

**Supporting Statement  
for  
Enhanced Maritime Domain Awareness via  
Electronic Transmission of Vessel Transit Data**

*OMB No.: 1625-0112  
COLLECTION INSTRUMENTS: Instruction*

**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.” The International Convention for the Safety of Life at Sea, 1974, as amended (SOLAS) implemented the international regime for Long Range Identification and Tracking (LRIT) of Ships in SOLAS, Chapter V, Regulation 19-1 (SOLAS V/19-1). The U.S. implementing regulations are in 33 CFR 169 subpart C.

The MTSA also mandates certain vessels carry onboard Automatic Identification System (AIS)<sup>3</sup> equipment. MTSA (46 U.S.C. 70114) 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 Coast Guard established a Nationwide AIS (NAIS) project to collect AIS transmissions and enhance our Maritime Domain Awareness (MDA) by providing information that helps assess the potential threat posed by a vessel operating in waters under U.S. jurisdiction as well as by enhancing navigation safety and

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<sup>1</sup> Found at -- <https://www.hsdl.org/?view&did=456414>.

<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.

<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.

mitigating collision amongst AIS-networked vessels. The U.S. implementing regulations are in 33 CFR 164.46. The AIS carriage requirement regulations were put in place by the “Vessel Requirements for Notices of Arrival and Departure, and Carriage of Automatic Identification System” (NOA-AIS) [USCG-2005-21869; RIN 1625-AA99] rulemaking. The NOA-AIS Final Rule was published on January 30, 2015 (80 FR 5282).

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.

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

Prevention Policy & Response Policy Directorates (CG-5P & CG-5R)

- Maritime Security
- Maritime Safety
- Protection of Natural Resources

2. Purposes of the information collection.

The Coast Guard collects and retains vessel information that is broadcast via transponder-style equipment (such as LRIT or AIS). This information is primarily used 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 also have access to the same near real-time information provided by other AIS-equipped vessel’s in their vicinity (VHF-FM radio range), increasing their own awareness and ability to prevent accidents.

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 is 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 compiles this data, correlate it with other sources the Coast Guard has access to, and analyzes this information to detect anomalies and, identify potential threats to the nation and the environment. The information is 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

This information collection, storage, and analysis greatly expands the breadth and depth of the Coast

Guard's and our Nation's MDA. LRIT & AIS enhance security by providing the United States with the identities and current location of vessels off our coastlines. This provides the United States 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 is also 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 also allows 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 transit data is collected electronically via a transponder-style system. Transponders transmit information automatically without the need for voice radio communications. We estimate that 100% of the reporting requirements are done electronically.

4. Efforts to identify duplication.

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.

This information collection does not have an impact on small businesses or other small entities.

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 vessel 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 MDA.

7. Special collection circumstances.

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

8. Consultation.

A 60-Day Notice (See [USCG-2015-0911], October 23, 2015, 80 FR 64437) and 30-Day Notice (February 3, 2016, 81 FR 5773) were published in the Federal Register to obtain public comment on this collection. The Coast Guard has not received any comments on this information collection.

9. Provide any payments or gifts 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.

- The estimated annual number of respondents is 9,535 (613 + 8,922).
- The estimated annual number of responses is 534,557 (613 + 533,944).
- The estimated annual hour burden is 47,245 (204 + 47,041).
- The estimated annual cost burden is \$1,481,119 (22,848 + 1,458,271).

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

The estimated number of respondents is 613 annually. We estimate the number of responses to be 613 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 operation.

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 204 hours<sup>4</sup>** for all vessels (613 U.S. ships x 1/3 hour = 204 hours). Assuming the Vessel's Master performs the required LRIT actions (at an hourly rate of \$112/hour<sup>5</sup>, the **annual cost burden is \$22,848** (204 hours X \$112/hour).

