

**Supporting Statement  
for  
Enhanced Maritime Domain Awareness via  
Electronic Transmission of Vessel Transit Data  
[w/ proposed changes per USCG-2005-21869]**

**A. Justification**

1. Circumstances that make the collection of information necessary.

As stated in *The National Strategy for Maritime Security* (September 2005)<sup>1</sup> (NSMS), a key national security requirement is the effective understanding of all activities, events, and trends within any relevant domain – air, land, sea, space, and cyberspace – that could threaten the safety, security, economy, or environment of the United States and its people. Awareness and threat knowledge are critical for securing the maritime domain<sup>2</sup> and the key to preventing adverse events. Knowledge of an adversary's capabilities, intentions, methods, objectives, goals, ideology, and organizational structure, plus factors that influence his behavior, are used to assess adversary strengths, vulnerabilities, and centers of gravity. Also, information on critical infrastructure and other potential targets of adverse events allows for their adequate protection and coordination of efforts to provide that protection. Such knowledge is essential to supporting decision-making for planning, identifying requirements, prioritizing resource allocation, and implementing maritime security operations. Domain awareness enables the early identification of potential threats and enhances appropriate responses, including interdiction at an optimal distance with capable prevention forces.

The Maritime Transportation Security Act of 2002 (MTSA) (Pub. L. 107-295, 46 U.S.C. 70115) mandates, consistent with international treaties, that the U.S. Coast Guard (delegated from the Secretary) "develop and implement a long-range automated vessel tracking system for all vessels in United States waters that are equipped with the Global Maritime Distress and Safety System [GMDSS] or equivalent satellite technology. The system shall be designed to provide the Secretary the capability of receiving information on vessel positions at interval positions appropriate to deter transportation security incidents. The Secretary may use existing maritime organizations to collect and monitor tracking information under the system." Recent amendments to the International Convention for the Safety of Life at Sea, 1974, as amended (SOLAS) implement the international regime for Long Range Identification and Tracking (LRIT) of Ships [SOLAS, Chapter V, Regulation 19-1 (SOLAS V/19-1)]. The U.S. implementing regulations are in 33 CFR 169 subpart C.

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<sup>1</sup> Found at -- <http://www.whitehouse.gov/homeland/maritime-security.html>.

<sup>2</sup> As defined in The National Strategy for Maritime Security, the "maritime domain" is all areas and things of, on, under, relating to, adjacent to, or bordering on a sea, ocean, or other navigable waterway, including all maritime-related activities, infrastructure, people, cargo, and vessels and other conveyances. Note: The maritime domain for the United States includes the Great Lakes and all navigable inland waterways such as the Mississippi River and the Intra-Coastal Waterway.

The MTSA also mandates the U.S. Coast Guard (delegated from the Secretary) to require certain vessels to carry onboard Automatic Identification System (AIS)<sup>3</sup> equipment. MTSA (46 U.S.C. 70113) further directs the Secretary of the Department in which the Coast Guard is operating to “implement a system to collect, integrate, and analyze information concerning vessels operating on or bound for waters subject to the jurisdiction of the United States.” The efforts underway to develop a Nationwide AIS<sup>4</sup> capability would dramatically expand the scope of the Coast Guard’s Maritime Domain Awareness (MDA) by providing information that would help assess the potential threat posed by a vessel operating in waters under U.S. jurisdiction as well as by enhancing navigation safety and mitigating collision amongst AIS-networked vessels.

The collection of information also supports the following strategic goals:

Department of Homeland Security

- Awareness – Identify and understand threats, assess vulnerabilities, determine potential impacts and disseminate timely information to our homeland security partners and the American public.
- Prevention – Detect, deter and mitigate threats to our homeland.
- Protection – Safeguard our people and their freedoms, critical infrastructure, property, the economy of our nation from acts of terrorism, natural disasters, or other emergencies.

United States Coast Guard

- Maritime Security – Protect the public, the environment, and U.S. economic interests – in the nation’s ports and waterways, along the coast, on international waters, or in any maritime region as required to support national security.
- Maritime Safety – Protect our maritime borders from all intrusions by halting the flow of illegal drugs, aliens, and contraband into this country through maritime routes; preventing illegal fishing; and suppressing violations of federal law in the maritime region.
- Protection of Natural Resources – Eliminate environmental damage and natural resource degradation associated with all maritime activities, including transportation, commercial fishing, and recreational boating.
- National Defense – Defend the nation and enhance regional stability in support of the National Security Strategy.

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<sup>3</sup> AIS is an international standard for ship-to-ship, ship-to-shore, and shore-to-ship communication of information, including vessel identity, position, speed, course, destination, and other data of critical interest for navigational safety and maritime security.

