoastal Waterway floodgate, which will be protecting the IHNC from storm surge beginning in May 2010.

The need for the RNA will be reevaluated upon completion of the U.S. Army Corps of Engineers' Gulf Intracoastal Waterway Surge Barrier project and the West Closure Complex. Both are scheduled to be completed by June 1, 2011. The surge barriers are designed to reduce the risk of storm damage to some of the area's most vulnerable areas—New Orleans East, metro New Orleans, the 9th Ward, St. Bernard Parish, Gretna, and Algiers. These projects aim to protect these areas from storm surge coming from the Gulf of Mexico via adjacent bodies of water. This interim rule provides the necessary measures to protect the port infrastructure until these projects are completed. We intend to reevaluate these measures at that time. Under the interim rule, the COTP could impose measures, such as requirements for additional standby vessels, in addition to the barge mooring regulations in [33 CFR 165.803](#). Transient vessels (such as vessels from Houma, Fourchon, Lafitte, etc.) will only be permitted to seek safe haven in these areas during a hurricane if they have a prearranged agreement with a facility in the RNA, or a COTP-approved waiver for sheltering in place.

Alternate routes exist for vessels to transit around or depart from the areas affected by this interim rule. We do not anticipate that this interim rule would need to be enforced.



**OFFICERS**

**Matt Woodruff**  
PRESIDENT  
HOUSTON, TX

**Ray Sick**  
PRESIDENT-ELECT  
HOUMA, LA

**Kelly Telchman**  
SECRETARY  
GALVESTON, TX

**Scott Forbes**  
TREASURER  
HOUSTON, TX

**Steve Brewster**  
VP ALABAMA  
MOBILE, AL

**Lorenzo Alexander**  
VP FLORIDA  
TALLAHASSEE, FL

**Joe Cocchiara**  
VP LOUISIANA  
NEW ORLEANS, LA

**Jim Moak**  
VP MISSISSIPPI  
JACKSON, MS

**Waymon Boyd**  
VP TEXAS  
PORT LAVACA, TX

**John McClelland**  
IMMEDIATE  
PAST PRESIDENT  
MOBILE, AL

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**John Mixon**  
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**Munson Smith**  
VICTORIA, TX

**Les Sutton**  
HOUSTON, TX

**Raymond Butler**  
EXECUTIVE DIRECTOR  
AND PAST PRESIDENT  
FRIENDSWOOD, TX

January 27, 2007

**Mr. Mike Kidby**  
US Army Corps of Engineers  
441 G. Street NW  
Washington, DC 20314

Dear Mike,

Enclosed is the original signed copy of the Memorandum of Understanding between the USCG, USACE, GICA, AWO, and the River Industry Task Force. I am forwarding copies of this document to each of the signing parties for their records.

Please let me know if you should have any questions.

Sincerely,

**Raymond Butler**  
Executive Director  
Gulf Intracoastal Canal Association

**CC:** Capt. Peter Simmons – USCG, Eight District New Orleans  
Mr. Matt Holzhalb – AWO, New Orleans  
Mr. Dave Shaw – River Industry Task Force, Channelview, TX

**MEMORANDUM OF UNDERSTANDING BETWEEN  
THE UNITED STATES COAST GUARD, THE UNITED STATES ARMY CORPS  
OF ENGINEERS, THE RIVER INDUSTRY EXECUTIVE TASK FORCE, THE  
GULF INTRACOASTAL CANAL ASSOCIATION AND THE AMERICAN  
WATERWAYS OPERATORS REGARDING COOPERATIVE EFFORTS IN  
RESPONDING TO NATURAL DISASTERS**

1. **PARTIES.** The parties to this memorandum of understanding (MOU) are the United States Coast Guard (USCG), the United States Army Corps of Engineers (USACE) the American Waterways Operators (AWO), the River Industry Executive Task Force (RIETF) and the Gulf Intracoastal Canal Association (GICA).

2. **AUTHORITY.** This MOU is authorized under the provisions of:

a. 14 U.S.C. § 93(a)(4) (authorizing the Coast Guard to coordinate and cooperate with other government agencies and private agencies);

b. 14 U.S.C. § 141 (authorizing the Coast Guard to assist, and be assisted by, other agencies).

3. **PURPOSE.** The purpose of this MOU is to set forth the understanding which will govern the parties' joint efforts to continuously improve preparation and response to natural disasters (such as tropical storms and hurricanes) that impact the Gulf Coast.

