

符合 STCW78 / 95 公约要求

航海高等教育与培训教材



通信英语

上海海运学院组织编写

毛奇凰等 编著

杨永康 主审



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内 容 提 要

全书按专业英语教材编写方法共分20课、7篇附录,主要内容包括:GMDSS系统概述及各个分系统,如INMARSAT卫星通信系统组成和工作方式;相关的国际公约;相应设备的操作说明;GMDSS的误报警;通信写作;缩写词及术语定义等。每课都附有单词表、专业或语言难点注释、练习。内容丰富,融专业知识与语言语法于一体,适合作为航海院校驾驶类专业通信英语课程以及GMDSS通用和限用操作员证书培训教材,也可作为英语学习的泛读教材。

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前 言

GMDSS 已于 1999 年 2 月 1 日全面实施。GMDSS 的实施使船舶通信设备发生了根本性的变化,同时,GMDSS 要求由经过培训并持有 GMDSS 操作员证书的人员来使用这些通信设备。1997 年 2 月 1 日开始生效的《STCW 95 公约》对持证人员应具备的知识和能力作出了规定,其中要求这些人员在语言能力方面必须符合要求,能用英语在书面和口语上均能令人满意地进行海上人命安全信息的交流等,为此,本教材《通信英语》应运而生。

本教材以中华人民共和国交通部最新颁发的海船船员考试及评估大纲中“通信英语”子纲、《STCW 95 公约》为指导,吸收了国内外有关书籍、文献资料的精华,汇集了作者自 1993 年以来多年从事 GMDSS 通信英语的教学和考试经验编写而成。本教材涵盖了大纲中有关 GMDSS 通用和限用操作员所要求的通信英语科目的所有考试内容,并汇集了丰富的练习题和阅读材料以及简单的英语语法注解,融专业知识与语言语法知识于一体,适合作为航海院校驾驶类专业通信英语课程以及 GMDSS 通用和限用操作员证书培训教材,也可作为英语学习的泛读教材。

本教材编写分工如下:第一课至第十六课由毛奇凰(1~8,13,14)和刘津来(9~12,15~16)合作编写,第十七课至第十九课由周佩民编写,第二十课由沈大力编写,附录由毛奇凰编写;全书由毛奇凰统稿,杨永康主审。

上海海运学院领导、上海船员培训中心的领导对本教材的编写给予了大力支持和帮助;上海海运学院的金永兴副院长、蔡存强教授、上海海运学院商船学院孔凡村院长、刘伟潮副教授在编写过程中给予了指导和帮助;上海海运学院商船学院 GMDSS 实验室的陈永光高工和杨建华老师、上海船员培训中心培训科陆锡强副研究员和潘永渝老师等在编写过程中也给予了帮助,在此一并表示感谢。

编著者

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Lesson One Maritime Distress and Safety

Communications Enter New Era

Ship distress and safety communications entered a new era on 1 February 1999, with the full implementation of the Global Maritime Distress and Safety System (GMDSS) — an integrated communications system using satellite and terrestrial radio communications to ensure that no matter where a ship is in distress, aid can be dispatched to it.⁽¹⁾

The GMDSS was developed by IMO in close co-operation with the International Mobile Satellite Organization (INMARSAT), the International Telecommunication Union (ITU) and other international organizations, notably the World Meteorological Organization (WMO), the International Hydrographic Organization (IHO) and the COSPAS – SARSAT⁽²⁾ partners.

Under the GMDSS, all passenger ships and all cargo ships over 300 gross tonnage on international voyages have to carry specified satellite and radio-communications equipment, for sending and receiving distress alerts and maritime safety information and for general communications. The regulations governing the GMDSS are contained in the International Convention for the Safety of Life at Sea (SOLAS), 1974, which has been ratified by 138 countries, covering 98.36% of the world merchant shipping fleet by tonnage.

The GMDSS requirements are contained in chapter IV of SOLAS on Radio-communications and were adopted in 1988⁽³⁾. The requirements entered into force on 1 February 1992 but provided for a phase—in period until 1 February 1999.

IMO Secretary-general Mr. William A. O'Neil said that the full implementation of the GMDSS is an important date in maritime history, coming as it does almost exactly 100 years after the first use of wireless technology to aid a ship in distress.

