

United States Coast Guard Office of Navigation Systems

National Marine
Electronics Association
Conference & Expo

*

October 1st, 2015
Baltimore, MD



"We Help Mariners Get There"

**Expanding AIS Carriage and
New Operating Requirements**

Jorge Arroyo | AIS Subject Matter Expert | USCG Headquarters | Washington, DC

AIS Rulemaking Timeline [NPRM Proposed Changes in **Bold-type**]

- ✓ 07/01/03 published Temporary Interim Rule and Request for Comments
- ✓ 10/23/03 current AIS requirement (33 CFR 164.46)
- ✓ 07/01/03-01/09/04 sought AIS expansion comment
- ✓ 10/31/05 notice expansion of AIS to **all** waters
- ✓ 12/16/08 NPRM ... 4/15/09 comment deadline
 - Commercial self-propelled vessels of ≥ 65 feet
 - No exclusions, i.e. fishing and small passenger vessels**
 - Towing vessels ≥ 26 feet & >600 hp
 - Vessels with ≥ 50 passengers (vice 150 for hire)
 - **Hi-speed passenger vessels (≥ 12 pax)**
 - **Certain dredges & floating plants, &**
 - **Vessel moving certain dangerous cargoes**

AIS Meetings & Comment Period...

- **Public Meetings**

- **Washington, DC – March 5th, 2009**

- **30+ attendees, 11 commenters**

- **Seattle, WA – March 25th, 2009**

- **30+ attendees, 12 commenters**

- **Comment period closed: April 15th, 2009**

- **80+ submissions, 300+ comments regarding AIS**

New AIS Carriage Requirements...

Effective March 2nd, 2015, these commercially self-propelled vessels, operating on U.S. navigable waters, must have a properly installed, operational Automatic Identification System (AIS) no later than March 1st, 2016

- vessels of ≥ 65 feet in length
- towing vessels of ≥ 26 feet in length & >600 hp
- vessels certificated to carry ≥ 150 passengers
- dredges and ~~floating plants~~ that operate in/near a commercial channel
- vessels engaged in the movement of certain dangerous cargo, **flammable or combustible liquid cargo in bulk**

| Effected Vessels by Type | 2003 | | 2015 | Total Vessels |
|--------------------------|--------------|--------------|--------------|---------------|
| | SOLAS | Domestic | | |
| Foreign ship >65'<300GT | | 1,119 | | 1119 |
| <i>Fishing</i> | 1 | - | 2,906 | 2907 |
| <i>Towing</i> | 13 | 2,212 | 1,429 | 3654 |
| <i>Passenger</i> | 81 | 171 | 288 | 540 |
| <i>Cargo</i> | 154 | 77 | 247 | 478 |
| <i>OSV</i> | 55 | 432 | 151 | 638 |
| <i>MODU</i> | 1 | - | 31 | 32 |
| <i>Industrial</i> | 21 | 11 | 220 | 252 |
| <i>Research</i> | 10 | 11 | 54 | 75 |
| <i>School</i> | | 5 | 10 | 15 |
| <i>Tank Ships</i> | 102 | 15 | 35 | 152 |
| <i>Unknown</i> | | 16 | 134 | 150 |
| <i>Unclassified</i> | | 13 | 326 | 339 |
| <i>Dredges</i> | | - | 17 | 17 |
| U.S. Total | 438 | 2,963 | 5,848 | 9,249 |
| Total | 4,520 | | 5,848 | 10,368 |

Noteworthy AIS provisions...

- **Applies to all navigable waters, no exceptions.**
- **Individual deviations (waivers) are permissible, but, only for vessels:**
 - **that solely operate within a very confined area**
e.g. shipyard, fleeting area, etc.
 - **on short & fixed schedules**
e.g. a bank-to-bank river ferry service
 - **otherwise not likely to encounter other AIS users**

Extends the deviation period from 1 to 5-years and broadens it to vessels on which AIS would be impractical, i.e. lack of display, power, open exposed conning position, etc.

Noteworthy AIS Provisions...

- **Spells out ‘effective operating conditions’ to include:**
 - the ability to reinitialize the AIS | know password
 - the accurate broadcast of an official MMSI
 - the accurate input, upkeep, and updating
 - the ability to access AIS info from conning position
- **AIS is primarily for the person controlling the vessel, who must maintain a periodic watch**
- **AIS text messaging solely in English & for navigation safety**
- **Permits the use of approved AIS Application Specific Messaging (ASM) for vessels (<1/min.)**

Noteworthy AIS provisions...

- **AIS does not relieve you of navigation rules signaling or radiotelephone requirements**
- **AIS (& assoc. sensors) shall remain on when:**
 - **Underway, at anchor, and at least 15 min. prior to unmooring**
 - **Except if it compromises safety or security**
 - **Securing it must be logged, reported, promptly restored**
- **Inoperative AIS is now a reportable deficiency, but, not a 'no sail' item**

**Prohibits mobile AIS from air, ashore
or on non-self propelled vessels**

Noteworthy AIS provisions...

AIS Class B devices permissible on:

- **dredges,**
- **fishing industry vessels, and**
- **vessels certificated to carry <150 passengers that do not operate in:**
 - **Vessel Movement Reporting System area, or**
 - **at speeds >14 kts**



Automatic Identification System

- What is AIS?
- How AIS Works
- Types of AIS
- AIS Messages
 - AIS Base Station Report
 - Class A Position Report
 - Class A Static & Voyage Data
 - Class B Reports
 - AIS ATON Report
 - Long Range AIS Report
- Nationwide AIS (NAIS)
- AIS Requirements
- Reference Information
 - AIS Encoding Guide & LOCODES
 - Frequently Asked Questions

Mission Areas

- Global Positioning System
- Nationwide DGPS
- Nationwide AIS (NAIS)
- AIS (Overview, Messages, etc.)
- Long Range Identification and Tracking
- Local Notice to Mariners
- Light Lists
- Civil GPS Service Interface Committee
- LORAN C (archive)

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- GPS Operational Summary (Daily)