4. **UNDERSTANDING.**

a. Prompt resumption of commerce in the Gulf Coast region (including, but not limited to: the Gulf Intracoastal Waterway, the Lower Mississippi River and tributaries of those two waterways) following a natural disaster is a critical priority for the nation and the region.

b. Cooperative efforts to prepare for, respond to and recover from natural disasters are critical to successfully restoring the maritime transportation network in the Gulf Coast region following a natural disaster.

c. The parties are in a unique position to prepare for and respond to storm-related impacts to waterways in the Gulf Coast region. For example, the USACE and USCG have waterways maintenance and management responsibilities and the Gulf Intracoastal Canal Association has served as the barge industry representative for the USACE and USCG to facilitate communications in support of waterway restoration activities.

d. The parties will work together to develop plans for a cooperative (e.g., government and industry) approach to reopening maritime commerce along

waterways impacted by a natural disaster. The effort should include an annual review of plans, any related protocols and (when a storm impacts the Gulf Coast region) development of post-storm assessments of the effectiveness of planning and response activity.

5. POINTS OF CONTACT. Each of the parties have designated an individual to serve as their principal point of contact for matters related to this MOU. Contact information for those individuals is listed in enclosure (1). Each of the parties will keep their point of contact information current by advising the other parties of any changes to the information set forth in enclosure (1). The enclosure may be amended independent of the MOU.

#### 6. OTHER PROVISIONS.

a. Nothing in this MOU is intended to conflict with current law or regulation or the directives of the United States Coast Guard, the Department of Homeland Security, the United States Army Corps of Engineers, or the Department of the Army. If a term of this MOU is inconsistent with such authority, then that term shall be invalid, but the remaining terms and conditions shall remain in full force and effect.

b. All parties agree that they shall bear their own costs, if any, incurred in furtherance of activities in support of this MOU.

c. This MOU does not obligate any funds and is not a fiscal nor a funds transfer document. This MOU does not authorize the USGC or USACE to accept gratuitous goods or services. Any transfer of funds, goods or services described in this document will be accomplished through a separate, written agreement between the parties.

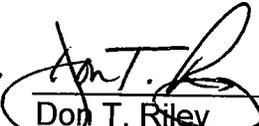
d. This MOU is neither a fiscal nor a funds obligation document. Any endeavor involving reimbursement or contribution of funds, goods or services between the parties to the MOU will be handled in accordance with applicable laws, regulations, and procedures. Such endeavors, if any, will be outlined in separate agreements that shall be made in writing by representatives of the parties and shall be independently authorized by appropriate statutory authority. This MOU does not provide such authority. Specifically, this MOU does not establish authority for the noncompetitive award to any private entity of any contract or other agreement.

7. EFFECTIVE DATE. This MOU will become effective upon the signature of the last party.

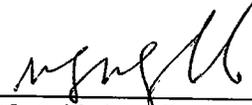
8. MODIFICATION. This MOU may be modified upon the mutual consent of the parties. Any modifications to this MOU shall be in writing.

9. TERMINATION. The terms of this MOU, as modified with the consent of the parties, will remain in effect until December 31<sup>st</sup>, 2008. The MOU may be extended by mutual written agreement of the parties. Any party may, upon thirty days written notice to the other parties, withdraw from this MOU. Withdrawal of one or more parties to the MOU shall not terminate applicability of the MOU to the remaining parties.

FOR THE PARTIES:

 Date: <u>12/6/06</u>	 Date: <u>22 Dec 06</u>
Joel Whitehead Rear Admiral, U.S. Coast Guard Commander, Eighth Coast Guard District	Don T. Riley Major General, U.S. Army Director of Civil Works U.S. Army Corps of Engineers

 Date: <u>1/11/07</u>	 Date: <u>1/8/07</u>
David Shaw Chairman River Industry Executive Task Force	Raymond Butler Executive Director Gulf Intracoastal Canal Association

 Date: <u>1/17/07</u>
Matt Holzhalb Southern Region Vice President American Waterways Operators

Enclosure (1) to the

**MEMORANDUM OF UNDERSTANDING BETWEEN  
THE UNITED STATES COAST GUARD, THE UNITED STATES ARMY CORPS  
OF ENGINEERS, THE RIVER INDUSTRY EXECUTIVE TASK FORCE, THE  
GULF INTRACOASTAL CANAL ASSOCIATION AND THE AMERICAN  
WATERWAYS OPERATORS REGARDING COOPERATIVE EFFORTS IN  
RESPONDING TO NATURAL DISASTERS**

Points of contact designated by the parties:

