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# Inland Waterways Users Board
# 2 November 2007

## Status of Navigation
## Safety Efforts

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# Result of Severe Outdraft Currents

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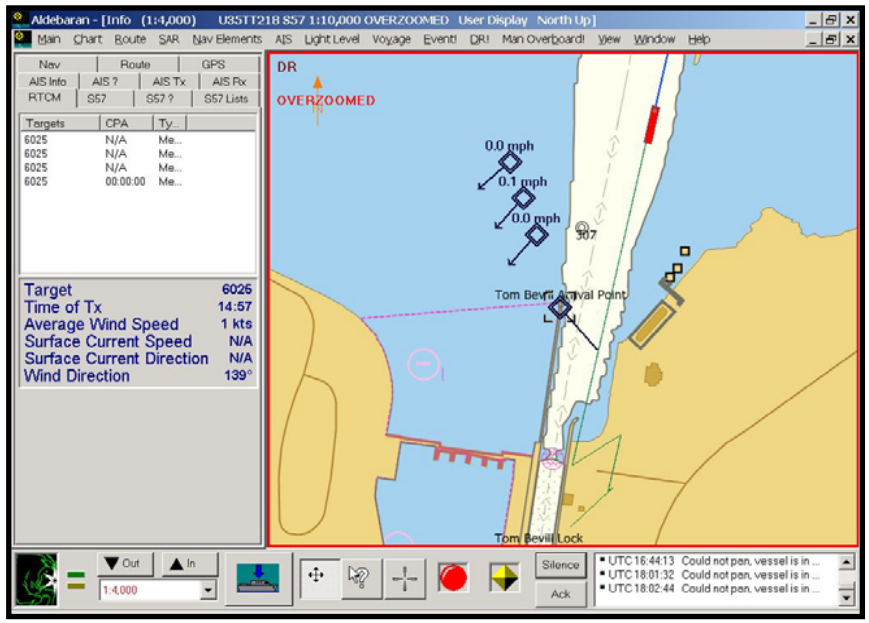
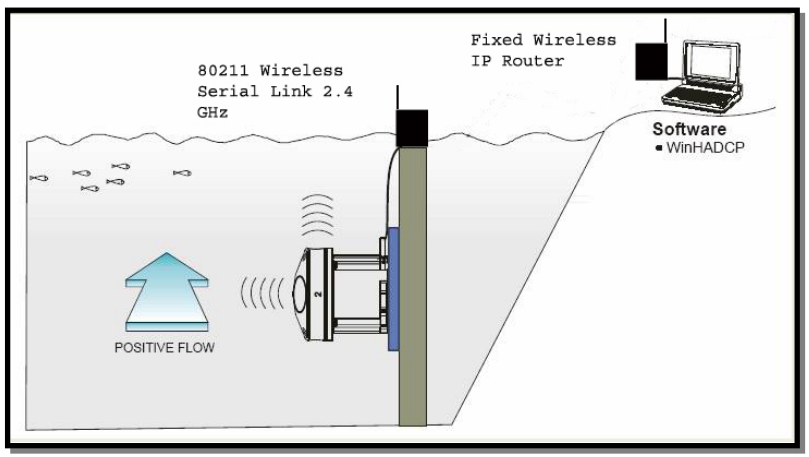
# Real Time Current Velocity System

- **Capability Being Developed**
  - Real Time Outdraft & Wind Measurement that is transmitted to tows approaching a Corps lock and dam
- **Final Products**
  - RTCV systems Installed on Corps structures with known outdraft problems




- **Benefits: Improved Safety on Inland Waterways**
  - Real Time Data provided for the mariner to make better decisions
  - Utilizes USCG's Automatic Identification System (AIS) Architecture
  - Utilizes inland electronic navigation charts (IENCs)

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# Lock Distance Measurement System

- Capability Being Developed
  - Every vessel Receives Real Time Distance
  - Distance Can be Transmitted by AIS
  - Displayed on IENCs Providing ±3ft Accuracy

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# Review of Navigation Allisions at Corps Locks and Dams

- Continue review of navigation accidents from Jan 2002 – May 2007 (and from Jan 2006 – May 2007 within USCG 8th District) to determine cause, impact, and possible and recommended solutions to decrease the number, severity, impact, and repair cost of allisions – resulting in increased reliability of system.

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# Glare Elimination/Reduction at Corps Locks and Dams

- Identify Corps navigation projects where glare of lock and dam signs causes tow pilot night vision loss or compromise.
- Seek ways to reduce or eliminate glare impacts.