AIS FREQUENTLY ASKED QUESTIONS

1. What is AIS?
2. What is an MMSI, how do I get one, and how do I program my AIS?
3. What is the AIS rule and are there alternatives to the rule for small businesses?
4. Do AIS Class B devices meet current USCG AIS carriage requirements?
5. How does AIS help to increase security (and what is NAIS)?
6. When must AIS be in operation?
7. Does the installation of the AIS require additional equipment in order for the AIS to operate properly?
8. Will it be necessary to have electronic navigational charts for use with the AIS?
9. Are fishing vessels subject to AIS carriage, and, is onboard Vessel Monitoring System (VMS) an acceptable substitute for the AIS?
10. Why have some AIS units stopped broadcasting valid position reports?
11. Why am I unable to see an AIS vessels' name or other static information (dimensions, call sign, etc.)?
12. Why do I sometimes see more than one vessel with the same MMSI or vessel name (i.e. NAUT)?
13. I just purchased and installed an AIS Class B, will AIS Class A user 'see' me?
14. Do AIS Class B devices meet current USCG AIS carriage requirements?
15. Is the USCG considering expanding AIS carriage to other vessels or outside of VTS areas?
16. How can I get a copy of an AIS presentation I saw (or heard about it) that was given at...
17. Where can I get AIS data?
18. Reserved for future use.
19. What is AIS Channel Management?
20. Can I use my AIS in an emergency or for distress messaging?
21. Is the Coast Guard broadcasting AIS Aids to Navigation Reports?
22. Have an AIS question not answered here?

Want to find out more?

1. What is AIS? Per 47 CFR §80.5, AIS is a maritime navigation safety communications system standardized by the International Telecommunication Union (ITU) and adopted by the International Maritime Organization (IMO) that provides vessel information, including the vessel's identity, type, position, course, speed, navigational status and other safety-related information automatically to appropriately equipped shore stations, other ships, and aircraft; receives automatically such information from similarly fitted ships; monitors and tracks ships; and exchanges data with shore-based facilities. [Read more](#) on what it is, how it works, what it broadcasts, and, the messages it uses, etc.





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- What is an MMSI, how do I get one, and how do I program my AIS?
- What is the AIS rule and are there alternatives to the rule for small businesses?
- Do AIS Class B devices meet current USCG AIS carriage requirements?
- How does AIS help to increase security (and what is NAIS)?
- When must AIS be in operation?
- Does the installation of the AIS require additional equipment in order for the AIS to operate properly?

14. Do AIS Class B devices meet current USCG AIS carriage requirements? Maybe. Per 33 CFR 164.46(b)(2), use of an AIS Class B device, in lieu of a mandatory Class A device, is permissible, but, only on: dredges; fishing industry vessels; and, vessels certificated to carry less than 150 passengers, that do not operate in a Vessel Movement Reporting System (VMRS) area defined in Table 161.12(c) or at speeds in excess of 14 knots. See a comparison of Class A and Class B/CS AIS.

- Why am I unable to see an AIS vessels' name or other static information (dimensions, call sign, etc.)?
- Why do I sometimes see more than one vessel with the same MMSI or vessel name (i.e. NAUT)?
- I just purchased and installed an AIS Class B, will AIS Class A user 'see' me?
- Do AIS Class B devices meet current USCG AIS carriage requirements?
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- How can I get a copy of an AIS presentation I saw (or heard about it) that was given at...
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**AIS FAQ#14
Class A/B
Comparison
Table**



Comparison of AIS mobile devices...

| Shipboard AIS | Class A | Class B/SO | Class B/CS |
|--|--|---|--|
| Transmit Power (Watts) | 12.5 W / 2 W (low-power) | 5 W / 2 W (low-power) | 2 W |
| Primary Access Scheme | Self-organizing Time-Division Multiple Access (SOTDMA) | SOTDMA | Carrier-sense TDMA non-competing with SOTDMA units |
| Position Reporting Rate | Either every 2, 3 ½, 6 or 10 s based on speed and course change. Every 3 min. when ≤ 3 kts. | Either every 5, 15 or 30 s based on speed (2-14, 14-23, >23 kts) Every 3 min. when ≤ 2 kts. | Every 30 s Every 3 min. when ≤ 2 kts. |
| Static Data Reporting Rate | Every 6 min | Every 6 min | Every 6 min |
| Frequency Range | 25 kHz bandwidth between 156.025 MHz to 162.025 MHz | 25 kHz bandwidth between 156.025 MHz to 162.025 MHz | 25 kHz bandwidth at minimum between 161.500 MHz to 162.025 MHz |
| Dedicated DSC Receiver for Channel Management | Yes | Yes | Time-shared |
| Position Source / WGS-84 to 1/10,000 of minute of arc | Internal Global Navigation Satellite System & connection to an External Electronic Positioning System (EPFS) | Internal GNSS | Internal GNSS |
| Digital Interfaces | 2 Input-Output & Multiple Presentation Outputs | Optional | Optional |
| Display | Multiple Keyboard Display (MKD) | MKD | Optional |
| Safety Text Messaging | Receive & Transmit | Receive & Transmit | Transmit Optional, and only with non-alterable pre-configured messages |
| Application Specific Messaging | Receive & Transmit | Receive & Transmit (up to 3 slots) | Receive Optional, cannot Transmit |
| Transmit Data | All | No Rate of Turn, Navigation Status, Destination, ETA, Draft, or IMO# | No Rate of Turn, Navigation Status, Destination, ETA, Draft, or IMO# |
| International Electrotechnical Commission (IEC) Certification Standard | IEC 61993-2 | IEC 62287-2 | IEC 62287-1 |



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1. What is AIS?
2. What is an MMSI, how do I get one, and how do I program my AIS?
3. What is the AIS rule and are there alternatives to the rule for small businesses?
4. Do AIS Class B devices meet current USCG AIS carriage requirements?

15. Is the USCG considering expanding AIS carriage to other vessels or outside of VTS areas? Yes. On January 30th, 2015 the Coast Guard published a Final Rule ([80 FR 5281](#)), which on March 2nd, 2015, expands AIS carriage ([68 FR 60599](#)) to most commercial vessels (see those effected [here](#)) operating on any [U.S. navigable waters](#), and, harmonizes U.S. AIS requirements with Regulation V/19.2.4 of the Safety of Life at Sea Convention and § 102 of the Maritime Transportation Security Act of 2002. The docket containing comments submitted, supporting documents, and the regulatory analysis to this and our proposed rulemaking ([73 FR 76295](#)) can be found at [www.regulations.gov](#) [Search: USCG-2005-21869]. Printer-friendly PDF formats of these [2015 requirements](#), our [2008 proposed rule](#), an [amalgamation](#) of both, our [2003 requirements](#), and, a [chart-comparison](#) of all three.

