

United States Coast Guard

Office of Navigation Systems

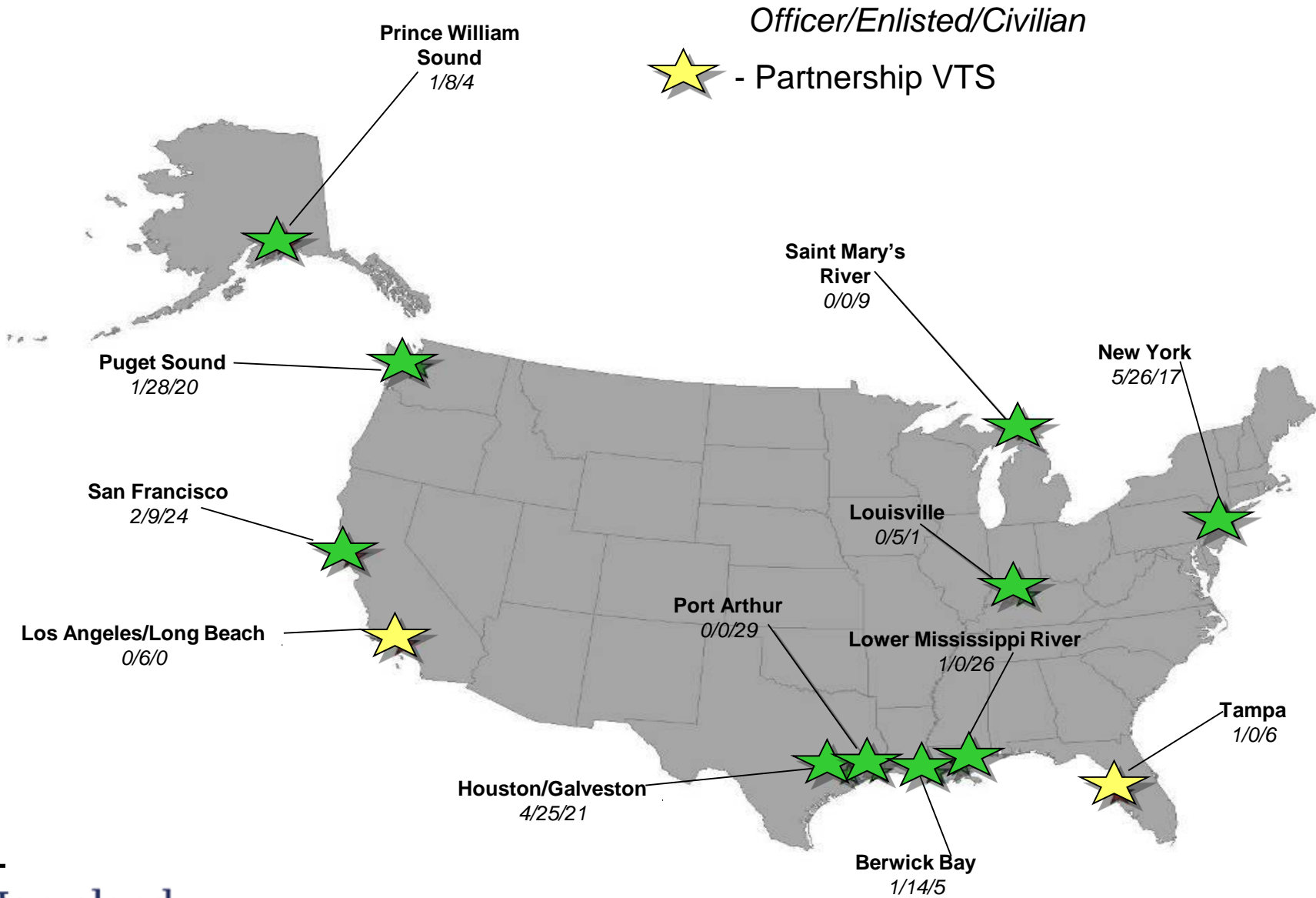
VTS47-3.1.3.6



"We Help Mariners Get There"

Jorge Arroyo | U.S. Coast Guard | Washington, DC | jorge.arroyo@uscg.mil

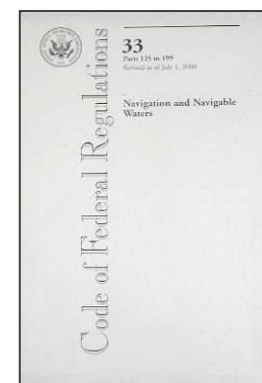
Current State – VTS Locations & Personnel