Italian engineer Guglielmo Marconi⁽⁴⁾ invented radio in 1895, and the first use of wireless in communication the need for assistance came on 3 March 1899 when a freighter rammed the East Goodwin Lightship, which was anchored ten miles offshore from Deal in the Strait of Dover off the south-east coast of England. A distress call was transmitted by wireless to a shore station at South Foreland and help was dispatched.

A century ago, Marconi was demonstrating his new wireless telegraphy system, and it was soon clear how valuable wireless would be in saving lives at sea. But wireless had its limitations, notably in terms of the distance that could be covered⁽⁵⁾.

In the 1960s, IMO recognized that satellites would play an important role in search and rescue operations at sea, and in 1976 the Organization established the International Maritime Satellite Organization, which later changed its name to the International Mobile Satellite Organization (INMARSAT), to provide emergency maritime communications⁽⁶⁾. The advent of INMARSAT enabled the development of the

GMDSS through a carefully considered integration of satellite and modern terrestrial radiocommunication techniques and procedures. Development of the GMDSS required very close co-operation between ITU and IMO, IMO developing the operational requirements and equipment performance standards and CCIR recommending the equipment technical specifications and procedures for its use, the ITU 1983 WARC adopting necessary provisions in the Radio Regulations to test the system and prove the various equipment to be used, the ITU WARC – MOB 87 adopting the necessary amendments to the Radio Regulations to introduce the GMDSS and IMO adopting in 1988 amendments to the SOLAS Convention, to implement the GMDSS on ships ⁽⁷⁾

In the later 1970s several countries, particularly the United States and the former USSR, began experiments with satellites which resulted in the COSPAS-SARSAT system being established well before implementation of the GMDSS. Since that time the system has provided a significant contribution to SAR operation and assisted in saving hundreds of lives.

In the later 1970s IMO in co-operation with IHO, established the world-wide navigation warning service (WWNWS) for the co-ordination and broadcast of navigational warnings to ships. Since 1929 Contracting Governments to the SOLAS Convention have undertaken to broadcast meteorological warnings and forecasts to ships and to make arrangements for the reception of danger warnings and meteorological reports, co-ordinated by WMO through its world weather watch (WWW), from ships. These matters together with broadcasts of SAR and other urgent information provide the maritime safety information (MSI) element of the GMDSS.

Now, as we approach the 21st century, we have in place an integrated communications system which should ensure that no ship in distress can disappear without trace, and that more lives can be saved at sea. ⁽⁸⁾

Under the GMDSS requirements, all ships were required to be equipped with NAVTEX receivers, to automatically receive shipping safety information, and satellite emergency position-indicating radio beacons (EPIRBs) from 1 August 1993. Ships built on or after 1 February 1995 have been required to be fitted with all applicable GMDSS equipment. Ships built before that date were given until 1 February 1999 to comply fully with all GMDSS requirements.

The GMDSS communication system under SOLAS complements the International Convention on Maritime Search and Rescue (SAR), 1979, which was adopted to develop a global SAR plan, so that no matter where an incident occurs, the rescue of persons in distress will be co-ordinated by a SAR organization and, where necessary, by co-ordination between neighbouring SAR countries. ⁽⁹⁾

IMO's senior technical body, the Maritime Safety Committee (MSC), has divided the world's oceans into 13 search and rescue areas, in each of which the countries concerned have delimited search and rescue regions for which they are responsible. ⁽¹⁰⁾ Provisional search and rescue plans for all of these areas have been completed, with those for the final area, the Indian Ocean, finalized at a conference held in Fremantle, Western Australia in September 1998.

Mr. O'Neil said that, with the completion of the SAR plans and the full implementation of the GMDSS, seafarers and ships' passengers could feel safer and more secure at sea. ⁽¹¹⁾

A little more than a century ago, before the advent of wireless communication, ships were cut off at sea, dependent on passing vessels for help in the event of an emergency. Now we can communicate with

a ship anywhere in the world—but this does not mean we can be complacent. We should do our utmost to prevent emergencies from happening in the first place, by developing a safety culture and ensuring all maritime safety and pollution-prevention regulations are fully implemented. And we should be trained and prepared for dealing with any eventual emergency.

