



# Safety Advisory Bulletin 06-01

## Automatic Identification Systems (AIS)

from Ecology's Spill Prevention, Preparedness, and Response Program (Spills)

The International Maritime Organization (IMO) states, "Automatic identification systems (AIS) are designed to be capable of providing information about the ship to other ships and to coastal authorities automatically."

"The regulation requires that AIS shall:

- provide information - including the ship's identity, type, position, course, speed, navigational status and other safety-related information - automatically to appropriately equipped shore stations, other ships and aircraft;
- receive automatically such information from similarly fitted ships;
- monitor and track ships; and
- exchange data with shore-based facilities."

Recent observations by Washington State Department of Ecology (Ecology) personnel revealed a number of instances when AIS-transmitted data was in error. Observed errors included incorrect vessel heading, estimated time of arrival (ETA) and destination information. Discussion with U.S. Coast Guard authorities on AIS indicates that problems with AIS implementation include: incorrect vessel status information, mariners who are unfamiliar with their installed AIS system, and mariners unfamiliar with the interface between the AIS unit and other vessel equipment that provides information for the unit to transmit.

In November 2005, the U.S. Coast Guard issued the following statement in Local Notice to Mariners:

*The Coast Guard has noticed that many Automatic Identification System (AIS) users are not updating their unit to accurately reflect voyage related information-navigation status, static draft, destination, ETA, etc. Further, the Coast Guard has encountered AIS units that either do not transmit at all or improperly transmit the vessel's dynamic data-position, course, speed, heading, etc. The former problem requires due diligence on behalf of the user, the latter is most likely due to the improper installation or operation of external sensors-gyro or heading device and vessel GPS system-inputted into the AIS. AIS users are compelled to properly operate their AIS at all times (33 CFR § 164.46). They should pay close attention to these matters, and are encouraged to make each other aware of AIS discrepancies they come upon. Improper operation of AIS could subject the user to civil penalties not to exceed \$25,000.*

*Note, AIS data can be invaluable, however, as with any source of navigation information; it should not be solely relied upon in making navigational and collision-avoidance decisions. Further, while AIS allows for safety related ship-to-ship text messaging to communicate with others and make passing arrangements, these communications do not meet the requirements of the Vessel Bridge-to-Bridge Radiotelephone Act (33 U.S.C. 1201*

*et seq.) for broadcasts on the designated bridge-to-bridge channel, nor do they relieve a vessel operator from the Navigation Rules requirement to sound whistle signals or display lights and shapes. To report an AIS problem or for further information regarding AIS, including our plans to extend carriage requirements, visit [www.navcen.uscg.gov/enav/ais](http://www.navcen.uscg.gov/enav/ais).*

Ecology is concerned that over-reliance on AIS data could result in the degradation of a mariner's situational awareness and development of an error chain leading to a collision or other casualty.

### **Significant Lessons Learned**

- AIS equipment should be installed, calibrated, tested, and maintained according to the manufacturer's directions and regulatory requirements (see the U.S. Code of Federal Regulations 33 CFR 164.46 and SOLAS V/19.2.4) to ensure proper operation and to avoid confusion by receiving ship-board and shore-based observers.
- Mariners must not rely solely on AIS data for information on the movements of vessels with which they interact, and must adhere to the collision regulations requirement to "use all means appropriate to the prevailing circumstances and conditions to determine if risk of collision exists." AIS are another tool to aid situational awareness, and, as the name implies, its main purpose is to automatically identify vessels.
- Vessel operating companies should ensure that their Safety Management Systems (SMS) require navigation officers and other appropriate personnel are trained and competent in the use and maintenance of AIS installed on their vessels. This training should be consistent with the Standards for Training and Certification of Watchkeepers (STCW) Code.
- Vessel operating companies should ensure that their SMS includes checks and tests of AIS equipment for proper operation and input on pre-departure checklists. It is also recommended that post-arrival checklists require AIS be adjusted to transmit the correct status of the vessel after anchoring or mooring at a berth.

### **For more information, contact:**

IMO [[http://www.imo.org/Safety/mainframe.asp?topic\\_id=754](http://www.imo.org/Safety/mainframe.asp?topic_id=754)]

United States Coast Guard [<http://www.navcen.uscg.gov/enav/ais/default.htm>] and [[http://www.navcen.uscg.gov/enav/ais/AIS\\_Advisory.htm](http://www.navcen.uscg.gov/enav/ais/AIS_Advisory.htm)] or to report an AIS problem [[http://www.navcen.uscg.gov/ado/ais\\_form.asp](http://www.navcen.uscg.gov/ado/ais_form.asp)]

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