USCG Vessel Traffic Services Overview

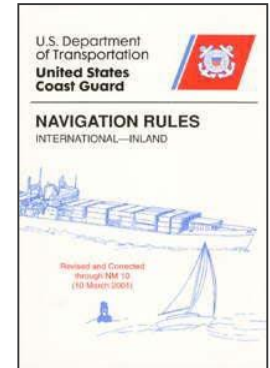
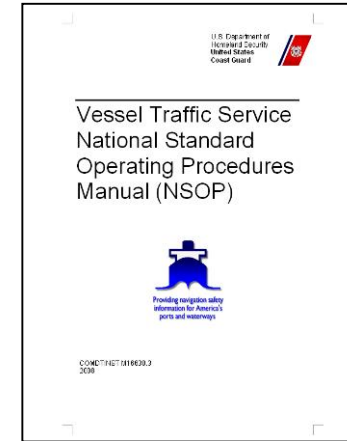
The mission of the VTS Program is to maximize the safe and efficient use of waterways by preventing marine accidents and their associated environmental damage.

- International Guidance
 - IMO Resolution A.857(20)
 - IALA Recommendations and Guidelines
- U. S. National Authority
 - Ports and Waterways Safety Act (PWSA) (1972)
 - Authorized establishment and operation of VTSs
 - Ports and Tankers Safety Act (1978)
 - Amended PWSA to clarify VTS authority
 - Oil Pollution Act of 1990 (OPA 90)
 - Made VTS participation mandatory
 - Build and maintain AIS based VTS (1996)
- VTS Regulations (33 CFR 161)
 - Implement authority, mandate requirements for participation, equipment carriage, establish operating requirements, etc.



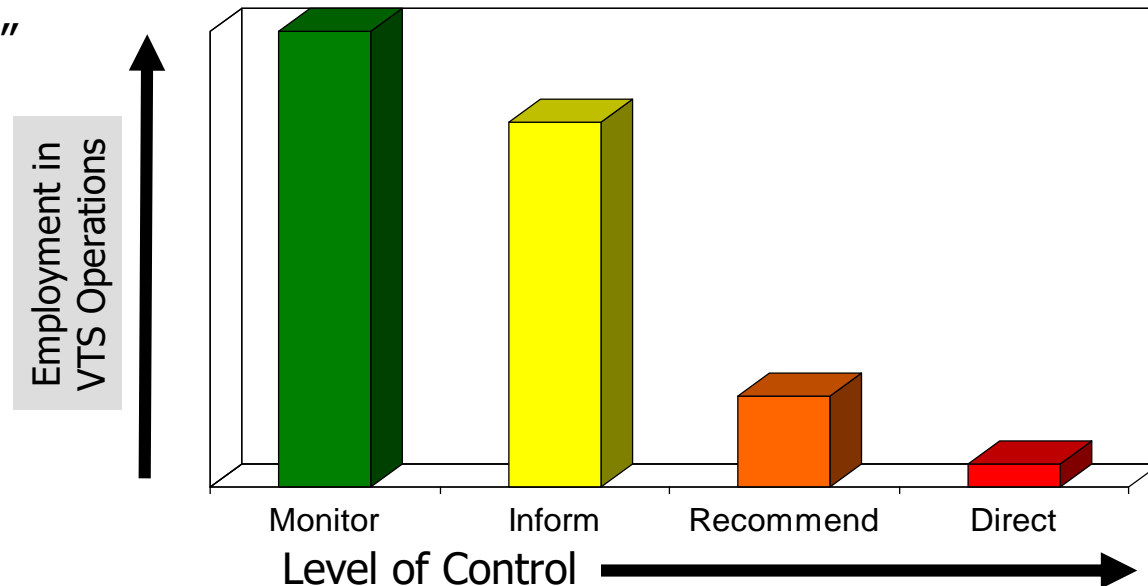
VTS Operational Procedures

- Existing measures (passive)
 - Regulations, Rules of the Road, TSS
- VTS procedures
 - National Standard Operating Procedures (NSOP)
 - Local Internal Operating Procedures (IOP)
 - Developed in cooperation with local users
 - Determined by local circumstances and risk



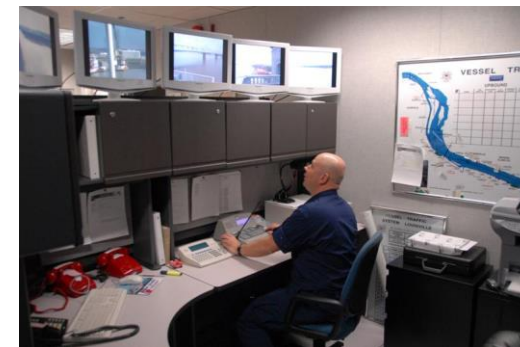
- VTS Exercise of Authority
 - "Continuum of Control"

- Monitor**
 - Surveillance capability
- Inform**
 - Communications
- Advise/Recommend**
 - Knowledge, procedures
- Direct**
 - Authority