New Words

era	n.	时代, 纪元
implement	vt.	履行, 生效
integrated	adj.	整体的, 综合的
terrestrial	adj.	地球的, 陆地的
dispatch (despatch)	vt. & n.	发送, 迅速处理
notably	adv.	显著地, 著名地
ratify	vt.	批准, 认可
ram	v.	撞击, 高速行驶
indicate	vt.	指示, 表明, 表示
applicable	adj.	可应用的, 合适的
comply	vi.	遵从, 遵守
complement	n. & vt.	补充
delimit	vt.	定... 界限
partner	n.	伙伴, 股东
demonstrate	vt.	论证, 示范, 演示
provisional	adj.	临时的
finalize	vt. & vi.	把(计划等)最后定下来
advent	n.	出现, 到来
complacent	adj.	自满的, 自鸣得意的
utmost	adj. & n.	最大的 / 最大
eventual	adj.	最后的

Phrases and Expressions

GMDSS — the Global Maritime Distress and Safety System 全球海上遇险与安全系统
 IMO — the International Maritime Organization 国际海事组织
 INMARSAT — the International Maritime Satellite Organization 国际海事卫星组织, 现改名为: the International Mobile Satellite Organization 国际移动卫星组织
 WMO — the World Meteorological Organization 世界气象组织
 IHO — the International Hydrographic Organization 国际航道组织
 ITU — the International Telecommunication Union 国际电信联盟, 简称国际电联
 COSPAS – SARSAT — Search and Rescue Satellite System 近极轨道搜救卫星系统

COSPAS — Space System for Search of Distress Vessels
 SARSAT — Search and Rescue Satellite-Aided Tracking
 MSI — Maritime Safety Information 海上安全信息
 SOLAS — the International Convention for the Safety of Life at Sea 海上人命安全公约
 NAVTEX — Navigational Telex 航警电传
 EPIRB — Emergency Position-Indicating Radio Beacon 应急无线电示位标
 SAR — Search and Rescue 搜索与营救
 MSC — Maritime Safety Committee 海上安全委员会, 简称海安会
 integrated communication system 集成通信系统
 in close co-operation with 密切合作
 enter into force 开始实施, 生效
 in terms of 在 … 方面
 play an important role in … 在 … 方面起重要作用
 equip with; fit with; carry 配备
 in the event of 如果 … 发生
 do our utmost 尽最大努力
 divide … into 把 … 划分成 …

Notes

1. 该句中“with the full implementation of …”是“with + 名词”结构, 表示时间, 意为“随着”。“no matter”意为“不论…, 不管…”, 常与 what, when, where, which, who, whom, whose 等连用。“an integrated … to it”是“the Global Maritime Distress and Safety System”的同位语。全句意为: 1999 年 2 月 1 日, 随着全球海上遇险与安全系统的全面实施, 船舶遇险和安全通信进入一个新纪元。全球海上遇险与安全系统是通过使用卫星和地面无线电通信技术以保证船舶无论在哪里遇险, 都能及时得到救援的一个综合通信系统。

2. COSPAS-SARSAT 是一个由加拿大、法国、美国和前苏联四国建立的一个卫星搜救系统, 并由该四国联合开发了作为 GMDSS 一个组成部分的 406MHz 卫星应急示位标系统, 该系统能对从全球任何一个地方自动启动的应急示位标进行定位并将信号(包括遇险船的识别信号等)发送到救助协调中心。

3. “on Radio communications”中, on 相当于 about, “关于”。

4. Marconi, Guglielmo (1874 ~ 1937): 意大利电机工程师, 以发明无线电信号著名。1895 年他发明一种能将信号发射到几公里外的设备。1899 年他在英、法两国之间横跨英吉利海峡建立了通信联系, 1901 年 12 月 11 日, 他建立了在英格兰和纽芬兰之间跨越大西洋的通信联系。1909 年, 由于他在无线电报方面的贡献, 赢得了 1909 年诺贝尔物理奖。

5. 100 年前, Marconi 演示了新的无线电报系统, 不久, 人们即清楚无线电在海上救助方面的重大价值。但是, 无线电也有局限性, 很明显的即是它在覆盖距离方面的限制。

6. 1960s, 或 1960's: 20 世纪 60 年代, 读作 nineteen sixties。

7. 发展全球海上遇险与安全系统需要国际电信联盟和国际海事组织的密切合作, 国际海事组织发展操作要求及设备执行标准; 国际无线电咨询委员会推荐设备技术规范和使用程序;

国际电信联盟 1983 年的国际无线电管理委员会为测试系统并证明各种设备可以使用采纳了无线电规则中必要的条款;为了介绍全球海上遇险与安全系统,国际电信联盟世界无线电行政大会的 MOB-87 文件采纳了对无线电规则的必要的修正;为了在所有船上实施全球海上遇险与安全系统,国际海事组织在 1988 年采纳了对海上人命安全公约的修正。

