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CHAPTER 7

AMVER

700A. Acronyms

AMVER:	**A**utomated **M**utual-assistance **VE**ssel **R**escue System
AUSREP:	**AU**stralian **S**hip **REP**orting system
CHILREP:	**CHIL**ean ship **REP**orting system
CFR:	**C**ode of **F**ederal **R**egulations
DR:	**D**eviation **R**eport
EOR:	**E**nd **O**f **R**eport
FR:	**F**inal Arrival **R**eport
GC:	**G**reat **C**ircle
JASREP:	**JA**panese **S**hip **REP**orting system
LES:	**L**and **E**arth **S**tation
MARAD:	**MAR**itime **AD**ministration
MAREP:	**M**ariner **R**eport
NOAA:	**N**ational **O**ceanic and **A**tmospheric **A**dministration
NWS:	**N**ational **W**eather **S**ervice
PA:	**P**hysician **A**ssistant
PR:	**P**osition **R**eport
RCC:	**R**escue **C**oordination **C**enter
RL:	**R**humb **L**ine
SP:	**S**ailing **P**lan
SAR:	**S**earch **A**nd **R**escue
SEAS:	**S**hipboard **E**nvironmental Data **A**cquisition **S**ystem
SOG:	**S**peed **O**ver **G**round
SURPIC:	**SUR**face **PIC**tures
USCG:	**U.S. C**oast **G**uard
VOS:	**V**oluntary **O**bserving **S**hips
WP:	**W**ay **P**oint

700B. Amver Overview

Amver is a worldwide voluntary vessel reporting system operated by the U.S. Coast Guard to promote safety of life and property at sea. Amver's mission is to quickly provide search and rescue (SAR) authorities, on demand, accurate information on the position and characteristics of vessels near a reported distress. Any merchant vessel on a voyage of greater than 24 hours to anywhere on the globe is welcome to participate in Amver. In general, international participation is voluntary regardless of owner's nationality or vessel's flag, voyage origin, or destination. However, there are requirements for certain U.S. flag or U.S. interest vessels which are listed in section 700D below.

Amver's greatest use is in providing Rescue Coordination Centers (RCCs) with either a list of latitude/longitude or a graphical display of vessels near the position of a distress signal. These are called surface pictures (SURPICs). The RCCs use this data to coordinate the efforts of merchant vessels and other resources to provide the best and most timely assistance possible to distressed vessels or persons at sea.

The information provided by vessels is used to create "days on plot" which is the number of days a vessel actively participated in the Amver system. Awards are given for consistent participation.

Amver exchanges information with similar systems such as the Japanese Ship Reporting System (JASREP), the Australian Ship Reporting System (AUSREP), the Chilean Ship Reporting System (CHILREP) and will forward the Amver report when requested.

700C. History

The concept of the Amver system dates back to the RMS Titanic disaster in 1912. One of the lesson's learned was there were ships close by unaware that the Titanic was sinking. The idea of a ship reporting system that could identify other ships in the area of a ship in distress did not come about until after the invention of a computer. On April 15, 1958, the U.S. Coast Guard's Amver system became operational as an experiment in the North Atlantic Ocean with the operations center at the Customs House in New York City. Due to increased technology and international cooperation, by 1963 Amver was plotting vessels on voyages worldwide and continued to evolve over the next few decades saving lives at sea. Today Amver is very successful due to modern technology and vessel participation.

USCG Chief Petty Officer monitors ship traffic at the AMVER center in 1958

700D. U.S. Regulations

In accordance with U.S. Title 47, Code of Federal Regulations (CFR), Ch. 1, Sec 80.905, United States flag vessels which transport more than six passengers for hire and operate more than 200 nautical miles from the nearest land must participate in the Amver system while engaged on a voyage where the vessel is navigated in the open sea for more than 24 hours.

In accordance with U.S. Maritime Administration (MARAD) regulations, United States flag merchant vessels of 1,000 gross tons or more, operating in foreign commerce and, foreign flag vessels of 1,000 gross tons or more, for which an Interim War Risk Insurance Binder has been issued under the provisions of Title XII, Merchant Marine Act, 1936 must report and regularly update their voyage information and positions to the USCG Amver Center (in accordance with the instruction in the Amver manual provided on the U.S. Coast Guard website http://www.amver.com). This is done automatically by typing MAREP in line Y as described in the Format section, 700F.

Information voluntarily provided by vessels to Amver is kept strictly confidential, and is protected by the Coast Guard. It will be released only for safety purposes.

700E. Types of Reports

Sailing Plan (SP)
This report contains the complete routing information and should be sent within a few hours before departure, upon departure, or within a few hours after departure. It must contain enough information to predict the vessel's actual position within 25 nautical miles at any time during the voyage, assuming the Sailing Plan is followed exactly.