VTS Personnel and Training

- Personnel:
 - Military and Civilian
 - Shipboard experience requirement
 - Most VTS employees are retired military or commercial mariners
- Training
 - National Certification – Aligned with IALA V-103
 - ❑ 2 week course at maritime training facility - MITAGS
 - - Basic VTS Concepts
 - - VTS authority and regulations
 - - Simulation
 - Local Training at “home” VTS
 - ❑ 4-6 months
 - ❑ Builds on National Certification course
 - ❑ Local geography, regulations, procedures
- Refresher Training and Requalification
 - Locally developed IAW National Standards
- Under development:
 - National Supervisor course



Adding eATONs to the ATON Family

Synthetic AIS

Virtual AIS

Physical AIS

Missing

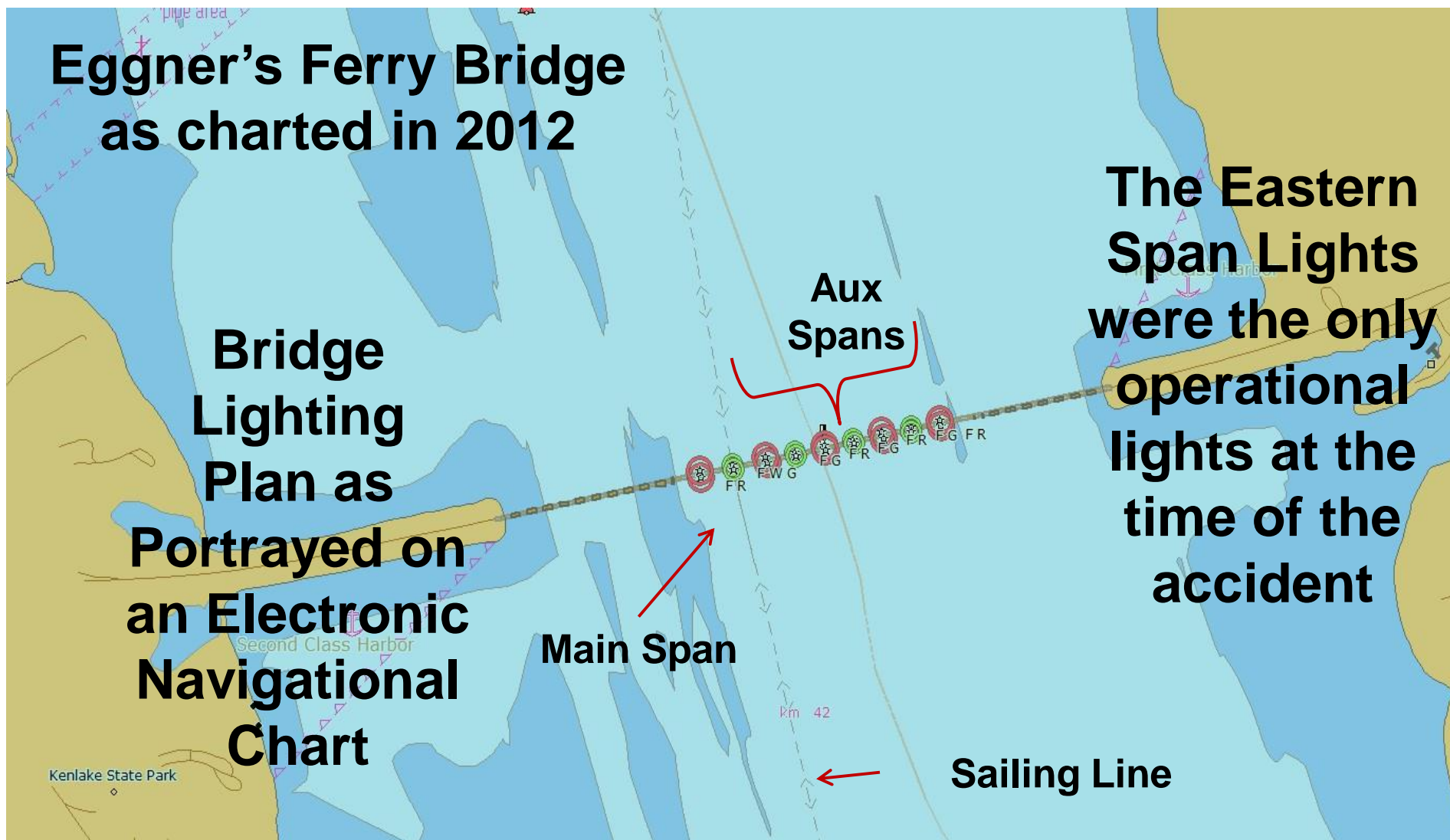
Virtual AIS



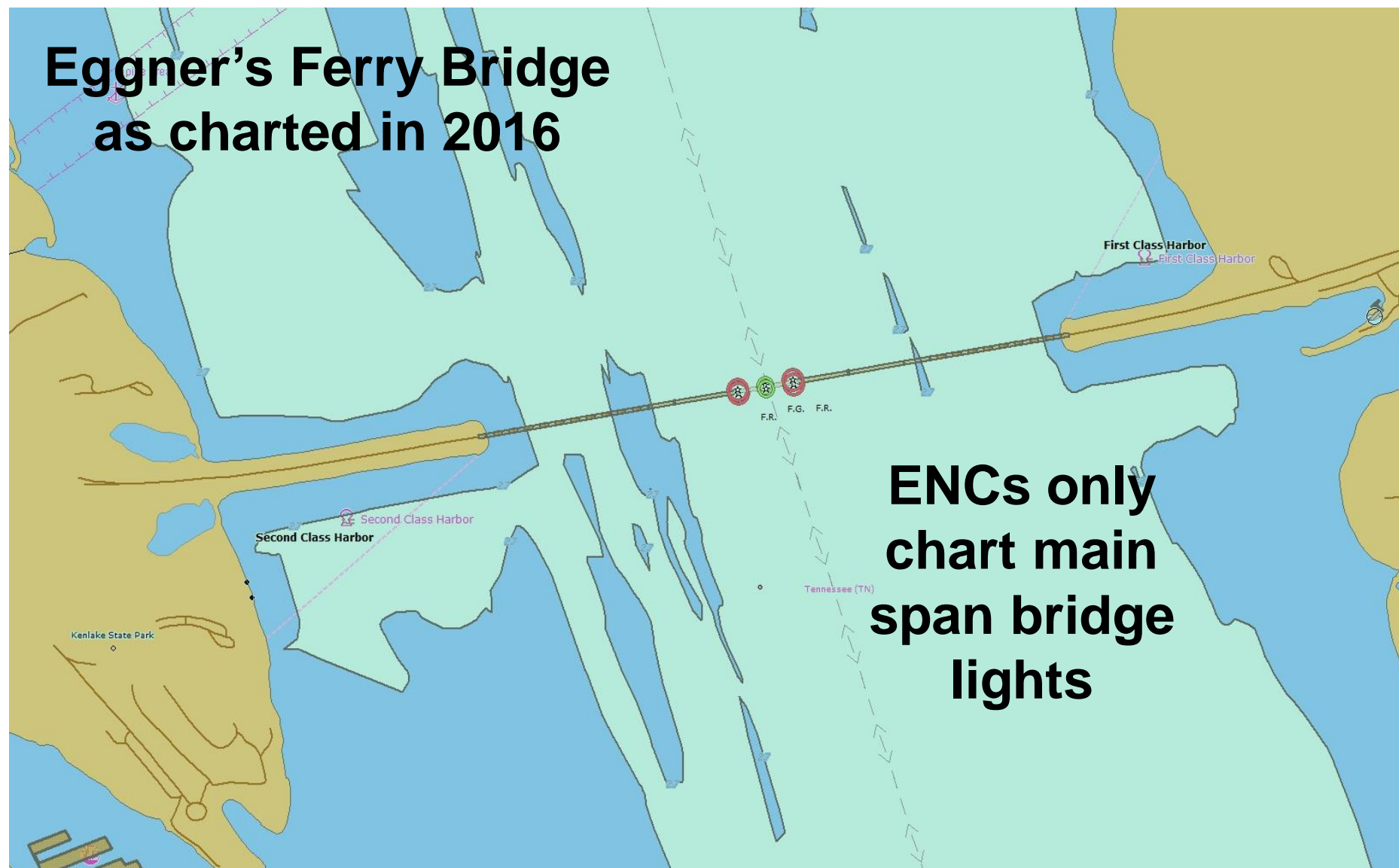
Homeland
Security







Eggner's Ferry Bridge as charted in 2016

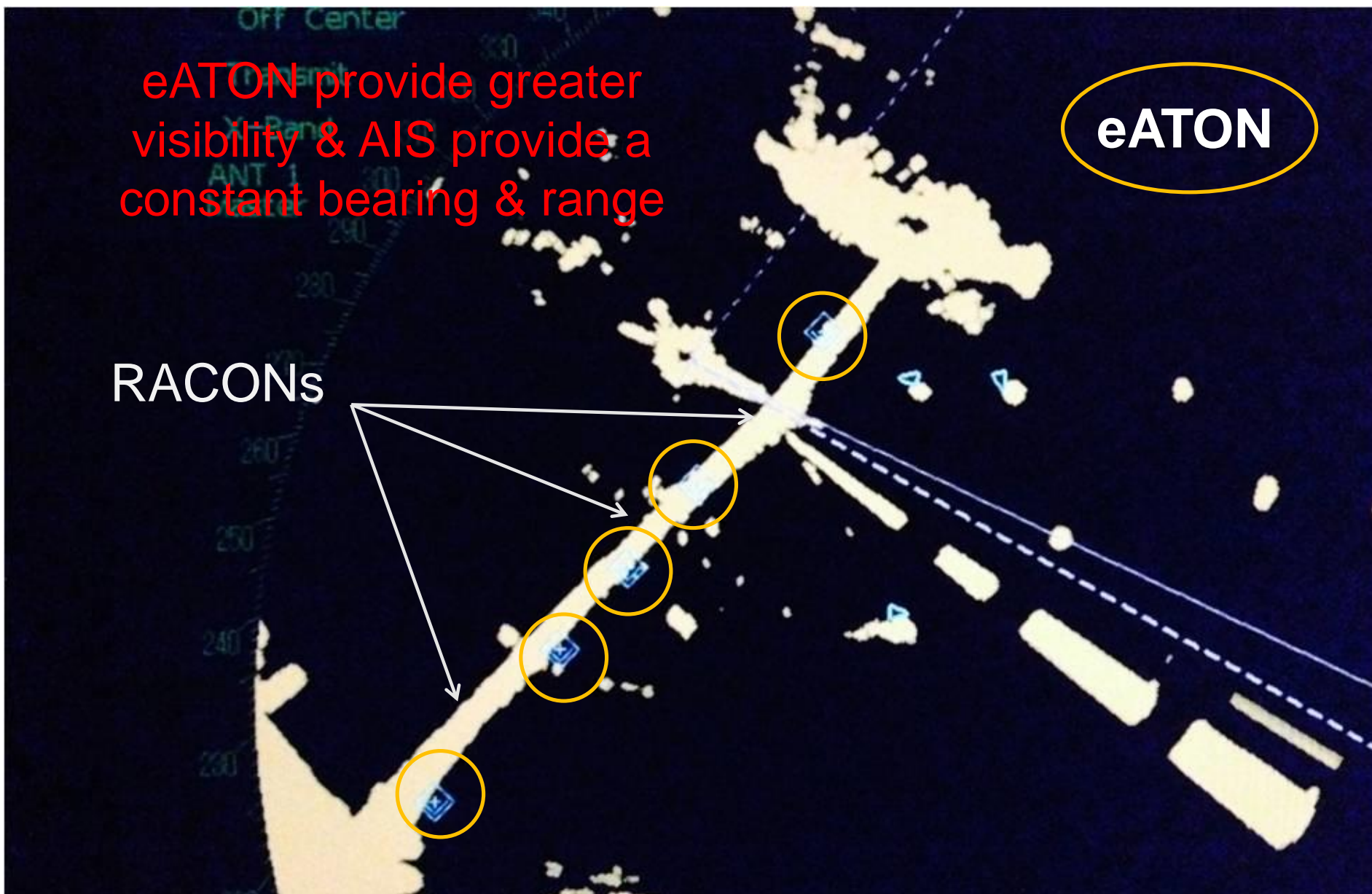


**ENCs only
chart main
span bridge
lights**

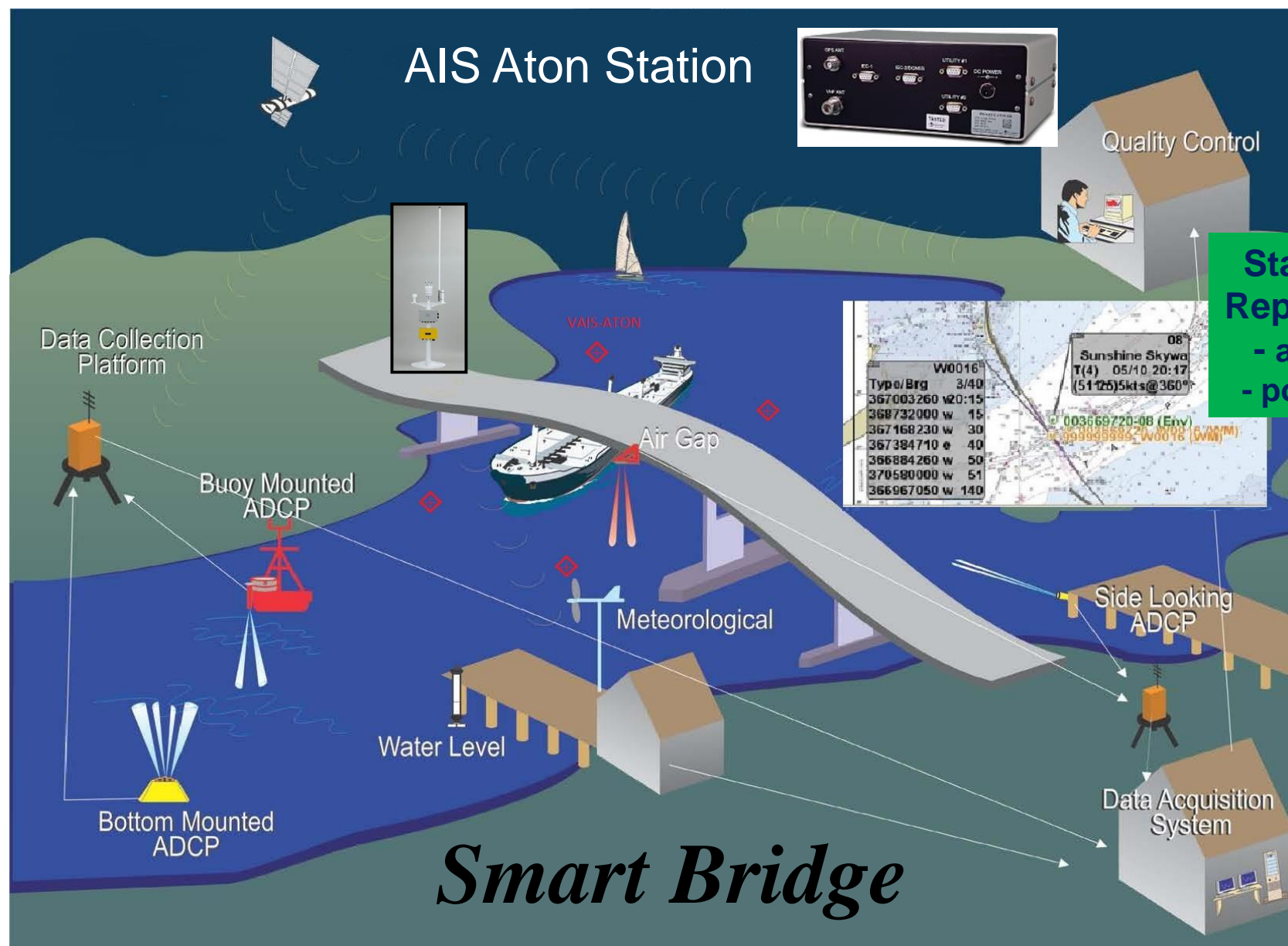
eATON provide greater
visibility & AIS provide a
constant bearing & range

eATON

RACONs



Smart Bridge is the capability to improve mariner's situational awareness by providing near real time information of status of bridges and environmental and navigational conditions through the use of AIS-ATON messaging.