12. Why do I sometimes see more than one vessel with the same MMSI or vessel name (i.e. NAOT)?
13. I just purchased and installed an AIS Class B, will AIS Class A user 'see' me?
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**See Our
AIS FAQ #15
For More Info
on AIS Rules...**





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AIS FAQ#2
Note our
Encoding
Guide

2. What is an MMSI, how do I get one, and how do I program my AIS? A unique and official 9-digit Maritime Mobile Service Identity (MMSI) number is required for every AIS station. To obtain one see our [MMSI page](#). While special attention should be taken in installing an AIS (see [IMO Safety of Navigation Circular.227, GUIDELINES FOR THE INSTALLATION OF A SHIPBORNE AUTOMATIC IDENTIFICATION SYSTEM](#)), its initial programming is relatively straightforward; please see our [USCG AIS Encoding Guide](#) for further instructions. Note, AIS information programmed into the unit (i.e. MMSI, call-sign, name, etc.) should reflect the vessel's official data as provided in its radio station license or state registration (for those vessels licensed by rule).

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After initial programming, users must ensure their AIS is always in effective operating condition and broadcasting accurately (33 CFR §164.46(d)). Failure to do so could subject a person to civil penalties not to exceed \$25,000 (46 U.S.C. 70119). Note, each USCG type-approved AIS has an internal built-in integrity tester that mitigates the need to send TEST text messages. For further guidance on the programming and use of AIS text messages please read [USCG Safety Alert 05-10](#).

20. Can I use my AIS in an emergency or for distress messaging?
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Homeland Security

www.navcen.uscg.gov or Search: AIS FAQs



USCG AIS Encoding Guide

*
Minimizes
Updates

AUTOMATIC IDENTIFICATION SYSTEM U.S. ENCODING GUIDE



AUTOMATIC IDENTIFICATION SYSTEM is a valuable navigation safety radio communication tool. However, its usefulness is undermined by the broadcast

of inaccurate, improper or outdated data. This Encoding Guide is intended to assist mariners in the proper entry of AIS data. Mariners are reminded that U.S. regulation requires that each AIS be maintained in effective operating condition, which includes accurate input and upkeep of AIS data parameters. Failure to do so may subject a vessel to civil penalties; to avoid such action AIS Users should ensure their system is up-to-date and encoded according to the guidance contained here.

Dynamic Data...should be provided via systems that are type-certified, properly installed, maintained and operational¹

- External Electronic Positioning Fixing System (EPPFS), Heading, and Rate of Turn (ROT) data should be integrated into the AIS, per SOLAS Regulation V/19.2, on vessels on international voyage (SOLAS-certificated) of 130 gross tonnage or greater; of 300 gross tonnage or greater, and of 50,000 gross tonnage or greater, respectively. An external EPPFS is **not** required on vessels that solely operate domestically.
- Pilot Plug, on vessels required to embark pilots, **must** be readily available and easily accessible from the primary conning position of the vessel and permanently affixed (not an extension cord) and adjacent (within 3 feet) to a 120-volt 50/60 Hz AC power receptacle (NEMA 3-15).

Safety-Related Text Messaging...should be short, concise, and used only to exchange pertinent navigation safety-related information

- AIS safety-related text messages (SRM) must be in English and used solely to exchange navigation safety information.
- Although not prohibited, AIS text messaging **should not** be relied upon as the primary means for distress (MAYDAY) or urgent (PAN PAN) communications.²
- Keep SRM concise and as short as possible (less than 90 characters). The use of abbreviations is acceptable and highly encouraged; see the Notice to Mariners, USCG Local Notice to Mariners, Light List, and U.S. Nautical Chart No. 1 for a listing of common abbreviations.
- Testing or repair facilities, when conducting on-air testing, should also periodically broadcast an AIS SRM stating: "TEST BCSY". Repair related testing should be kept to a minimum and **not** exceed one hour per day.

Static Data...should reflect the vessel's official radio license or documentation, be inputted at installation, and be password protected

- Names exceeding 20 characters (the parameter limit) should be truncated, **not** abbreviated, and include all unique distinguishing characters. For example, the tug *JOLLY ROGER OF THE SEA* 123456 should be inputted as JOLLY ROGER 0-123456. Names **should not** include vessel type precursors, e.g. F/V, M/V, MV, OSV, P/V, REC, S/V, TUG; except public vessels, i.e. CG, CBP, USN, LAPD, NYFD, etc. If your vessel is not officially named, input "USA#³ followed by your state registration number, e.g. USA#NY1234YZ. If unnumbered (e.g. associated craft, tenders), use your parent vessel's name followed by a dash (-) and a numerical designator that distinguishes you amongst others. For example, the first tender for the cruise ship *JOLLY ROGER OF THE SEA* should be inputted as JOLLY ROGER OF THE-1. Additionally, its AIS message 24B call-sign parameter should reflect the last 6-digits of JOLLY ROGER OF THE SEA's MMSI preceded by an 'A', e.g. A123456.

- Maritime Mobile Service Identity (MMSI) should reflect the MMSI assigned to the vessel by the Federal Communications Commission (FCC) or one of its agents.

- Call-sign should reflect the call-sign assigned to the vessel by the FCC; absent a call-sign, input 0000000.

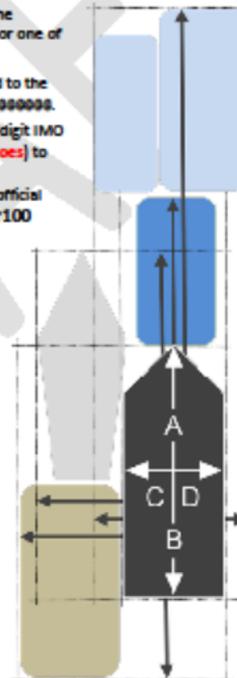
- IMO Number⁴ should reflect the assigned 7-digit IMO number. Use leading zeroes (**not trailing zeroes**) to fill the parameter, e.g. 0001234567. Absent an IMO assignment, input your U.S. official documentation number preceded by either "100 or 1000", e.g. 1001234567, 1000123456.

- Type of positioning source should reflect the actual system in use, i.e. GPS, combined GPS-GLONASS, etc.