8. 本句中“as we approach the 21st century”是时间状语从句。全句:今天,当我们即将进入 21 世纪时,我们具有了一个综合的通信系统,能保证没有任何一艘船会毫无踪迹地失踪,从而保证一旦遇险,更多的生命将得到救助。

9. SOLAS 公约下的全球海上遇险与安全通信系统是对 1979 年被采纳以发展全球搜救方案的国际海上搜救公约的完善,这样,无论事故发生在何处,对遇难人员的救助都将由搜救组织协调,必要时,也可在邻近的搜救国家之间进行协调。

10. “in each of which the countries concerned have delimited search and rescue regions for which they are responsible”此句中前一个 which 是代词,指代文中上半句所提到的“13 search and rescue areas”,而后一个 which 是关系代词,引导一个定语从句;concerned 是过去分词,作定语,修饰 the countries;be responsible for, 负责。全句译为:在每一个搜救区域,所涉及到的国家均已划定了他们所负责的搜救区域。

11. 形容词级的构成:

1) 一般单音节形容词和部分双音节形容词在词尾加“-er”和“-est”构成比较级和最高级(但 y 结尾的词要先变 y 为 i)。

如 safer/brighter/prettier 等。

2) 一般多音节形容词在原级前面加 more 和 most 构成比较级和最高级。如 more secure/more important 等。

3) 还有部分形容词级的变化是不规则的,一定要记住。

如 little—less—least//good—better—best 等。

Exercise

I. Answer the following questions to the text:

1. What two kind of communication does GMDSS use?
2. What world organizations took part in the development of the GMDSS?
3. For what purpose do all SOLAS ships carry specified satellite and radio equipment on board?
4. What regulations do the GMDSS comply with?
5. Which satellite system began to work earlier, INMARSAT or COSPAS - SARSAT?
6. Why was WWNWS established in the later 1970 by IMO and IHO?
7. What ships were required to be fitted with all applicable GMDSS equipment?
8. How many SAR areas are the world's oceans divided into by MSC?
9. How can we safeguard the seafarers and passengers to the maximum?
10. Can we feel satisfied with the advantages of the GMDSS and pay little attention to the safety of the ship and why?

II. Multiple choice:

1. With the assistance of _____ communication, ships in distress, no matter where they are, can be saved as soon as possible.
A. satellite
B. terrestrial
C. advanced technology
D. both A and B
2. According to the passage, SOLAS ship should be fitted with _____ communication equipment under the GMDSS.
A. satellite
B. SAR equipment
C. radio
D. both A and C
3. The GMDSS requirement came into force on _____.
A. 1 February, 1992
B. 1 February, 1999
C. 1 February, 1993
D. all of A, B, C
4. Which chapter of SOLAS describes the requirements of the GMDSS?
A. chapter V
B. chapter IV
C. chapter III
D. both A and B
5. It _____ almost 100 years since the first use of wireless to save a ship in distress.
A. is
B. has been
C. was
D. both A and B
6. IMO recognized that _____ would play an important role in SAR operations
A. COSPAS - SARSAT
B. satellite
C. INMARSAT
D. both A and B
7. Satellite communication _____ radio communication in the GMDSS.
A. will replace
B. isn't able to replace
C. is as useful as
D. is cheaper than
8. _____ are the two main countries which began to carry out experiments with satellites for SAR in the late 1970s.
A. USA
B. former USSR
C. USA and Canada
D. both A and B
9. It is _____ for _____ distress ships without trace to disappear owing to integrated communication system used at present stage.
A. possible / no
B. impossible / any
C. impossible / no
D. possible / any
10. Seafarers have to pay _____ attention to the marine perils than ever before even though they can depend on the GMDSS.
A. little
B. no
C. much more
D. most

III. Translate the following into Chinese:

The provision relating to GMDSS in the revised 1974 SOLAS Convention came into force on February

1, 1992. This new system takes advantage of modern technology to ensure immediate alerting, fast distribution, and effective communication in search and rescue operations at sea. A major principle of the GMDSS, is that any ship, in any sea area, shall be able to operate all means of communication regarded as important to itself and other ships in the same area.

