



NTSB National Transportation Safety Board

Key Elements to Good Marine Safety



**The American Waterways Operators
Joint Safety Meeting/Midwest, Ohio
Valley and Southern Regions Joint
Annual Meeting**

January 27, 2012





NTSB Mission

The NTSB is an independent US federal agency charged with determining the probable cause(s) of transportation accidents, making recommendations to prevent their recurrence, conducting special studies and investigations, and coordinating resources to assist victims and their families after an accident.

National Transportation Safety Board



NTSB Most Wanted List

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General Aviation Safety

Reducing GA fatality rates can be achieved with efforts to improve aircraft design and maintenance, pilot risk management skills, and pilot training and mentoring.



Runway Safety

Making runways safer will require improving situational awareness through such measures as in-cockpit warnings of potential conflicts, specific air traffic control clearances for each runway crossing, accurate information provided to pilots about runway conditions, properly functioning equipment that is correctly set for takeoff or landing, and distance assessments calculated for all landings.

Bus Occupant Safety

Bus passengers need better protection. Uniform Federal standards for roof strength, window glazing, and occupant protection are needed to ensure that bus passengers are better protected in crashes just as they are in passenger cars.



Safety Management Systems

Aviation, marine, highway and rail operators can benefit from implementing a safety management system in which deficiencies are identified and addressed before they result in an accident.

Recorders

Recorders provide critical information about vehicle performance, vehicle dynamics, and occupant kinematics to help identify crash and injury causes. With the data they provide, investigators can then develop more targeted safety recommendations.

Teen Driver Safety

Comprehensive teen driver safety programs should include beginner and intermediate licensing stages, restrict the hours during the day when teens can drive, limit the number of passengers in the car with a teen driver, and prohibit the use of interactive wireless communication devices by teen drivers.



Addressing Human Fatigue

Fatigue countermeasures should include hours-of-service limits that are data driven, mechanisms to identify and treat sleep-related medical impairments, and a science-based fatigue management system.

Addressing Alcohol-Impaired Driving

Addressing alcohol-impaired driving requires a comprehensive program that includes sobriety checkpoints, administrative license revocation, assessment and treatment combined with vehicle sanctions, and such alternatives as dedicated jail/treatment facilities, home detention with electronic monitoring, or intensive supervision probation.

Motorcycle Safety

Wearing a motorcycle helmet that complies with DOT standards is the single best measure to reduce the risk of injury or death in a motorcycle accident.



Pilot and Air Traffic Controller Professionalism

Improve pilot and air traffic controller professionalism through training, monitoring, and a focus on best practices and personal responsibility.



NTSB Most Wanted List

1. General Aviation Safety
2. Runway Safety
3. Bus Occupant Safety
4. Safety Management Systems
5. Recorders
6. Teen Driver Safety
7. Addressing Human Fatigue
8. Addressing Alcohol-Impaired Driving
9. Motorcycle Safety
10. Pilot and Air Traffic Controller Professionalism



SMS and Recorders are Multi-Modal Issues



NTSB and SMS in the Marine Industry

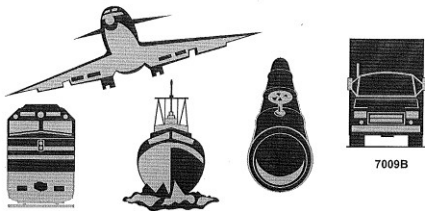
PB2000-916401
NTSB/MAR-00/01

NATIONAL TRANSPORTATION SAFETY BOARD

WASHINGTON, D.C. 20594

MARINE ACCIDENT REPORT

Ramming of the Eads Bridge by
Barges In Tow of the M/V *Anne Holly* With
Subsequent Ramming and Near Breakaway
of the *President Casino* on the *Admiral*
St. Louis Harbor, Missouri
April 4, 1998



- April 4, 1998 – St. Louis Harbor, MO
- M/V Anne Holly towing 14 barges struck the Eads bridge; 3 of 8 barges that broke away drifted into the *Admiral*, a moored casino boat.
- \$11 million damages.