Position Report (PR)
This report should be sent within 24 hours of departing port and at least once every 48 hours thereafter. The destination should be included (at least in the first few reports) in case Amver has not received the Sailing Plan information.

Deviation Report (DR)
This report should be sent as soon as any voyage information changes which could affect Amver's ability to accurately predict the vessel's position. Changes in course or speed due to weather, ice, change in destination, diverting to evacuate a sick or injured crewmember, diverting to assist another vessel, or any other deviation from the original Sailing Plan should be reported as soon as possible.

Final Arrival Report (FR)
This report should be sent upon arrival at the port of destination. This report properly terminates the voyage in Amver's computer, ensures that vessel will not appear on an Amver SURPIC until it's next voyage, and allows the number of days on plot to be correctly updated.

700F. Format

Format		Example	Required
AMVER/[report type- 2 letter listed in section above]//		AMVER/PR//	All message types
A/	[Vessel name]/[call sign]//	A/VESSEL NAME/ABCD//	All message types
B/	[(6 digit date & time of position given)Z or UTC (month- 3 letters)]//	B/201200Z APR//	All message types
C/	[Latitude (DDMM N/S)]/[Longitude (DDDMM E/W)]//	C/4200N/17544W//	PR & DR
E/	[vessel's heading at time given- 3 digits]//	E/230//	SP, PR & DR
F/	[estimated SOG for remainder of voyage- 3rd digit in tenths of knots]	F/125// (12.5kts) or F/120// (12.0kts)	SP, PR & DR
G/	[name of port (country optional)]/[Latitude (DDMM N/S)]/[Longitude (DDDMM E/W)]//	G/LIVERPOOL UK/5325N/00300W//	SP
I/	[next port(country optional)]/[Latitude (DDMM N/S)]/[Longitude (DDDMM E/W)]/[ETA (6 digit date & time of position given)Z or UTC (month- 3 letters)]//	I/NEW YORK US/4042N/07401W/051230Z MAR//	SP, PR-advised & DR-if changes
K/	[name of port that you arrived in (country optional)]/[Latitude (DDMM N/S)]/[Longitude (DDDMM E/W)]/[(6 digit date & time of arrival)Z or UTC (month- 3 letters)]//	K/LOS ANGELES/3343N/11817W/031300Z DEC//	FR
L/	All Way Points (WP) in voyage plan, each way point is a new line. RL- Rhumb Line, GC- Great Circle, COASTAL- Coastal		SP & DR-if changes
	[Navigation Method between WPs (RL/GC/COASTAL)]/[Leg speed(Average)- 3rd digit in tenths of knots]/[WP1-Latitude (DDMM N/S)/Longitude (DDDMM E/W)]/[optional- landmark name]/[ETA (6 digit date & time of position given)Z or UTC (month- 3 letters)]//	L/RL/190/3448N/13954E/031300Z APR// L/RL/200/4200N/18000E/240850Z APR// L/RL210/4208N/16000W/280400Z APR// L/RL/202/3422N/12047W/300030Z APR//	
	list all the WPs on new line with format listed above starting with L/		
M/	[Vessel contact information for RCC use in an emergency]//	M/INMARSAT 1501562//	SP & PR (optional)
V/	[medical capability aboard vessel during the voyage. PA- Physician Assistant. NONE for no medically trained personnel aboard.]	V/NONE// V/NURSE// V/PA// V/MD// V/MD/NURSE//	SP (optional)
X/	[optional- comments or remarks to send to Amver only regarding current voyage that isn't urgent, such as changes in vessel data. In English.	X/REDUCED SPEED DUE TO WEATHER//	All message types (optional)
Y/	[request to relay Amver Report to MAREP, JASREP, AUSREP, and/or CHILREP]	Y/JASREP/MAREP//	All message types (optional except for US Flag ships)
Z/	EOR//	Z/EOR//	All message types

700G. Communication Methods for Amver Reports

WARNING: All distress messages must be sent to the nearest RCC, not Amver. Morse Code is discouraged due to the decline of it's usage.