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# Coastal & River Information Service (CRIS)

Benefits

- Improve safety at Corps projects
- Improve level of reliability
- Improve lock and traffic management strategies
- Transmit real time operational data to/from the vessel
    - Electronic Navigation Charts Updates
    - Lock condition (available, queue)
    - Real time current and wind velocities
    - River stage, water releases
    - Navigation safety information (hazards, AToN status, etc.)
    - Tow and commodity information

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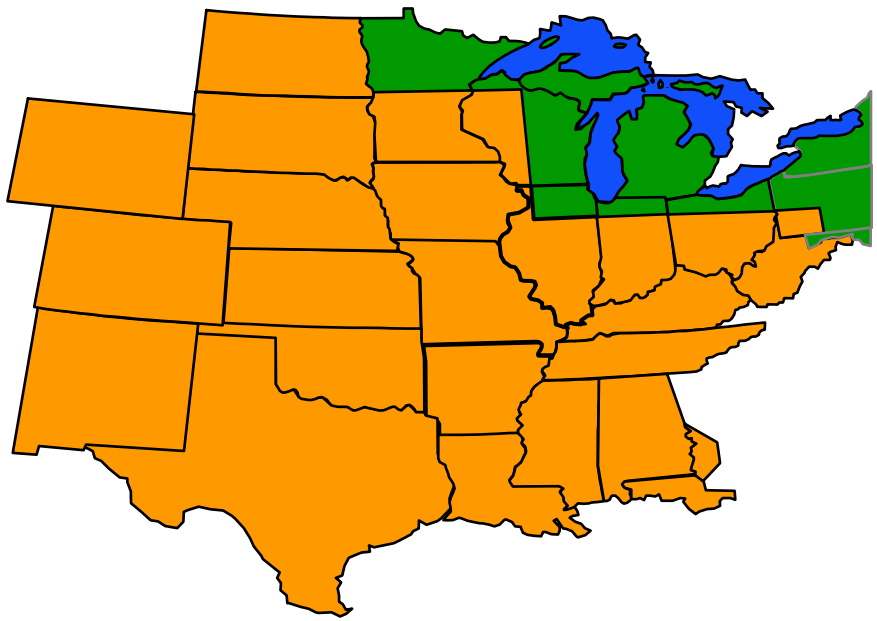
# USCG National Automatic Identification System (NAIS) Requirements for inland Waterways

Currently receive only in 5 locations:

- Huntington, WV
- Cincinnati, OH
- Pittsburgh, PA
- St Louis, MO
- Memphis, TN



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# USCG-USACE
# AIS Demo project – Louisville, KY
# McAlpine Lock

- VTS Louisville – high water operations
- Only US VTS currently without AIS
  - Needed to monitor traffic
  - Manage river at high water
- Site survey – January 2007
- Full transmit/receive capability
- AIS transmit capability “test bed”
  - Met-Hydro binary
  - Vessel report rate
- Shared USCG-ACOE infrastructure

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# USCG/NOAA/USACE AIS Demo project – Galveston, TX

- Galveston, TX – Galveston Causeway Bridge – USCG/NOAA/Corps – with navigation industry purchasing and maintaining the equipment

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# Navigation Safety Efforts
# The Way Ahead

- More cost effective solutions are being sought because of constrained funding
- Continue working with the nav industry to identify and place Real Time Current Velocity (RTCV) at navigation locks with severe outdraft.
  - Smithland
  - Red 2 Upper
  - Dresden Island
  - Markland
  - Mel Price
  - Montgomery
  - Lagrange
  - L&D 24
  - McAlpine
  - Marseilles
  - MS R. 3
- Continue development of lock distance measurement system – electronic and visual data transfer

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# Navigation Safety Efforts
# The Way Ahead (cont'd)

- FY 08+
  - ERDC – led PDT begin a literature search and study of energy absorbing systems that might be adaptable to lock approaches
    - If alternative measures are deemed feasible, plan and execute a demonstration of this capability at a navigation industry/Corps - identified location
  - Place RTCV units at the 10 most critical outdraft condition locks
    - Work with navigation industry to identify other critical outdraft locations

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# CRIS - Next Steps

- Formal Establishment of CRIS
  - Currently preparing an MOU for the USCG, NOAA, and USACE that will establish agency commitment and establish CMTS as recognized Federal Focal Point
- Draft MOU with USCG to formalize a plan of sharing infrastructure and to define the Corps roles within the USCG's NAIS program.
- Formally establish the CRIS Demo in Louisville
  - Solidify the partnership between the USCG and the Corps to develop CRIS on the Inland Waterways

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# CRIS – Future Actions

- Partnership with industry via a PDT
  - IWUB, MTSNAC, NAVSAC, AWO, IWC
- Harmonize Federal data definitions
- Establish one Federal set of standards
- Align with international and inter-modal standards
- Coordinate with Federal International efforts

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# Navigation Safety Efforts

- Appropriate RTCV system placement
- Distance measurement
- Accident review
- Glare elimination/reduction
- CRIS development and AIS data sharing

ALL these require navigation industry input and assistance!

We need your help in making our inland waterways safer.

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# Navigation Safety Efforts

**QUESTIONS?**