Besides distress alerting, the GMDSS also provide urgency and safety communication and broadcast of maritime safety information which are vital to ship's safe navigation. In other words, every ship, will be able, irrespective of the area in which it operates, to perform those functions considered essential for the safety of all ships.

The distress message, preceded by the distress call, shall be repeated at intervals, especially during the period of silence mandatory in radiotelephony, until an answer is received.

IV. Translate the following into English:

1. 国际海事组织早在 10 年前就开始了全球海上遇险和安全系统的筹备工作。
2. 全球海上遇险和安全系统拥有两大不同的卫星系统, 即国际移动卫星系统 (IN-MARSAT) 和国际搜救卫星系统 (COSPAS - SARSAT)。
3. 同地面通讯相比, 卫星通讯具有更多的优越性, 例如: 覆盖区域广, 且不受外界干扰。
4. 由于全球海上遇险和安全系统的使用, 船舶无论在哪里航行, 都能够进行有效的报警, 从而大大提高了遇险人员的生还率。
5. 1999 年 2 月 1 日是全球海上遇险和安全系统全部实施的日期, 这在国际海运史上是一个十分重要的日子。

Lesson Two Basic Concept of GMDSS

The Global Maritime Distress and Safety System (GMDSS) was adopted by amendments in 1988 by the Conference of Contracting Governments to the International Convention for the Safety of Life at Sea (SOLAS), 1974. This was the culmination of more than a decade of work by IMO in conjunction with the International Telecommunications Union, International Hydrographic Organization, World Meteorological Organization, International Mobile Satellite Organization, and others.

The GMDSS offers the greatest advancement in maritime safety since the enactment of regulations following the Titanic⁽¹⁾ disaster in 1912. It is essentially a world-wide network of an automated ship-to-ship, shore-to-ship and ship-to-shore system covering distress alerting and relay, the provision of maritime safety information (MSI) and basic communication links.⁽²⁾ Satellite and advanced terrestrial systems are incorporated into a modern communications network to promote and improve safety of life and property at sea throughout the world. The greatest benefit of the GMDSS is that it vastly reduces the chances of ships sinking without a trace and enables search and rescue (SAR) operations to be launched without delay.⁽³⁾

The GMDSS has been designed to insure a combination of safety and efficiency. Consequently, it is a largely automated system and will require ships to carry a range of equipment capable of simple operation. IMO approached this task by defining communication functions which needed to be performed by all ships and then specifying what equipment would meet these functional requirements in defined ocean areas of the world. All ships shall be capable of performing communication functions for the following:

- a) transmit ship-to-shore distress alerts by at least two separate and independent means, each using different radio communication services;
- b) transmit and receive ship to ship distress alerts;
- c) receive shore to ship distress alerts;
- d) transmit and receive SAR communications (SAR - Search And Rescue);
- e) transmit and receive on-scene communications - SAR communication;
- f) transmit and receive locating signals;
- g) receive maritime safety information (MSI);
- h) transmit and receive general radio communication to and from shore-based radio systems or networks;
- i) transmit and receive bridge to bridge communication.

The basic concept of the system is that search and rescue authorities ashore, as well as shipping in the immediate vicinity of the ship in distress, will be rapidly alerted, through satellite and terrestrial communication techniques, to a distress incident so they can assist in a co-ordinated search and rescue operation with the minimum delay.⁽⁴⁾ The system also provides urgency (e.g. medical assistance) and safety communications and disseminates maritime safety information, including navigational and meteorological

warnings.

By the terms of the SOLAS Convention, the GMDSS provisions apply to cargo ships of 300 gross tons and over and to those ships carrying more than 12 passengers on international voyages.⁽⁵⁾ Unlike previous shipboard carriage regulations that specified equipment according to size of vessel, the GMDSS carriage requirements stipulate equipment according to the area the vessel operates in, as the various sub-system which make up the GMDSS have different limitations with respect to ocean coverage.⁽⁶⁾

And the areas are designated as follows:

Sea area A1 — An area within the radiotelephone coverage of at least one VHF coast station in which continuous Digital Selective Calling (DSC — a radio receiver that performs distress alerting and safety calling on HF, MF and VHF frequencies) is available, as may be defined by a Contracting Government to the 1974 SOLAS Convention.⁽⁷⁾ This area extends from the coast to about 20 miles offshore.

Sea area A2 — An area, excluding⁽⁸⁾ sea area A1, within the radiotelephone coverage of at least one MF coast station in which continuous DSC alerting is available, as may be defined by a Contracting Government. The general area is from the A1 limit out to about 100 miles offshore.

