

an automatic position indicating system and gyrocompass.

We recognize that the information provided by external sensors, such as a transmitting heading device, speed log, or navigation lights, to an AIS in accordance with the standards incorporated by reference in this regulation will provide the additional benefit to the user, as would integrating AIS with the existing on board navigation equipment. However, this integration technology and its accompanying standards are still being developed, thus, we did not require them. Each U.S. type approved AIS has a timing and positioning component built-in (*e.g.*, Global Positioning System) and the lack of additional sensor input does not diminish the utility of the AIS in providing for security and navigational safety.

One commenter asked whether AIS is an electronic aid to navigation as that term is used in 33 CFR 66.01-1, which states: "With the exception of radar beacons (racons) and shore-based radar stations, operation of electronic aids to navigation as private aids will not be authorized."

AIS is a navigational aid, but not necessarily an aid to navigation, as that term is used in 33 CFR part 66. In addition to increasing maritime domain awareness for security purposes, shipborne AIS is intended for collision avoidance, and not intended to be relied upon or referred to, as a buoy, lighthouse, or racon would be. AIS standards allow for the creation of AIS aids to navigation, and should we choose to use these aids, they will be catalogued in the Coast Guard's Light List as all other aids to navigation currently are.

One commenter stated that the Coast Guard must resolve questions over patent rights for the AIS standard prior to implementing a domestic carriage requirement.

Prospective AIS users should not be concerned with any patent issues regarding AIS or any other shipboard equipment. These are matters that need only be worked out by manufacturers of the devices and any patent holders.

One commenter asked whether vessels would be required to provide a Maritime Mobile Service Identifier (MMSI) and Universal Time Coordinated (UTC), stating that not all vessels currently have an MMSI. This commenter also asked how a vessel operator can be confident that the target identified on an AIS is who it says it is, if AIS units can be purchased from any commercial source, and an MMSI obtained from an FCC agent.

One goal of AIS is to lessen the reporting required by mariners. However, certain information and data input is necessary for the proper operation of an AIS. Many of these data fields are inputted only once, such as the vessel's identity, MMSI, dimensions, and antenna location. MMSI and UTC are critical to AIS; the MMSI (defined in note 1 to Table 161.12(c) of 33 CFR 161.12), which we have amended for clarity, provides a unique identifier for each AIS user, and the UTC is relied upon by the system to properly manage the AIS data link and network. UTC is provided internally by the AIS unit, and requires no input by the user. MMSI does need to be entered by the user, and is noted on the ship's station radio license issued by the FCC. Because user error is always possible, we urge users to be vigilant and request that you notify the nearest COTP if you encounter improper AIS usage.

Operations

One commenter recommended rewording § 164.46(a) because as presently drafted it could be incorrectly interpreted to mean that manufacturer self-certification of equipment to the listed standards would be sufficient.

We agree and have amended § 164.46(a) to require "type approved AIS."

One commenter stated that AIS is unnecessary because collision avoidance is best accomplished with an alert watch that is monitoring VHF channels, radar, GPS chart plotters, and depth sounders. This commenter stated that these technologies are already found on fishing vessels and it is not apparent that the addition of AIS will result in any significant benefit over maintaining a good watch.

We agree that competent and attentive watchkeeping is paramount to prudent navigation. We further note that prudent mariners are required to use all means available to avoid a collision. AIS is the latest navigation system to assist watchkeepers in the performance of their duties. None of the existing technologies found on commercial fishing vessels can accurately identify other vessels to the extent that AIS can. Additionally, in our analysis of costs and benefits, we found examples of marine casualties involving commercial fishing vessels that could have been prevented or mitigated with the use of AIS. More details on these casualties can be found in the Regulatory Assessment and Initial Regulatory Flexibility Act Analysis located in the docket for this rule (USCG-2003-14757).

One commenter asked us several questions regarding whether use of an AIS would satisfy various "Rules of the Road" under the International Regulations for Preventing Collisions at Sea (COLREGS) or the Inland Navigation Rules (33 U.S.C. 2000 and 1201, *et seq.*), such as the requirement for a lookout, the provision regarding safe speed, provisions regarding risk of collision, and coordinating passing arrangements.

AIS is the latest of the available means a mariner will have to prevent collisions at sea. It is not intended to replace any of the existing means commonly and traditionally used by mariners to ascertain the risk of collision such as radar, Automatic Radar Plotting Aids (ARPA), lookouts, binoculars, visual bearings, relative position maneuvering boards, and EDCIS, but it can certainly supplement them. AIS provides mariners with near real-time information regarding another vessel's identity, dimensions, speed over ground, course over ground, navigation status, and heading. It will aid mariners in identifying other vessels in restricted visibility, and those that would be indistinguishable in radar sea clutter. It displays the bearing and range of other AIS-equipped vessels and provides another means of reliable communication by using ship-to-ship addressed text messages. In the future VTSs will be able to relay information on vessels not carrying AIS to AIS users. However, AIS should not be relied upon as the sole means to determine risk of collision, safe speed, or to avoid collision.

In the temporary interim rule, we discussed that AIS can assist mariners in coordinating passing arrangements. AIS will allow mariners to accurately identify a vessel by name and call sign to effectively make passing arrangements, thus replacing vague radio calls such as "vessel off my port bow" with more descriptive calls such as "vessel NAME/Call sign, bearing XXX degrees and XX meters." While AIS allows for ship-to-ship text messaging to communicate with others and make passing arrangements, these private communications do not meet the requirements of the Vessel Bridge-to-Bridge Radiotelephone Act (33 U.S.C. 1201 *et seq.*) for open broadcasts on the designated bridge-to-bridge channel, nor does it relieve a vessel operator from the requirement to sound whistle signals.

Three commenters asked the Coast Guard to test AIS on vessels on the Lower Mississippi River, stating that previous tests were not adequate.

We do not believe that additional testing on the Lower Mississippi River