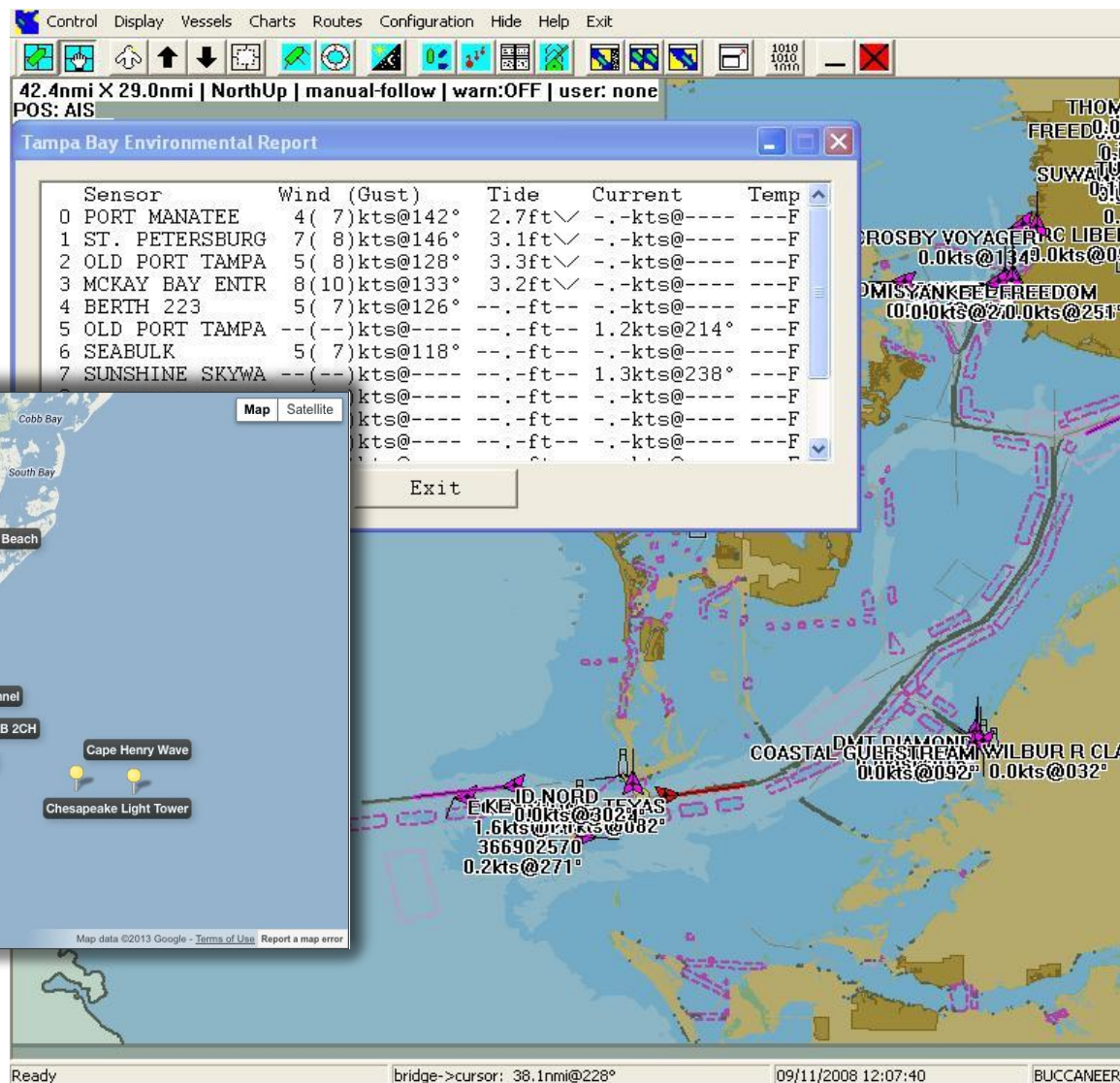
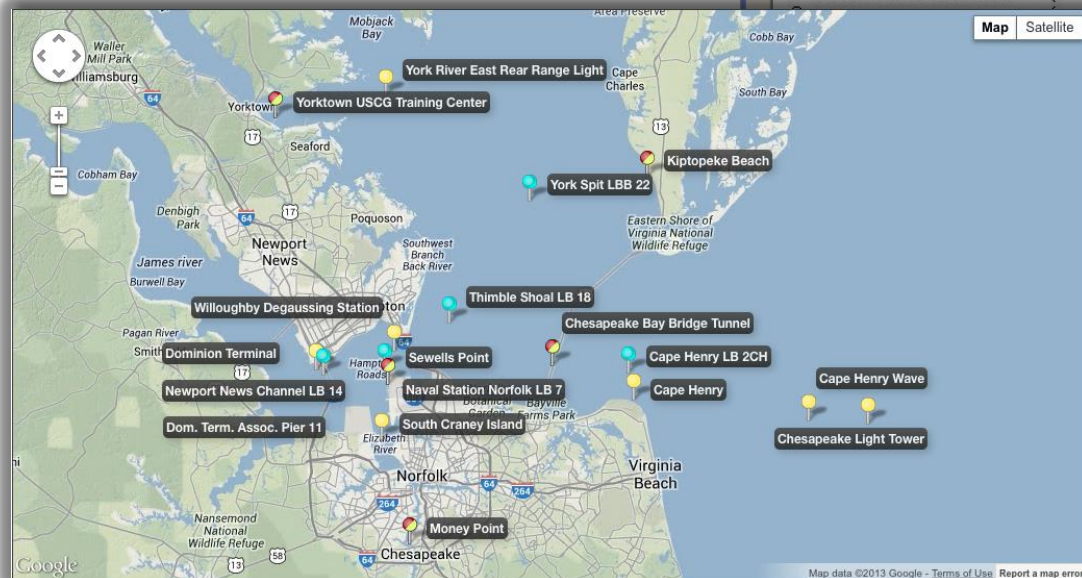
The AIS ATON can be configured to to notify the mariner of the bridge status:

- DELAIR BRIDGE CLOSED
- DELAIR BRIDGE OPEN
- DELAIR BRIDGE FAILED
- Delair Prototype

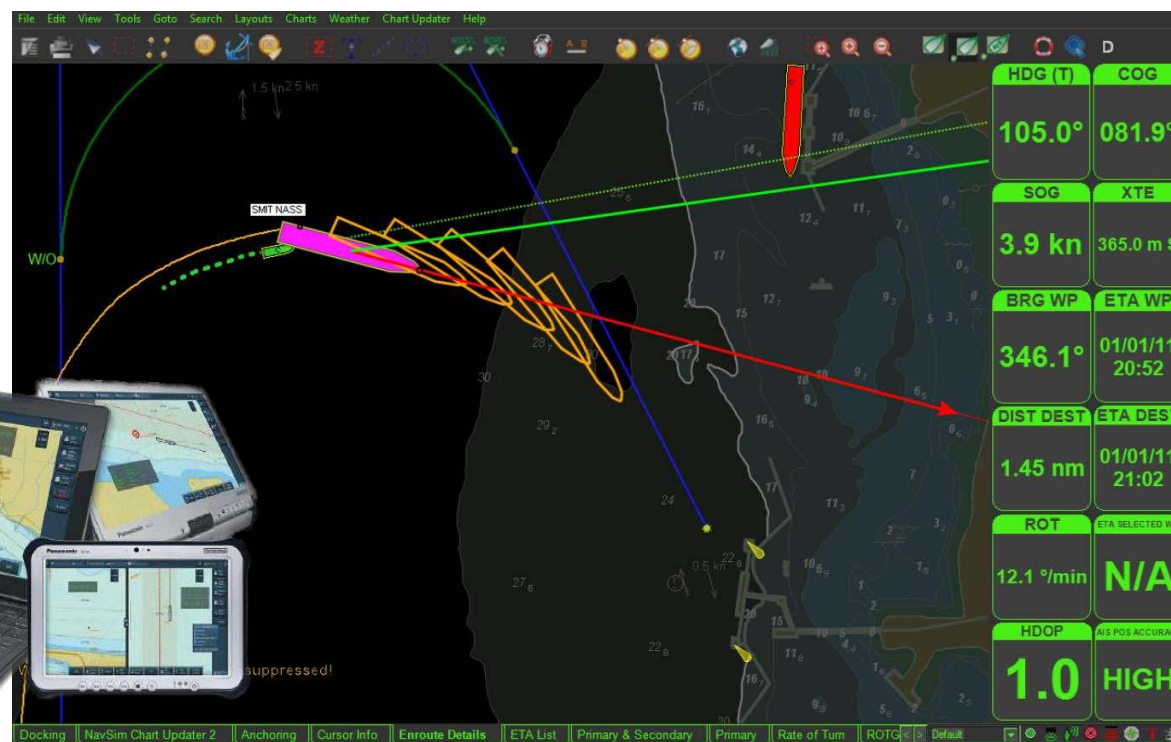


NOAA PORTS

Tampa & Chesapeake Bay



Personal Piloting Units (PPU)



United States Coast Guard

Waterway Management

**Thank
You**



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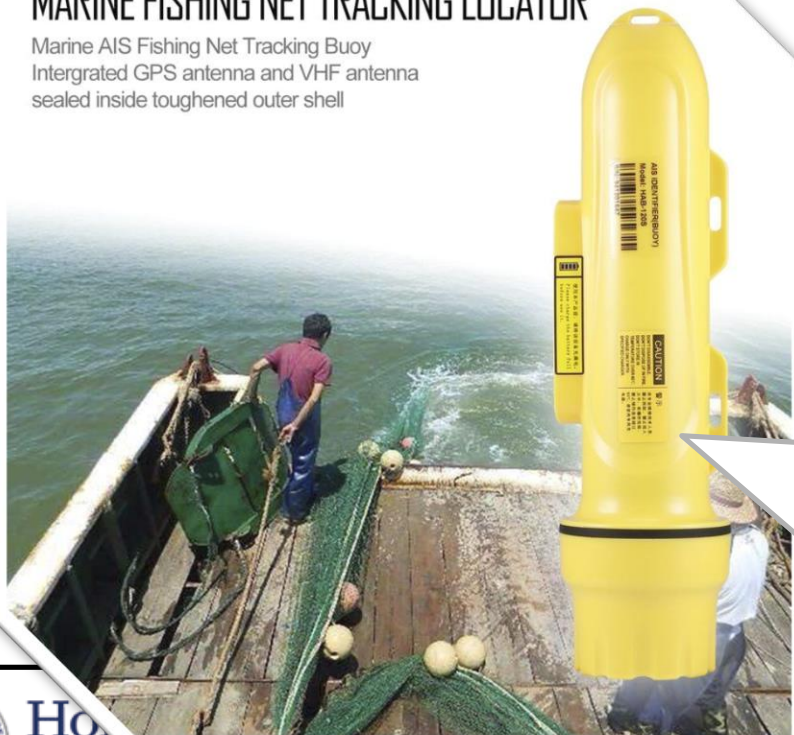


Automatic Identification System (AIS)

- Mandatory since April, 2016 for all commercial vessels > 65'
 - 1,100 fishing boats/day use it...
 - 72% are not properly encoded, 12% lack dimensions
- F/V may use Class B's vice costlier A's, but, maybe shouldn't

MARINE FISHING NET TRACKING LOCATOR

Marine AIS Fishing Net Tracking Buoy
Integrated GPS antenna and VHF antenna
sealed inside toughened outer shell



We are starting to see AIS net locators...per our AIS FAQ#18, most being sold on the internet are not FCC certified... thus are illegal to use in the USA!

It's a world-wide issue!