<sup>4</sup> The Nationwide AIS project is a DHS Level I investment and USCG major systems acquisition that would involve installing receivers, transmitters, transceivers, repeaters, and other equipment on towers or other structures at up to 450 sites along 95,000 miles of coastline, other inland waterways, and remote platforms such as satellites, offshore oil and gas platforms and data buoys to capture, display, exchange, and analyze AIS-generated information. The project would satisfy the USCG’s need to enhance homeland security while carrying out its mission to ensure marine safety and security, preserve maritime mobility, protect the marine environment, enforce U.S. laws and international treaties, and perform search and rescue (SAR) operations. The proposed implementation of the NAIS project would provide the USCG with the capability to receive and distribute information from shipboard AIS equipment and transmit information to AIS equipped vessels to enhance Maritime Domain Awareness. The project would provide detection and identification of vessels carrying AIS equipment approaching or operating in the maritime domain where little or no vessel tracking currently exists.

- Maritime Mobility – facilitate maritime commerce, and reduce interruptions and impediments to the economic movement of goods and people, especially in Vessel Traffic Service areas.

Marine Safety, Security and Stewardship Directorate (CG-5)

- Maritime Security
- Maritime Safety
- Protection of Natural Resources

2. By whom, how, and for what purpose the information is to be used.

Whom: The United States Coast Guard plans to collect and retain vessel information that is broadcast via transponder-style equipment (such as LRIT or AIS). This information would be used primarily by the USCG. However, the data, combined and correlated with other information may be shared with Federal, State, and local government agencies and foreign governments partnering with the Coast Guard in an effort to expand MDA; and, with other responsible maritime interest to enhance marine safety, security and environmental protection. Vessels subject to AIS-carriage requirements under MTSA would also have access to near real-time information on vessels along their route, increasing their own awareness and ability to prevent accidents.

How: As discussed above, the MTSA mandates the Coast Guard require certain vessels to transmit vessel transit data. Data from the vessels transmitted by LRIT & AIS will be collected and compiled outside of the LRIT or AIS system to provide the Coast Guard with a near real-time common operating picture of the maritime environment. The Coast Guard would compile this data, correlate it with other sources the Coast Guard has access to, and analyze this information to detect anomalies and, identify potential threats to the nation and the environment. The information will be included in the Coast Guard's Common Operational Picture (COP) for sharing and dissemination to decision-makers. The COP is the primary National Maritime system for sharing operational data among those who need it to perform or support Coast Guard roles and other national missions

For What Purpose: This information collection, storage, and analysis would greatly expand the breadth and depth of the Coast Guard's and our Nation's MDA. LRIT & AIS will enhance security by providing the United States with the identities and current location of vessels off our coastlines. The United States will then have sufficient time to evaluate the security risk posed by a vessel and then respond, if necessary, to reduce the risk of a possible security threat. In addition, there will also be an immediate safety benefit by enhancing the information available to SAR services. Accurate information on the location of a vessel in distress as well as vessels in the area that could lend assistance will save valuable response time to affect a timely rescue. The storage of vessel transit data will also allow for analysis in support of such needs as vessel movement trend analysis, anomaly detection, and increasing efficiencies in the performance of Coast Guard missions.

3. Consideration of the use of improved information technology.

Vessel information collection via transponder-style systems represents the best and most efficient use of technology available to the United States Coast Guard. Currently, vessel information is transmitted generally through voice radio broadcasts at regular or sporadic intervals depending on need. Transponder equipment transmit information automatically without the need for voice radio communications and represents a substantial improvement in terms of efficiency and technology over the use of other information reporting systems.

We estimate that when implemented, 100% of the reporting requirements will be done electronically.

4. Efforts to identify duplication. Why similar information cannot be used.

There is no Federal, State, or local agency that requires this information collection. Therefore, there is no duplication of information collection efforts by the government. The information collected from this effort may be used by other agencies in support of their own goals.

5. Methods to minimize the burden to small businesses if involved.

We estimate approximately 450 U.S.-flag vessels are impacted by the LRIT requirements. However, with the use of generally existing installed GMDSS equipment, and the LRIT communications costs paid for by the U.S. government, the impact to any small entity will be minimal.

These reporting requirements may affect small entities, specifically those that own and operate vessels that meet AIS carriage requirements. Currently, the MTSA requires the following vessels carry AIS:

- A self-propelled commercial vessel of at least 65-feet in overall length.
- Vessels carrying more than a number of passengers for hire determined by the Secretary [more than 50 passengers].
- A towing vessel of more than 26 feet overall in length and 600 horsepower.
- Any other vessel for which the Secretary decides that an automatic identification system is necessary for the safe navigation of the vessel.