- Type of vessel should reflect the appropriate Ship Type (see accompanying table).

- Antenna Position | Vessel Dimensions should be inputted in meters (**not feet**) and reflect the overall dimensions of the vessel, expressed as the distance fore (A), aft (B), to port (C), and to starboard (D) to the positioning-system antenna used by AIS; the intersection of the two white lines in the diagram.

For U.S. Ship Type 37 (see Table) dimensions should reflect the overall rectangular area of the vessel **and its tow**—as portrayed by the extended dark arrows within the rectangles in the diagram.



Know your password, you will need it to encode your AIS

Voyage Related Data...should be inputted as necessary to always indicate up to date conditions

- Navigation Status, i.e. at anchor, underway, engaged in fishing, etc, should always be up-to-date.

Note, vessels engaged in towing should use: Navigation Status '11' when towing astern, or '12' when pushing ahead or alongside.

Remember to change your status when at anchor or moored. Doing so reduces the AIS reporting rate from 2-10 seconds to once every 3 minutes; which mitigates network congestion and improves overall AIS range.

- Static Draft should be inputted in meters (**not feet**) and reflect the vessel's actual or maximum draft.
- Estimated Time of Arrival (ETA) to destination; or voyage departure time, if moored or anchored; or operational termination time (i.e. workboats) should be inputted in Universal Time Coordinated (UTC), **not** local time.
- Destination⁵ and your origination should be inputted using 5-character UN location codes (UNLOCODE)⁶ for (per IMO SN/Circ.244) or 4-character U.S. GUID⁷ codes, as follows:

Origination-Destination using UNLOCODE only

USNYC-NLRTN ...one-way voyage New York City to Rotterdam
USNYC-<USNYC ...a voyage to and fro, e.g. dinner cruise
USHOU->USHOU ...operating solely within a well defined area, e.g. fishing area, vessel traffic service area, etc.

Origination-Destination using UNLOCODE and USGUID
CNSHA-USA0VCY ...for Shanghai to San Francisco Pier 35

Origination-Destination using USGUID only

USA0Y0P-><0Q6L ...a scheduled route, i.e. Staten Island Ferry
USA0VCY-><0VCY ...a voyage to and fro, e.g. dinner cruise
USA0MVR-<< ...anchored, moored, or on station (e.g. MODU, FPSO)

Note, the difference in symbology { ^ } > | < < < < }

¹ See <http://wireless.fcc.gov/service/index.htm> (Ship Radio Stations)

² Obtained at www.imo.org/press/pressreleases/2004/04/040404.htm

³ Per IMO SN/Circ. 227 & 224 or NMEA 0400 Installation Guidelines

⁴ Any port or offshore place in which a vessel is bound to embark or disembark cargo, crew or passengers; or anchor or maintain station for considerable period of time (i.e. Outer Continental Shelf activity)

⁵ Find Country (ISO 3166) & United Nations Location Codes (UNLOCODE) at: www.unecoc.org/cefact/locode/welcome.html

⁶ Find U.S. Geographic Unique Identifiers (USGUIDS) for ports, places, berths, routes, and waterways at: www.navcen.uscg.gov/?pageName=locode

⁷ If AIS lacks angle brackets (< >) substitute with parenthesis () | X | O | (| (|)

⁸ See 47 CFR 80.1109—Distress, urgency, and safety communications



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Voyage-Related-Data...should-be-manually-inputted-as-necessary-to-always-indicate-current-conditions

- Navigation Status should indicate your current navigational status, i.e. at anchor, underway, engaged in fishing, etc.

Note, vessels engaged in towing should use:

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Remember to change your status when anchored or moored. Doing so reduces the AIS reporting rate of 2-10 seconds to once every 3 minutes, which mitigates network congestion.

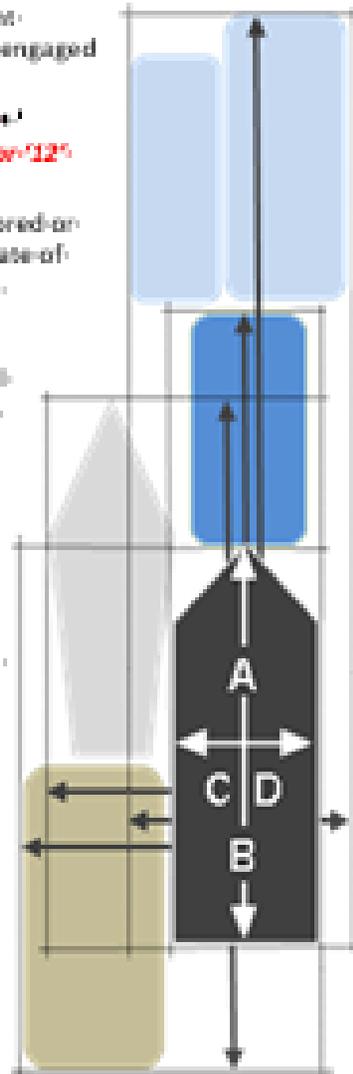
- Static Draft should indicate the vessel's actual draft. Input the vessel's maximum draft if the actual draft is unknown.

- Type of vessel should indicate a Ship Type denoted in the accompanying table.

- Dimensions should indicate the official dimensions of the vessel, in meters not feet, derived from the fore, aft, port and starboard distance to the positioning system antenna used by AIS (e.g. GPS antenna). Refer to the diagram. In this example the AIS's GPS antenna is located at the intersection of the two white lines.

U.S. Ship Type 57 (see Table) dimensions should represent the overall rectangular area of the vessel and its tow as portrayed by the dark arrow lines within the rectangles in the diagram.