**For the Coast Guard:**

Captain Thomas D. Hooper, USCG  
Commander (dxo)  
Eighth Coast Guard District  
500 Poydras Street  
New Orleans, LA 70130-3310  
(504) 671-2062  
[Thomas.D.Hooper@uscg.mil](mailto:Thomas.D.Hooper@uscg.mil)

**For the Corps of Engineers:**

Angela Y. Premo (CESAD-PDS-O)  
Navigation Program Manager  
South Atlantic Division  
RM 9M15 60 Forsyth Street, SW  
Atlanta, GA 30303-8801  
(404) 562-5130 – (404) 354-1783 (cell)  
[Angela.Y.Premo@usace.army.mil](mailto:Angela.Y.Premo@usace.army.mil)

**For the River Industry Executive  
Task Force:**

David Shaw  
Vice President of Operations  
Kirby Inland Marine LP  
18350 Market Street  
Channelview, TX 77530  
(713) 435-1602  
[Dave.Shaw@kirbycorp.com](mailto:Dave.Shaw@kirbycorp.com)

**For the Gulf Intracoastal Canal  
Association:**

Raymond Butler  
Executive Director  
Gulf Intracoastal Canal Association  
2010 Butler Drive  
Friendswood, TX 77546  
(281) 996-6915  
[rbutler@houston.rr.com](mailto:rbutler@houston.rr.com)

**For the American Waterways Operators:**

Matt Holzhalt  
Vice President, Southern Region  
American Waterways Operators  
1100 Poydras Street, Suite 2900  
New Orleans, LA 70163  
(504) 799-2239  
[mholzhalt@vesselalliance.com](mailto:mholzhalt@vesselalliance.com)

## **VTS NEW YORK WEATHER MEASURES AND DIRECTIONS**

As per appendix 7 of the VTS New York users manual (Standard Vessel Traffic Service (VTS) Severe Weather Practices), the Captain of the Port (COTP) or VTS Director may, as warranted, impose additional vessel movement restrictions not specifically listed in the user's manual and may also impose cargo and facility operational restrictions as conditions warrant. VTS New York may enact these practices based on actual or predicted conditions.

During conditions of vessel congestion, restricted visibility, adverse weather, or other hazardous circumstances, a VTS may control, supervise, or otherwise manage traffic, by specifying times of entry, movement, or departure to, from, or within a VTS area.

VTS may issue measures or directions to enhance navigation and vessel safety and to protect the marine environment also, such as, but not limited to:

- (1) Designating temporary reporting points and procedures;
- (2) Imposing vessel operating requirements; or
- (3) Establishing vessel traffic routing schemes.

(1) Temporary reporting points are generally set when visibility has fallen below one (1) nautical mile for the entire area of responsibility (AOR), a portion of the AOR affected, or to aid the VTC in determining a vessels location when a vessel has an inoperable automatic identification system (AIS) and transiting through our AOR. (2) Imposing vessel operating requirements can be established for the onset of strong wind conditions for vessels not certificated for operation above a gale force wind condition. (3) Establishing vessel traffic routing schemes are commonly used to direct or redirect traffic in certain areas of the AOR to avoid closed waterways due to incidents or a hazardous condition.

The VTS wind measures outlined below for VTS New York are imposed during unexpected or predicted certain wind conditions and mostly pertain to VTS New York AOR anchorages which enables the Vessel Traffic Center (VTC) to proactively set measures for what typically occurs during these wind conditions.

**(a) Winds sustained at 15 kts or gusting to 20 kts from the North or Northwest while on an ebb current:**

- All barges in the Bay Ridge anchorage shall have tugs alongside.

**(b) Winds sustained at 25 kts regardless of the wind or current direction:**

- All barges or ships anchored in a “dead ship status” in any anchorage not attached to permanent mooring (i.e., Robbins Reef mooring ball) shall have tugs alongside.
- All barges alongside anchored ships shall have tugs alongside.
- All ships and tugs in an anchorage shall have their engines online.
- All ships engaged in bunkering or lightering operations may have no more than one barge alongside.

**(c) Gale Conditions: Winds sustained at 34 kts regardless of the wind or current direction:**

- All ships at anchor in Bayridge, Gravesend, Perth Amboy, or Anchorage 19 shall have a Pilot aboard.
- All lightering and bunkering operations shall be suspended with all barges removed from anchored vessels.
- Based on their ship’s particular characteristics and loading conditions, masters of ships at anchor should consider ordering tugs to assist their vessels in maintaining position in the anchorage.
- Vessels not certificated for operation above a gale or only certificated for river use shall cease operation.