Once a vessel installs AIS and enters the required information into the system, the equipment automatically transmits this information to all other AIS users, which includes reception by the Coast Guard. Transmission of this information by AIS represents a more efficient method for the dissemination of vessel transit information. Ultimately, collection of AIS information will benefit both government and industry, including those small entities that are subject to AIS-carriage requirements as set forth in 33 CFR 164.46.

6. Consequences to the Federal program if collection were not done or conducted less frequently.

If vessel transmissions were not collected, the Coast Guard would not avail itself of critical identification information on a large and diverse population transiting our maritime domain. This could significantly impact marine safety, security and environmental protection, limit the Coast Guard's ability to respond to a vessel emergency in a timely and efficient manner, and undermine our Maritime Domain Awareness.

7. Explain any special circumstances that would cause the information collection to be conducted in a manner inconsistent with guidelines.

This information collection is conducted in manner consistent with the guidelines in 5 CFR 1320.5(d)(2).

8. Consultation.

The Coast Guard published a Notice of Proposed Rulemaking (NPRM) entitled "Vessel Requirements for Notices of Arrival and Departure, and Carriage of Automatic Identification System" [USCG-2005-21869]. The proposed rulemaking will—

- Expands the AIS carriage requirements to more vessels

This change is necessary to enable the Coast Guard to correlate vessel AIS data with NOAD data, enhance our ability to identify and track vessels, detect anomalies, improve navigation safety, and heighten our overall maritime domain awareness. The NPRM will have a 120-day comment period.

9. Explain any decision to provide payment or gift to respondents.

There is no offer of monetary or material value for this information collection.

10. Describe any assurance of confidentiality provided to respondents.

There are no assurances of confidentiality provided to the respondents for this information collection.

11. Additional justification for any questions of a sensitive nature.

There are no questions of sensitive language.

12. Estimates of reporting and recordkeeping hour and cost burdens of the collection of information.

<b>Total number of annual respondents:</b>	<b>17,892 ( 450 + 17,442 )</b>
<b>Total number of annual responses:</b>	<b>170,394 ( 450 + 169,944 )</b>
<b>Total annual hour burden:</b>	<b>18,672 ( 150 + 18,522 )</b>
<b>Total annual cost burden:</b>	<b>\$628,602 ( 15,300 + 613,302 )</b>

## **FOR THE LRIT REPORTING AND RECORDKEEPING REQUIREMENTS—**

The estimated number of respondents is 450 annually. We estimate the number of responses to be 450 annually.

We estimate that annually each respondent will have a 20 minute burden. This burden accounts for—

- a one-time GMDSS LRIT system initialization for each vessel,
- subsequent annual system check, and
- occasional logbook entries when a ship master switches off the LRIT equipment or the LRIT equipment fails to operate.

Once the LRIT equipment is on and initialized, no further action is necessary. Data transmission from the equipment will occur automatically.

Therefore, we estimate the **annual hour burden is 150 hours** for all vessels (450 U.S. ships x 1/3 hour = 150 hours). Assuming the Vessel's Master performs the required LRIT actions (at an hourly rate of \$102/hour<sup>5</sup>, the **annual cost burden is \$15,300** (150 hours X \$102/hour).

## **FOR THE AIS REPORTING REQUIREMENTS—**

### ***Number of Respondents***

According to the USCG Marine Information for Safety and Law Enforcement (MISLE) database, a total of 17,442 vessel respondents are currently affected by this AIS COI. This total is broken down into a population of 16,323 U.S. vessels and 1,119 foreign-flag vessels. This is summarized in the table below.

**Total Respondents**

<b>Vessel Type</b>	<b>Total Respondents</b>
Domestic	16,323
Foreign-Flag	1,119
<b>Total</b>	<b>17,442</b>

### ***Number of Responses***

Total Annual Number of Responses = (Total Vessel Number \* Initializations per Year) + (Total Domestic Vessel Number \* Avg. Number of Domestic Entry Responses per Year)

<sup>5</sup> Equivalent to a Coast Guard Commander (i.e., O-5) (out-of-government rate), per COMDTINST 7310.1K.

+ (Total Foreign-Flag Vessel Number \* Avg. Number of Foreign-Flag Entry Responses per Year)

These statistics are summarized in the table below and elaborated upon in the following sub-sections.