- Estimated Time of Arrival to destination or voyage departure (if moored or anchored). Input Universal



USCG AIS Encoding Guide

*

Vessel/ABCD Dimensions For Vessel or Vessel+Tow



2-digit numeric codes for *Type of Ship* are composed from 1st and 2nd digit columns or as defined in columns 3x or 5x. The terms used are as defined in IMO SOLAS, 46 U.S.C. 2101 or 33 CFR 140.10. Blue and/or italic text denotes amplifying text not found in the original source (ITU-R M.1371-5)

| 1 st digit | 2 nd digit | [3x] others "engaged in" | [5x] special craft |
|---|--|--|---|
| 0 – Not available | 0 – All ships of this type | 30 – Fishing vessels, including processors, but, not tenders (see code 'S3')* | 50 – Pilot vessel |
| 1 – Reserved for future use | 1 – Carrying DG, HE, or MP, IMO hazard or pollutant category X DO NOT USE | towing system and the length of tow is under 200 meters its breadth is 25 meters (82 ft.) or less* | 51 – Search and rescue vessels, i.e. USCG boats, USCG Auxiliary, assistance tugs |
| 2 – WIG | 2 – Carrying DG, HE, or MP, IMO hazard or pollutant category Y DO NOT USE | towing system and length of the tow exceeds 200 meters breadth exceeds 25 m (82 ft.)* | 52 – Tugs, light boats, push-boats, towboats or workboats, that do not engage in towing |
| 3 – Other vessels engaged in a devoted in column 3x) | 3 – Carrying DG, HE, or MP, IMO hazard or pollutant category Y DO NOT USE | engaged in dredging, or underwater operations, such as surveying, sampling, other types of scientific research, (log)* | 53 – Fish, offshore or port tenders |
| 4 – HSC (HI-speed Craft) or passenger ferries | 4 – Carrying DG, HE, or MP, IMO hazard or pollutant category Z DO NOT USE | engaged in diving operations; or other types of operations in the water* | 54 – Commercial response vessels with anti-pollution facilities or equipment |
| 5 – Special craft, per column 1) | 5 – Carrying DG, HE, or MP, IMO hazard or pollutant category Z DO NOT USE | engaged in military operations; or other types of operations | |
| 6 – Passenger ships other than and passenger ferries; include shore supply vessels (OSV) | 6 – Carrying DG, HE, or MP, IMO hazard or pollutant category Z DO NOT USE | | 56 – Spare—for assignments to local vessels that are engaged in towing ahead or alongside, and whose dimensions (ABCD values) represent the overall dimensions of the vessel not including its tow* |
| 7 – Cargo (freight) ships, including articulated (ATB) and integrated tug-barge (ITB) vessels | 7 – Reserved for future use | 37 – Measure craft | 57 – Spare—for assignments to local vessels that are engaged in towing ahead or alongside, and whose dimensions (ABCD values) represent the overall area of the vessel including its tow* |
| 8 – Tankers, including articulated (ATB) and integrated tug tank barge (ITB) vessels | 8 – Reserved for future use | 38 – Reserved for future use | |
| 9 – Other types of ship | 9 – No additional information <i>99 - autonomous or remotely-operated unmanned craft</i> | 39 – Reserved for future use | 59 – Ships according to RR Resolution No. 18 (Mob-83) |

*Remember to also update your Navigation Status accordingly, i.e. Nav Status: 3 – restricted maneuverability; 8 – under sail; 11 – towing astern; 12 – pushing ahead/alongside, etc.
For further information or additional copies visit www.navcen.uscg.gov or email cgnav@uscg.mil

***** DRAFT ***** Redistribution with or without USCG indicia is permissible and encouraged ***** DRAFT *****



Homeland Security





NAVIGATION CENTER

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U.S. Department of Homeland Security

UNITED STATES COAST GUARD



Home | DGPS Advisories | GPS Constellation Status | MSI Data Downloads | GPS Testing Notices | LNMs | Almanacs | Nav Rules | AIS | N. Amer. Ice Svc | Contact Us | Search

Automatic Identification System

- What is AIS?
- How AIS Works
- Types of AIS
- AIS Messages
 - AIS Base Station Report
 - Class A Position Report
 - Class A Static & Voyage Data
 - Class B Reports
 - AIS ATON Report
 - Long Range AIS Report
- Nationwide AIS (NAIS)
- AIS Requirements
- Reference Information
 - AIS Encoding Guide & LOCOCODES
 - Frequently Asked Questions

AIS FREQUENTLY ASKED QUESTIONS

1. What is AIS?
2. What is an MMSI, how do I get one, and how do I program my AIS?

16. How can I get a copy of an AIS presentation I saw (or heard about it) that was given at...You can download recent presentations given by Coast Guard Office of Navigation Systems personnel here:

- Arroyo@RTCM_2013_09_24 (PDF, 520KB)
- Arroyo@GMDSS_TF_2013_09_26 (PDF, 777KB)
- Arroyo@IALA_VTS_Symposium_on_(2012_09_11) (PDF, 5,243KB)
- Arroyo@Mid-Atlantic_Waterways_Conference_(2012-4-20) (PDF, 6MB)
- Arroyo@USACE IENCP Meeting (2012-04-19) (PDF, 7.74MB)

12. Why do I sometimes see more than one vessel with the same MMSI or vessel name (i.e. NAUT)?
13. I just purchased and installed an AIS Class B, will AIS Class A user 'see' me?
14. Do AIS Class B devices meet current USCG AIS carriage requirements?
15. Is the USCG considering expanding AIS carriage to other vessels or outside of VTS areas?
16. How can I get a copy of an AIS presentation I saw (or heard about it) that was given at...
17. Where can I get AIS data?
18. Reserved for future use.
19. What is AIS Channel Management?
20. Can I use my AIS in an emergency or for distress messaging?
21. Is the Coast Guard broadcasting AIS Aids to Navigation Reports?
22. Have an AIS question not answered here?

See
AIS FAQ #16
for Copy of this
Presentation

1. What is AIS? Per 47 CFR §80.5, AIS is a maritime navigation safety communications system standardized by the International Telecommunication Union (ITU) and adopted by the International Maritime Organization (IMO) that provides vessel information, including the vessel's identity, type, position, course, speed, navigational status and other safety-related information automatically to appropriately equipped shore stations, other ships, and aircraft; receives automatically such information from similarly fitted ships; monitors and tracks ships; and exchanges data with shore-based facilities. [Read more](#) on what it is, how it works, what it broadcasts, and, the messages it uses, etc.