NTSB and SMS in the Marine Industry

Fire Aboard Construction Barge *Athena 106*
West Cote Blanche Bay, Louisiana
October 12, 2006



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ACCIDENT REPORT
NTSB/MAR-07/01
PB2007-916401



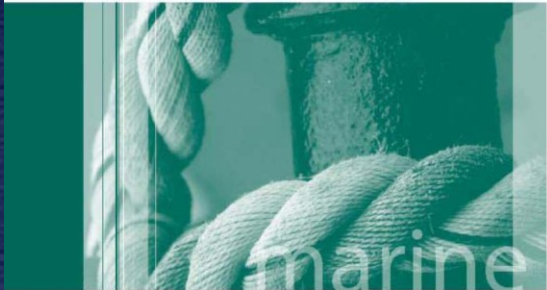
- October 12, 2006 – West Cote Blanche Bay oil field, LA

- Miss Megan, pushing the construction barge *Athena 106*,

- 5 Fatalities, 1 barge worker missing

NTSB and SMS in the Marine Industry

Collision of Tugboat/Barge *Caribbean Sea/The Resource*
with Amphibious Passenger Vehicle *DUKW 34*
Philadelphia, Pennsylvania
July 7, 2010



Accident Report
NTSB/MAR-11/02
PB2011-916402



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- July 7, 2010
- Delaware River, PA
- *DUKW34* and *Caribbean Sea* tugboat/*The Resource* barge
- 2 fatalities

AWO and SMS

- 1994 – AWO initiated development of the RCP.
- 1997 – AWO recognized the importance of 3rd Party Audits for the RCP.
- 1998 – AWO required its members to achieve compliance with RCP, as a condition of membership.
- 2004 – AWO supported USCG/DHS efforts to obtain statutory authority to establish inspection regimes based on SMS.
- 2004 – 2011 – AWO members of the TSAC, in support of the USCG's rulemaking effort to implement an SMS based inspection program.

Towing Vessel Regulation

USCG NPRM - Inspection of Towing Vessels

- Issued on August 11, 2011
- Comments period closed on December 9, 2011
- New Subchapter M –
 - TSMS or USCG annual Inspection
 - 3rd party auditors
 - Pilot Alerter systems

AWO Safety Initiatives

- *AWO 2000*
- RCP
- USCG – AWO partnership
- Safety Committees
- Task Force on the Future of AWO
Safety Leadership

AWO Safety Initiatives

The Challenge:
Build on your SMS

Recorders – An Investigator's Tool

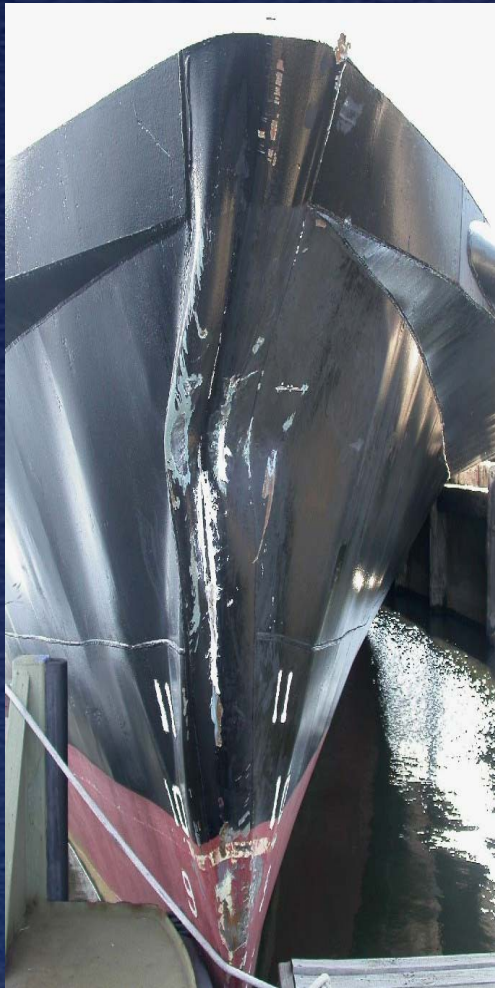


- Allision of the Axel Spirit with the Ambrose Light
- November 3, 2007



- Allision of the Orange Sun and moored dredge
- January 24, 2008

Recorders – An Investigator’s Tool



- Collision between the Block Island and the Morro Bay
- July 2, 2008

Recorders – Part of SMS



The Value of Operational Data

- Aviation Industry
 - Early recorders – accident investigation
 - Late 80's – flight data used for operational quality assurance
 - Late 90's – data used for SMS
 - 2000's – aggregated data for norms and comparisons
 - Late 2000's – aggregated data merged with air traffic and system data

Conclusion

- AWO's safety management system efforts are commendable; its time now to take the next step.
- Recording devices are not just for accident purposes, but can provide invaluable data to improve safety and operating efficiency.



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