Total Annual Responses				
Vessel Type	Total Vessel Number	Initialization Responses Per Year	Avg. Number of Entry Responses Per Year	Total Number of Responses Per Year
Domestic	16,323	1	9	163,230
Foreign-Flag	1,119	1	5	6,714
Total	17,442	-	-	<b>169,944</b>

### ***Estimated Hour Burden***

The Coast Guard estimates that it takes a one-time sum of **20 minutes to initialize** (& annually conduct system upgrades) the AIS on a vessel and **5 minutes per voyage** to enter vessel specific information into the AIS system. Furthermore, the Coast Guard estimates that a domestic vessel will take an average of **9 voyages per year** that require information entry into the AIS systems while foreign-flag vessels will take an average of **5 voyages per year** requiring the same updates. The total number of burden hours then is estimated to be the following:

#### Initialization

- **5,441 hours for domestic ships** not yet equipped to initialize the AIS System (16,323 domestic ships \* 1/3 hour per initialization).
- **373 hours for foreign-flag vessels** not yet equipped to initialize the AIS system (1,119 foreign-flag vessels \* 1/3 hour per initialization).
- **5,814 total annual hour burden** for both domestic and foreign-flag vessels not yet quipped to initialize onboard AIS systems.

#### Voyage Specific Information Entry

- **12,242 hours for domestic ships** to enter voyage specific information (16,323 domestic ships \* 1/12 hour per entry \* 9 voyages per year).
- **466 hours for foreign-flag vessels** to enter voyage specific information (1,119 foreign-flag vessels \* 1/12 hour per entry \* 5 voyages per year).
- **12,708 total annual hour burden** for both domestic and foreign-flag vessels to enter voyage specific information into onboard AIS systems.

#### Total Annual Hour Burden for AIS Initialization and Vessel Specific Information Entry

- **18,522 total annual hour burden** for AIS initialization and vessel specific information entry (5,814 total hour burden for initialization + 12,708 total annual hour burden for voyage specific information entry).

### ***Estimated Cost Burden***

The industry cost is based on an average hourly wage of \$31/hour.<sup>6</sup>

#### **Estimate Hourly AIS Initialization Cost Per Year**

Vessel Type	Initialization Hours	Hourly Cost	Total Hourly Cost
Domestic	1/3	\$31.00	\$10.33
Foreign-Flag	1/3	\$31.00	\$10.33

#### **Estimate Hourly AIS Update Entry Cost Per Year**

Vessel Type	Ind. Voyage Entry Hours	Avg. Number of Voyages	Hourly Cost	Total Cost
Domestic	1/12	9	\$31.00	\$23.25
Foreign-Flag	1/12	5	\$31.00	\$12.92

#### **Total Estimate Hourly Cost for AIS Initialization and AIS Update Entry Per Year**

Vessel Type	Annual Initialization Cost	Annual Update Entry Cost	Total Annual Cost
Domestic	\$10.33	\$23.25	\$33.58
Foreign-Flag	\$10.33	\$12.92	\$23.25

### ***Total Annual Costs***

The annual burden on the entire industry would be the following:

### ***Total Annual Costs***

The annual burden on the entire industry would be the following:

- **\$593,795 for domestic ships** (\$33.58 \* 17,683 total domestic burden hours)
- **\$19,507 for foreign-flag vessels** (\$23.25 \* 839 total foreign-flag burden hours)
- **\$613,302 total annual burden** for affected domestic and foreign-flag vessels

### **13. Estimates of annualized capital and start-up costs.**

There are no capital, start-up or maintenance costs associated with this information collection.

<sup>6</sup> This figure is based on loaded labor rates provided by the Bureau of Labor Statistics.

**14. Estimates of annualized Federal Government costs.**

For LRIT, we estimate that the U.S. Government will incur data transmission costs of approximately \$164,250 (450 vessels x 4 transmission per day/vessel x 365 days/year (or 657,000 transmissions) x \$0.25 per transmission) annually from U.S. vessels.

Regarding AIS, in order to acquire and install a Nationwide AIS capability, it is necessary for the Coast Guard to construct and implement universal shore-side reception facilities. The below table provides the estimated costs to complete these tasks:

Federal Budget/Planned Request to complete acquisition and installation schedule (\$\$ millions)

FY 2004	23.5*
FY 2005	24.0*
FY 2006	19.7*
FY 2007	11.2*
FY 2008	12.0*
FY 2009	8.6*
FY 2010-2014	TBD
<b>Total</b>	<b>276.8</b>

\*Enacted minus any rescissions

**15. Explain the reasons for the change in burden.**

The change in burden is a PROGRAM CHANGE due to a Coast Guard rulemaking [USCG-2005-21869]. The rulemaking will—

- Expand the AIS carriage requirements to more vessels

The program change is necessary to enhance Maritime Domain Awareness, an essential element for U.S. maritime security.

**16. For collections of information whose results are planned to be published for statistical use, outline plans for tabulation, statistical analysis and publication.**

This information collection will not be published for statistical purposes.

**17. Approval to not display expiration date.**

The Coast Guard will display the expiration date for OMB approval of this information collection.

**18. Explain each exception to the certification statement.**

The Coast Guard does not request an exception to the certification of this information collection.

**B. Collection of Information Employing Statistical Methods**

This information collection does not employ statistical methods.