Mission Areas

- Global Positioning System
- Nationwide DGPS
- Nationwide AIS (NAIS)
- AIS (Overview, Messages, etc.)
- Long Range Identification and Tracking
- Local Notice to Mariners
- Light Lists
- Civil GPS Service Interface Committee
- LORAN C (archive)

Subscribe / Report (free)

- Local Notice to Mariners (Weekly)
- GPS Operational Summary (Daily)

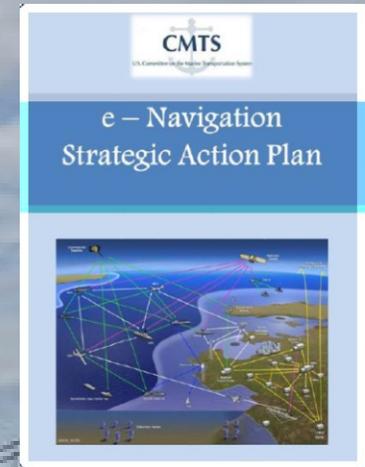


Homeland Security

www.navcen.uscg.gov or Search: AIS FAQs



“The ultimate goal of e-Navigation efforts in the U.S. is to use timely and reliable information to make the U.S. Marine Transportation System operate better.”



2011

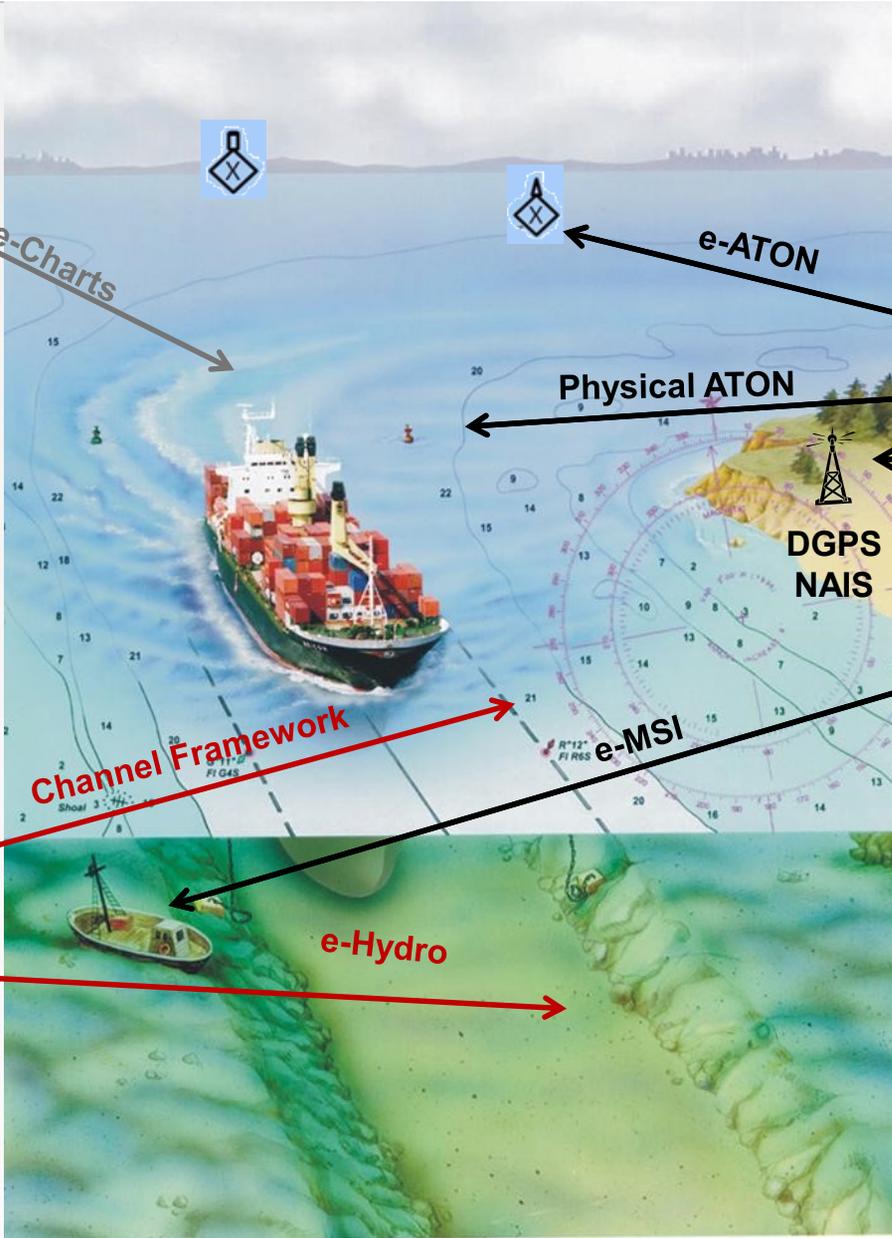
“The U.S. vision for e-Navigation is to establish a framework that enables the transfer of data between and among ships and shore facilities, and that integrates and transforms that data into decision and action information.”

The ENAV Trident



PORTS | Weather
ENC | RNC | POD
Tides & Currents
Hydrographic Survey

e-Charts



e-ATON

Physical ATON

DGPS
NAIS

e-MSI

e-Hydro

Channel Framework



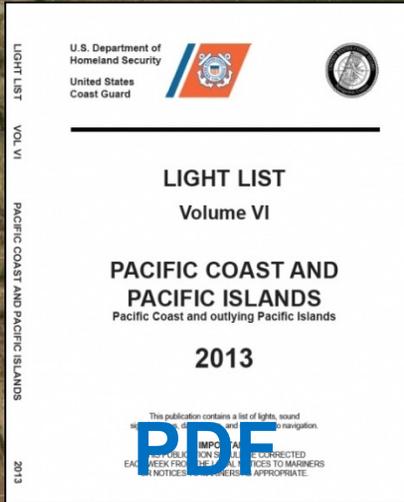
NAIS
Light List
Navigation Rules
Local Notice to Mariners
Urgent Marine Information
Broadcasts