**(d) Winds sustained at 40 kts regardless of the wind or current direction:**

- The transfer of hazardous cargo between vessels or barges and waterfront facilities shall be suspended.
- All ships in Stapleton Anchorage shall either have a pilot aboard or arrange with the Sandy Hook Pilots to have a pilot on call ready to respond at the Staten Island pilot station. All ships in other anchorages inside the port shall have a pilot aboard.
- Barges may be ordered out of specific anchorages by the COTP/VTS Director. Tug/barge combinations may go to a berth or transit to an area, such as north of the George Washington Bridge, and anchor/ride out the storm. Tug/barge combinations will not be ordered out of the Port of New York and New Jersey.
- Depending on actual harbor conditions, the COTP/VTS Director may

(Wind conditions continued)

impose restrictions on vessel movements into, out of, or within specific areas of the Upper and Lower Bay.

- Unattended barges attached to mooring ball shall have at least one tug standing by in the immediate vicinity.

**(e) Winds sustained at 60 kts regardless of the wind or current direction:**

- The COTP/VTS Director may impose a complete harbor closure affecting all commercial operations. Light tugs assisting other vessels/barges and emergency vessels will normally be the only vessels allowed to operate during these conditions.

**(f) Line of severe thunderstorms or squall line approaching the area with expected winds greater than 25 kts:**

- The COTP/VTS Director may impose any of the restrictions outlines above as early as necessary to ensure safety measures are in place prior to the onset of the severe weather.

An additional step the VTS can take for oncoming severe weather is to send messages to vessels and facilities within the VTS AOR through the Alert Warning System (AWS) and Automatic Identification System (AIS) text messaging.

The potential for an anchor dragging is greatest during conditions of high winds. This potential may be further increased when tide conditions create maximum currents in the same direction as the wind. If a vessel is identified by the VTC to be dragging its anchor, following actions are adhered to mitigate the risk of colliding with another vessel in the anchorage or posing a hazard to other vessels transiting a channel near the anchorage.

Immediate actions the VTC take are:

- Establish communications with vessel dragging anchor and any nearby vessels and advise them of the situation, especially those in close proximity.
- Contact any light tug in the area that maybe able to provide assistance.
- Instruct captain or master to bring engines online and maintain position with engines until a pilot is onboard to reposition vessel.

While one of the three VTC's Vessel Traffic Management Specialist (VTMS) in the VTC

is talking to the vessel dragging anchor, other VTMS operators are issuing advisory notices to other mariners. The Watch Supervisor may also impose a VTS measure as required.

Following are a few incidents listed in MISLE from VTS New York involving their initial action and use of the Quick Response Card's:

Situation 1:

On July 13, 2011 VTS received a call on VHF Channel 14 from the tug MARY ALICE that the vessel MSC ELENI at Berth 55 in Port Newark had parted its mooring lines and was drifting in the channel.

Action:

VTS made a radio broadcast for light tugs to assist. Tugs MARY ALICE, SARAH ANN, and BRIAN NICHOLAS responded and the MSC ELENI was safely re-moored to berth 55 without further incident.

Situation 2:

On May 21, 2011 the ORIENTAL RUBY, anchored just off of the pilot station at the Stapleton Anchorage, dragged south from its position in the number #4 spot to the #5 spot in the anchorage. Conditions at time of incident: Ebb current at 2.2knts with zero visibility and light winds.

Action:

A pilot was ordered onboard and the ship was directed to put their engines online to bear steerageway and maintain position in the anchorage until the pilot was onboard. No further incident occurred due the actions of the VTC.

Situation 3:

On August 09, 2011 expected high winds and a squall line was approaching the VTS AOR.

Action:

Duty Watch Supervisor established the 15kt wind measures requiring all barges to have tugs alongside in the Bay Ridge anchorage (Federal Anchorages 21 A, B, and C).

Situation 4 and Action:

On August 06, 2011 the Captain of the Port required all barges to have tugs alongside to prevent anchor dragging with the barges, engines online for ships that could possibly drag anchor depending on air draft and water currents, and only one barge operations (lightering and bunkering) within the anchorages in the event a dragging occurs. This was due to sustained winds from the south south east at 25 knots.