E-mail

If a ship has an inexpensive means of sending electronic mail (e-mail) this is a preferred method. Amver's addresses are:
–amvermsg@amver.org
–amvermsg@amver.com

INMARSAT-C Amver/SEAS messages:

Ships that use INMARSAT-C may send combined Amver/Weather observation messages called SEAS Free of Charge via the Land Earth Stations (LESs) below:

LES name	LES ID	Satellite Region
Southbury	001	Atlantic Ocean Region-West (AOR-W)
Southbury	101	Atlantic Ocean Region-East (AOR-E)
Santa Paula	201	Pacific Ocean Region (POR)
Aussaguel	321	Indian Ocean Region (IOR)

Under a cooperative agreement between NOAA and the USCG, software has been created to assist Voluntary Observing Ships (VOS) and the government pays the transmission costs. Ships may participate in either program, but there are benefits to participating in both. A ship can reduce reporting requirements, since Amver position reports are created from every weather message and automatically forwarded to the USCG.

A typical voyage would require the submission of an Amver Sail Plan before departure, submissions of weather reports four times per day and the submission of an Arrival Report upon arrival. A Deviation Report is only submitted if the ship deviates from its original plan. Sail Plans can be stored in the system and recalled and modified rather than creating new ones. E-mail reports can be used for sending combined VOS and Amver, but INMARSAT-C is preferred method.

For more information see http://www.vos.noaa.gov for specific instructions on setting up your equipment or contact Amver directly.

Contact information
United States Coast Guard Amver Maritime Relations Office USCG Battery Park Building 1 South Street, 2nd Floor New York, New York 10004-1499 Telephone: 212 232 3862 Fax: 212 232 3866 Telex: 127594 AMVERNYK E-mail: amverinfo@d1.uscg.mil Computer Operations Hotline: 304 264 2500

700H. Special Warnings to Mariners

Special Warnings reflect U.S. Government policy on international incidents with political ramifications. The content of such Special Warnings is the responsibility of the Department of State and National Geospatial-Intelligence Agency (NGA). NGA is the disseminating agency for such messages since its Radio Navigational Warning Broadcast System can be received by all U.S. flag merchant ships.

United States flag vessels in an affected area are required to acknowledge receipt of a Special Warning through the use of the Remarks line (X line) in their next regular Amver report. For the purpose of this requirement, all vessels are deemed to be in an affected area if within 500 miles or 1 day's steaming of a reported incident.

PART II LONG RANGE IDENTIFICATION AND TRACKING (LRIT)

700I. Acronyms

AMTS:	**A**bsolute **M**aritime **T**racking **S**ervices, Inc.
ASP:	**A**pplication **S**ervice **P**rovider
BHD:	**B**usiness **H**elp **D**esk
CLS:	**C**ollecte **L**ocalisation **S**atellites
CFR:	**C**ode of **F**ederal **R**egulations
COTP:	**C**aptain **O**f **T**he **P**ort
EU:	**E**uropean **U**nion
EMSA:	**E**uropean **M**aritime **S**afety **A**gency
IDE:	**I**nternational **D**ata **E**xchange
IMO:	**I**nternational **M**aritime **O**rganization
LRIT:	**L**ong **R**ange **I**dentification and **T**racking System
MARAD:	**MAR**itime **AD**ministration
NDC:	**N**ational **D**ata **C**enter
nm:	**n**autical **m**ile
NOAA:	**N**ational **O**ceanic and **A**tmospheric **A**dministration
NWS:	**N**ational **W**eather **S**ervice
RCC:	**R**escue **C**oordination **C**enter
SAR:	**S**earch **A**nd **R**escue
SOLAS:	**S**afety **O**f **L**ife **A**t **S**ea
USCG:	**U.S. C**oast **G**uard

700J. U.S. LRIT Overview

Long Range Identification and Tracking (LRIT) is a satellite-based, real-time system that collects and disseminates position information received from of SOLAS class IMO member state vessels on international voyages bound for a U.S. port or traveling within 1000 nautical miles of the U.S. Coast.

The U.S. National Data Center (NDC) operated by the USCG, monitors foreign and domestic vessels with LRIT for an enhanced level of Maritime Domain Awareness. Business Help Desk (BDH) operators can perform a multitude of operations with a web-based user interface such as view and request vessel status, see vessel information, request vessel positions, and increase or decrease vessel reporting rates. The U.S. is connected with the International Data Exchange (IDE).

700K. U.S. Regulations

As per 33 CFR Part 169.205, LRIT must be used on all IMO member state passenger ships, including high-speed passenger craft, that carry more than 12 passengers; cargo ships, including high speed craft, of 300 gross tonnage or more; and self-propelled mobile offshore drilling units on international voyages and either bound for a U.S. port or traveling within 1000 nautical miles (nm) of the U.S. Coast.

Under 169.210, a U.S. flag ship covered by 169.205 must transmit position reports at all times while engaged on an international voyage.

The transmissions from a foreign ship covered by 169.205 may be received by the U.S. once it has announced its intention to enter a U.S. port or place under U.S. notice of arrival requirements in 33 CFR part 160, subpart C. Furthermore, the USCG is entitled to receive position reports from a foreign ship covered by 169.205 while navigating within 1,000nm of the U.S. baseline.