IENC
Chart Booklets
Hydrographic Surveys

Shared Waterway Responsibility

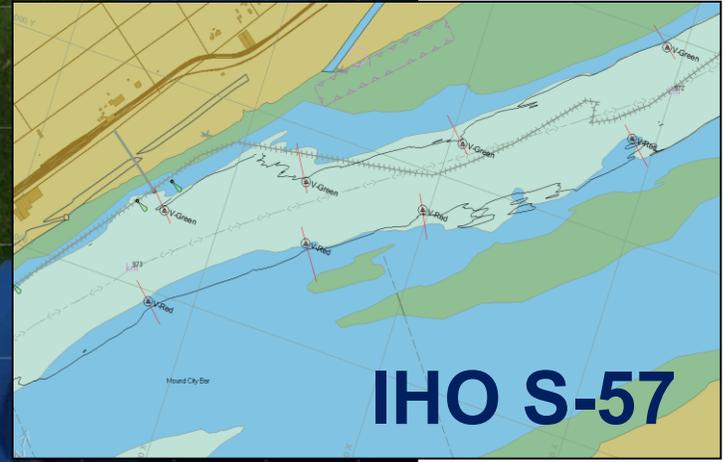
Western Rivers Buoy Data



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XML



IHO S-57

| River No. | Name and Location | Mile | Bank | Characteristic | | | | Structure (Up/Down) | | Remarks | Mile | Latitude | Longitude |
|------------|-------------------|------------|------|----------------|--------|--------|--------|---------------------|-----|---------|------|----------|-----------|
| | | | | LITCHR | SIGGRP | COLOUR | SIGPER | (1) | (2) | | | | |
| XLS | SORIND OBJNAM (1) | OBJNAM (2) | | LITCHR | SIGGRP | COLOUR | SIGPER | (1) | (2) | STATUS | | | |