#### FOR THE AIS REPORTING REQUIREMENTS—

##### *Number of Respondents*

Respondents are summarized in the table below.

| Total Respondents |                   |
|-------------------|-------------------|
| Vessel Type       | Total Respondents |
| Domestic          | 8,848             |
| Foreign-Flag      | 74                |
| Total             | 8,922             |

##### *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) + (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               | 8,848               | 1                                 | 60.3*                                   | 533,574                            |
| Foreign-Flag           | 74                  | 1                                 | 5                                       | 370                                |
| Total                  | 8,922               | -                                 | -                                       | <b>533,944</b>                     |

\*The variation in the number of trips made is dependent on the vessel class, from 9 to 164 (note--average number of entry responses rounded).

##### *Estimated Hour Burden*

<sup>4</sup> Figure rounded.

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

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.<sup>6</sup> Furthermore, the Coast Guard estimates that a domestic vessel will take an average of **9 and 164 voyages per year**, dependent upon the vessel class and includes current users, 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

- **2,920 hours for domestic ships** not yet equipped to initialize the AIS System (8,848 domestic ships \* 1/3 hour (0.33) per initialization).
- **24 hours for foreign-flag vessels** not yet equipped to initialize the AIS system (74 foreign-flag vessels \* 1/3 (0.33) hour per initialization).
- **2,944 total annual hour burden** for both domestic and foreign-flag vessels not yet equipped to initialize onboard AIS systems.

#### Voyage Specific Information Entry

- **44,066 hours for domestic ships** to enter voyage specific information (8,848 domestic ships \* 1/12 hour (0.083) per entry \* 164 voyages per year for certain vessel classes (9 voyages per year for other vessel classes).
- **31 hours for foreign-flag vessels** to enter voyage specific information (74 foreign-flag vessels \* 1/12 hour (0.083) per entry \* 5 voyages per year).
- **44,097 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

- **47,041 total annual hour burden** for AIS initialization and vessel specific information entry (2,944 total hour burden for initialization + 44,097 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>7</sup>

**Estimate Hourly AIS Initialization Cost Per Year**

| Vessel Type  | Initialization Hours | Hourly Cost | Total 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 |
|--------------|-------------------------|------------------------|-------------|
| Domestic     | 1/12                    | 9 (and 164)            | \$31.00     |
| Foreign-Flag | 1/12                    | 5                      | \$31.00     |

**Total Estimate Hourly Cost for AIS Initialization and AIS Update Entry**

| Vessel Type | Annual Initialization Cost | Annual Update Entry Cost |
|-------------|----------------------------|--------------------------|
|             |                            |                          |

<sup>6</sup> Based on Coast Guard subject matter expert information, some updates may take only 30 seconds; however, this estimate is not included in the estimates of this supporting statement.

<sup>7</sup> This figure is based on loaded labor rates provided by the Bureau of Labor Statistics.

|              |         |         |
|--------------|---------|---------|
| Domestic     | \$10.33 | \$23.25 |
| Foreign-Flag | \$10.33 | \$12.92 |

\*Initialization is performed once, updates are annual.

The estimated annual cost burden is:

- **\$1,456,566 for domestic ships** (\$31.00 \* 46,986 total domestic burden hours)
- **\$1,705 for foreign-flag vessels** [\$31.00 \* 55 (24 initial + 31 voyage specific) total foreign-flag burden hours]
- **\$1,458,271 total annual burden** for affected domestic and foreign-flag vessels

13. Total annualized capital and start-up costs.

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

14. Estimates of annualized Federal Government costs.

For LRIT, we estimate that the U.S. Government will incur data transmission costs of approximately \$223,750 (613 vessels x 4 transmission per day/vessel x 365 days/year (or about 895,000 transmissions) x \$0.25 per transmission) annually from U.S. vessels. For AIS, we estimate that the U.S. Government cost is approximately \$26 million per year to operate the Nationwide AIS capability. Thus, the estimated annual Federal Government cost is about \$26.23 million/year.

15. Explain the reasons for the change in burden.

The change in burden is an ADJUSTMENT due to a change (i.e., increase) in the estimated annual number of responses. The increase is due to recent AIS carriage requirement regulations put in place by the NOA-AIS Final Rule published on January 30, 2015. The reporting and recordkeeping requirements, and the methodology for calculating burden, remain unchanged.

16. 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.