Refer to 33 CFR part 160 for more information on ship equipment requirements and exemptions.

700L. Non-compliant Vessels Entering U.S. Waters

46 U.S.C. 70115 and 33 U.S.C. 1231 provide statutes for civil and criminal penalties for violation of LRIT regulations. To ensure effective compliance, the USCG has a compliance strategy in the event of a knowing and willful violation. For example, if a ship that is arriving at a U.S. port has submitted an advance notice of arrival but its LRIT information has not been received, the COTP will be notified. Taking this and other information into account, the COTP may exercise various enforcement options including, when and if necessary, holding the ship offshore in U.S. territorial seas until it can be boarded and checked for security concerns.

700M. Non-U.S. LRIT Services

African States: Several African states have formed a LRIT Cooperative Data Centre. South Africa National Data Centre provides services to a number of African states, including Ghana and The Gambia.

Chile: LRIT Application Service Provider (ASP) is Collecte Localisation Satellites (CLS) for all Chilean and Mexican flagged vessels. Connected to the IDE.

Europe: LRIT Application Service Provider (ASP) is EU LRIT Data Centre through the European Maritime Safety Agency (EMSA).

Honduras: LRIT Application Service Provider (ASP) is Fulcrum Maritime Systems.

Liberia: Has a LRIT Data Center using Pole Star Space Applications. Connected to the IDE.

Marshall Islands: Has their own LRIT Data Center using Pole Star Space Applications. Connected to the IDE.

Panama: LRIT Application Service Provider (ASP) is Absolute Maritime Tracking Services, Inc. (AMTS) for all Panama flagged vessels. Connected to the IDE.

Vanuatu: LRIT Application Service Provider (ASP) is Collecte Localisation Satellites (CLS) for all Vanuatu flagged vessels. Connected to the IDE.

Venezuela: LRIT Application Service Provider (ASP) is Fulcrum Maritime Systems for all Venezuelan flagged vessels. Connected to the IDE.

Other Data Centers connected to the IDE as of January 2014:

- Algeria LRIT National Data Centre
- Antigua and Barbuda National LRIT Data Centre
- Argentina National Data Centre
- Australia National LRIT Data Centre
- Azerbaijan National LRIT Data Centre
- Bahamas National LRIT Data Centre
- Bahrain National LRIT Data Centre
- Bangladesh National LRIT Data Centre
- Barbados National LRIT Data Centre
- Bermuda (United Kingdom) National LRIT Data Centre
- Brazil Regional LRIT Data Centre
- Brunei Darussalam National LRIT Data Centre
- Cambodia LRIT National Data Centre
- Canada National LRIT Data Centre
- Cayman Islands (United Kingdom) National LRIT Data Centre
- China National LRIT Data Centre
- Columbia LRIT National Data Centre
- Comoros National LRIT Data Centre
- Democratic People's Republic of Korea National LRIT Data Centre
- Dominica National LRIT Data Centre
- EU Cooperative LRIT Data Centre
- Ecuador National LRIT Data Centre
- Egypt National LRIT Data Centre
- Faroe Islands (Denmark) National LRIT Data Centre
- India National LRIT Data Centre
- Indonesia National LRIT Data Centre
- Islamic Republic of Iran National LRIT Data Centre
- Isle of Man (United Kingdom) National LRIT Data Centre
- Israel National LRIT Data Centre
- Japan National LRIT Data Centre
- Jordan National LRIT Data Centre
- Kenya National LRIT Data Centre
- Liberia National LRIT Data Centre
- Malaysia National LRIT Data Centre
- Mauritius National LRIT Data Centre
- Montenegro National LRIT Data Centre
- Morocco National LRIT Data Centre
- Myanmar National LRIT Data Centre
- Nigeria National LRIT Data Centre
- Pacific Cooperative LRIT Data Centre
- Pakistan National LRIT Data Centre
- Philippines National LRIT Data Centre
- Plurinational State of Bolivia National LRIT Data Centre
- Republic of Korea National LRIT Data Centre
- Russian Federation National LRIT Data Centre
- Saint Kitts and Nevis National LRIT Data Centre
- Saint Vincent and the Grenadines National LRIT Data Centre
- Singapore National LRIT Data Centre
- South Africa National LRIT Data Centre
- Thailand National LRIT Data Centre
- Turkey National LRIT Data Centre
- Ukraine National LRIT Data Centre
- United Republic of Tanzania National LRIT Data Centre
- Vietnam National LRIT Data Centre
- Yemen National LRIT Data Centre