eATONS used at last years America's Cup

C3CEN Web Site - Windows Internet Explorer provided by U. S. Coast Guard

UNCLASSIFIED

http://d05ms-c2-sccbs1/AIS_DBO/Scripts/Login.pl

File Edit View Favorites Tools Help

Links Customize Links

C3CEN Web Site

Page Tools

Alarms

Alerts

Anomalies

AtoN

PSS Groups

Messages>

Weather

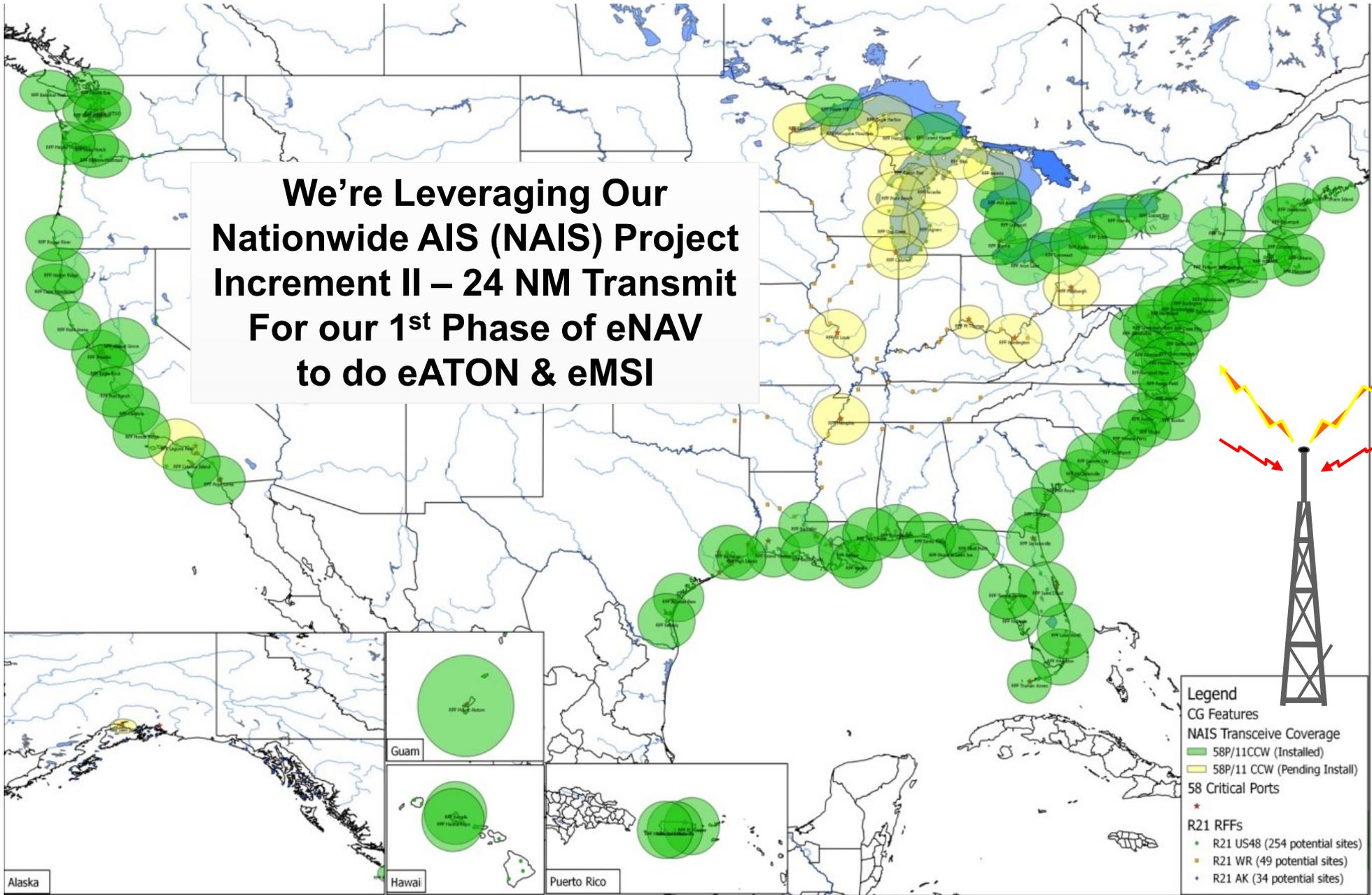
Zones

Aircraft

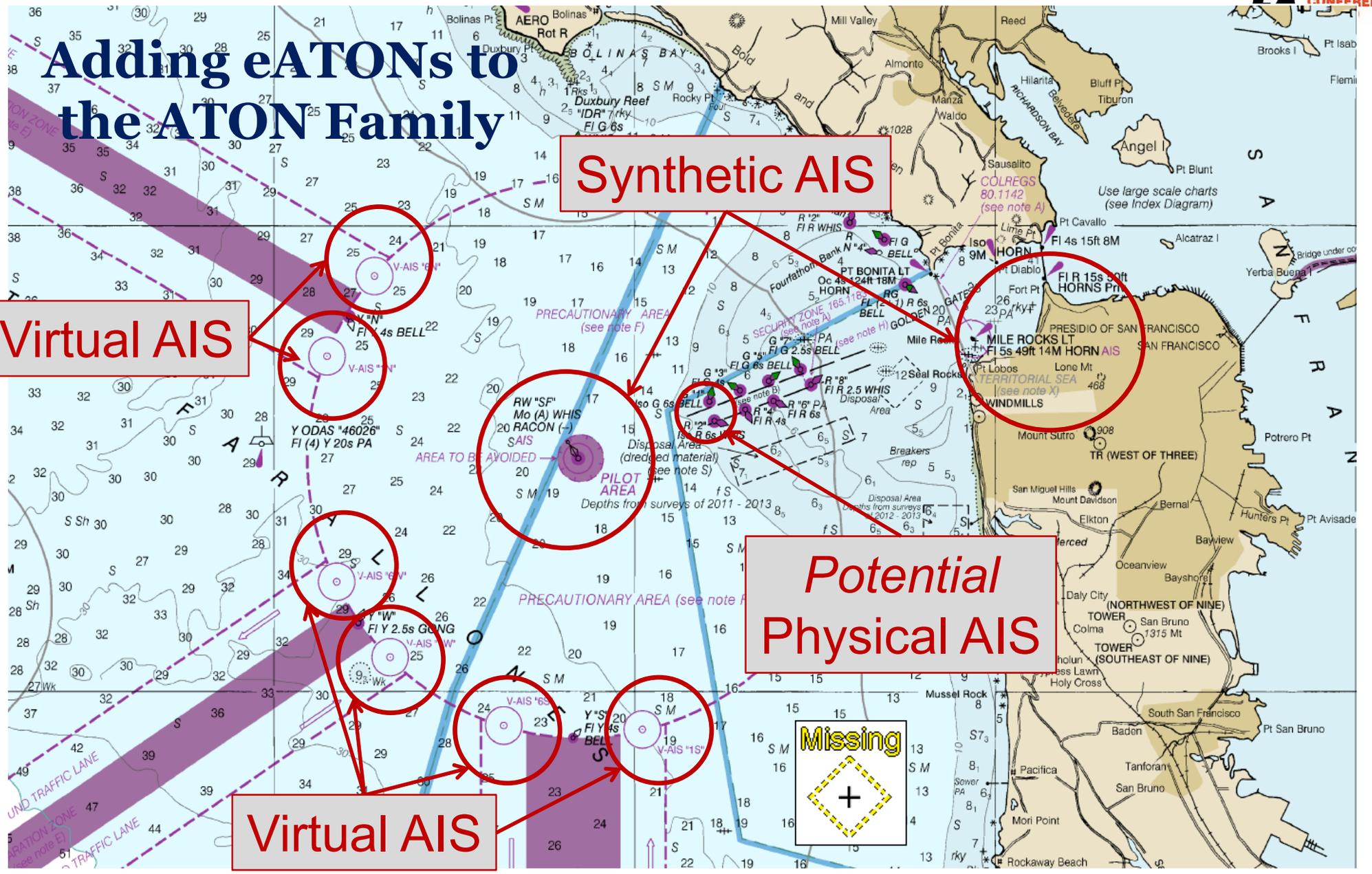
Main Menu

Logout

**We're Leveraging Our
Nationwide AIS (NAIS) Project
Increment II – 24 NM Transmit
For our 1st Phase of eNAV
to do eATON & eMSI**



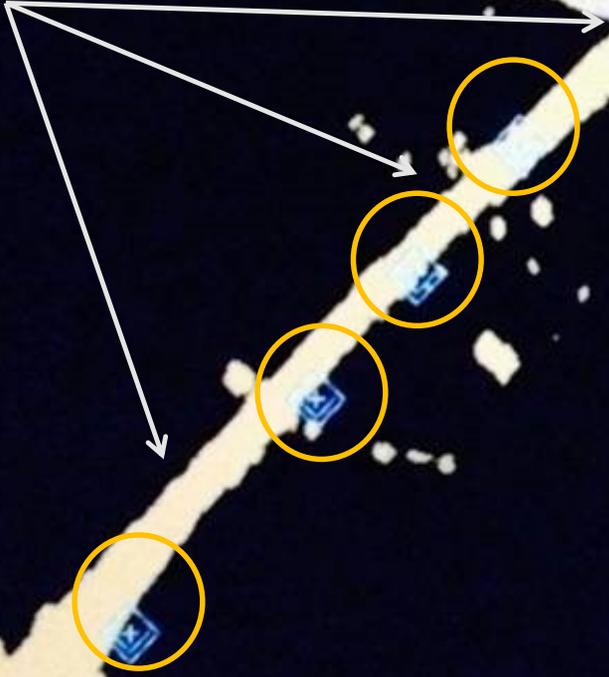
Adding eATONs to the ATON Family



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

eATON

RACONs



NOAA PORTS Tampa & Chesapeake Bay

Control Display Vessels Charts Routes Configuration Hide Help Exit

42.4nmi X 29.0nmi | NorthUp | manual-follow | warn:OFF | user: none
POS: AIS

Tampa Bay Environmental Report

| Sensor | Wind (Gust) | Tide | Current | Temp |
|------------------|-----------------|--------|-------------|------|
| 0 PORT MANATEE | 4 (7)kts@142° | 2.7ft✓ | -.kts@---- | ---F |
| 1 ST. PETERSBURG | 7 (8)kts@146° | 3.1ft✓ | -.kts@---- | ---F |
| 2 OLD PORT TAMPA | 5 (8)kts@128° | 3.3ft✓ | -.kts@---- | ---F |
| 3 MCKAY BAY ENTR | 8 (10)kts@133° | 3.2ft✓ | -.kts@---- | ---F |
| 4 BERTH 223 | 5 (7)kts@126° | -.ft-- | -.kts@---- | ---F |
| 5 OLD PORT TAMPA | --(--)-kts@---- | -.ft-- | 1.2kts@214° | ---F |
| 6 SEABULK | 5 (7)kts@118° | -.ft-- | -.kts@---- | ---F |
| 7 SUNSHINE SKYWA | --(--)-kts@---- | -.ft-- | 1.3kts@238° | ---F |

Exit

Ready | bridge->cursor: 38.1nmi@228° | 09/11/2008 12:07:40 | BUCCANEER

United States Coast Guard

Office of Navigation Systems



Thank You

Jorge.Arroyo@uscg.mil
cgnav@uscg.mil
1-202-372-1563

U.S. Coast Guard
Office of Navigation Systems
Washington, DC 20953



Homeland
Security