References: (1) VTS User's Manual  
(2) QRC-VTS  
(3) Marine Information for Safety and Law Enforcement (MISLE)

U.S. Department of  
Homeland Security

United States  
Coast Guard



Commander  
United States Coast Guard  
Sector Houston-Galveston

9640 Clinton Drive  
Houston, TX 77029-4328  
Phone: (713) 671-5100  
Fax: (713) 671-5147

16610

## MEMORANDUM

From: Captain of the Port Houston-Galveston  
To: Distribution

Subj: COTP POLICY ON RESTRICTED MOORING, BUNKERING, AND/OR  
LIGHTERING LOCATIONS

Under the authority of Title 33 United States Code 1231 and Title 33 Code of Federal Regulations part 160, the Coast Guard has certain responsibilities to manage the safety of vessels and waterfront facilities for reasons of weather, visibility, temporary port congestion, or other temporary hazardous circumstances. In light of these responsibilities, vessels mooring, bunkering, and or lightering at various locations within the port of Houston are restricted to specific conditions due to the dangers involved with the physical constriction of Sector Houston-Galveston waterways. Enclosure (1) is a list of these locations and the restrictions.

This list was originally compiled in 1993 and revised in 1998 and 2004 after consultation with industry stakeholders and the Houston Pilots Association. A recent validation process with these same entities was completed to update the locations and waterfront facility names. With these restrictions along the Houston Ship Channel, we can best accommodate the diverse interests of multiple waterway users.

The COTP must be notified immediately, through Vessel Traffic Service (VTS), of any failure of by a party to this COTP policy or of any disagreement amongst any of the parties regarding its application or intent.

For further information regarding this policy, contact the Captain of the Port Houston-Galveston at (713) 671-5103.

A handwritten signature in black ink, appearing to read "M E Woodring".

M. E. Woodring  
Captain, U.S. Coast Guard  
Captain of the Port Houston-Galveston

Enclosures: (1) COTP Restricted Mooring, Bunkering and/or Lightering Locations

Dist: Vessel Traffic Service Houston-Galveston  
Local Bunkering Companies  
Impacted Facility Terminal Managers  
Unit Websites  
Unit COTP Policy File

**COTP Restricted Mooring, Bunkering, and/or Lighting Location**

Docks/Facility	Requirements
Barbour's Cut Container Docks 1, 2, 3, 4, 5, 6 (If ship is over 106' beam) Chevron-Phillips Docks 8, 9 City Docks 01, 02, 13, 14, 15, 16, 17, 41, 42 Exxon Ship Dock 4 Green Earth Processing Lyondell-Citgo Dock C Houston Cement East and West Docks Inbessa ITC Ship Dock 1, 2, 7, 8 Jacintoport Docks 1, 2, 3 Kinder Morgan Liquid Terminals Ship Dock 4 Oiltanking Ship Dock 1, 4, 5, 6, 7, 8 Shell Dock East, Center, West Stolthaven Ship Dock 2, 3 VOPAK Ship Dock 1 VOPAK Galena Park	Prior approval is required. An attending towboat shall be present at all times. Attending towboat must maintain an active wheelhouse watch, monitor CH 13 or 16, and be able to move within 30 minutes. Requests to bunker/lighter at these locations must be made to the Captain of the Port via the Vessel Traffic Service.
Gates Stripping Facility	No double ups in excess of 108 feet in width. All double ups must have an attending towboat with an active wheelhouse watch monitoring CH 13 or 16.
City Docks 03, 04, 27, 28, 32 Georgia Gulf Houston Fuel and Oil Ship Dock 3 Industrial Terminals Dock 2 New Manchester Dock A OXY Vinyls Houston Old Manchester South Central Cement	An attending towboat shall be present at all times. Attending towboat must maintain an active wheelhouse watch, monitor CH 13 or 16.
Valero Manchester Barge Docks 1 and 4 Kinder Morgan Liquid Terminals Pasadena Barge Docks 1,2 Ship Dock 1	No bunkering, lightering or double-ups  At Ship Dock 1, no vessels greater than 750 foot in length or 108 foot in width.
Agrifos Ship 1, 2	No bunkering, lightering, or double-ups in excess of 90 feet in width.
Pasadena Refining Ship Dock	No bunkering, lightering or double-ups in excess of 95 feet in width
Arrow Terminals	No double-ups on channel side berth
Magellan	No double ups at Barge Dock 3. No double ups at Barge Docks 1/2 if ship or offshore barge is moored at Agrifos.
Shell Barge Lay Berth	No more than 3 empties or 2 loaded barges abreast.
Texas Port Recycling	No triple ups
Kinder Morgan Bulk 2 (Lay Berth)	No more than 2 barges abreast