Sea area A3 — An area, excluding sea area A1 and A2, within the coverage of an INMARSAT geostationary satellite in which continuous alerting is available. The area is from about 70°N to 70°S.

Sea area A4 — All areas outside of sea areas A1, A2 and A3. This area includes the polar regions, where geostationary satellite coverage is not available.

Equipment requirements vary according to the sea area (or areas) in which the ship operates. Coastal vessels, for example, will only have to carry minimal equipment if they do not operate beyond the range of shore-based VHF radio stations. Ships which go further from land will have to carry MF equipment as well as VHF. Ships which operate beyond MF range will have to carry HF or Inmarsat equipment in addition to VHF and MF. Ships which operate in sea area A4 will have to carry HF, MF and VHF equipment.⁽⁹⁾

In addition to radio equipment, the GMDSS will introduce requirements for other equipment designed to improve the chances of survival. This includes EPIRBs and search and rescue radar transponders (SARTs) for location of the ship or survival craft in distress.

In considering an appropriate time frame for requiring GMDSS equipment to be fitted on ships subject to the 1974 SOLAS Convention, many factors were taken into account by the 1988 GMDSS Conference, including:

- 1 the views of MOB-87, as expressed in resolution COM 5/1 of that Conference;
- 2 the operational advantages to ships of being able to carry out certain of the new functions;
- 3 the amortization of the costs of existing shipborne and shore-based equipment;
- 4 the suitability of most modern equipment to meet the technical requirements and, hence, to operate satisfactorily in the GMDSS, provided additional facilities were provided;
- 5 the probable production rate of new equipment;
- 6 the probable time necessary for administrations to provide the necessary facilities on shore, including trained personnel;
- 7 the time necessary to equip ships with GMDSS equipment; and
- 8 sufficient time should be available to permit a smooth transition from existing arrangements.

As a result, the equipment fitting programme for every cargo ship of 300 gross tons and over and every passenger ship adopted by the 1988 GMDSS Conference is:

- 1 all ships constructed after 1 February 1992 shall be fitted with a search and rescue radar transponder and two-way VHF radiotelephone apparatus for survival craft;
- 2 all ships to be fitted with a NAVTEX receiver and a satellite EPIRB by 1 August 1993;
- 3 all ships constructed before 1 February 1992 to be fitted with a search and rescue radar transponder and two-way radiotelephone apparatus for survival craft by 1 February 1995;
- 4 all ships constructed after 1 February 1995 to comply with all appropriate requirements for the GMDSS;
- 5 all ships to be fitted with at least one radar capable of operating in the 9 GHz band by 1 February 1995;
- 6 all ships to comply with the appropriate requirements for the GMDSS by 1 February 1999.

New Words

culmination	n.	顶点, 高潮
enact	vt.	制定(法律), 通过(法案)
enactment	n.	法律(令), 法律的制定(通过或颁布)
disaster	n.	灾难
incorporate	vt.	包含, 吸收, 组成公司
promote	vt.	促进, 增进
launch	vt.	发动, 发起
insure	vt.	保险, 保证
consequently	adv.	所以, 因此
approach	v.	接近
	n.	接近, 入口, 进出口航道, (处理问题的)方法
disseminate	v.	传播, 散布
stipulate	v.	规定, 约定
amortization	n.	折旧, 分期偿还
hence	adv.	因此, 所以, 由此
facility	n.	容易, 便利 [复] 设备, 工具
personnel	n.	(全体)人员
construct	vt.	建造
	n.	建造物
apparatus	n.	仪器, 装置, 设备

Phrases and Expressions

Contracting Government 缔约国

a decade of work 10 年工作

in conjunction with 与…协力, 与…连同
 a range of 一系列
 be capable of 能够…
 on-scene communication 现场通信
 in the vicinity of 在…的附近
 co-ordinated search and rescue operation 协调搜救行动
 with the minimum delay 最短时间延误
 navigational and meteorological warnings 航行与气象警告
 apply to 适用于
 make up 构成, 组成
 with respect to 至于…
 DSC—Digital Selective Calling 数字选择性呼叫
 in addition to 除…之外, 除…外还
 SART—Search and Rescue Radar Transponder 搜救雷达应答器
 take into account 考虑到, 顾及
 time frame 时间表
 comply with 服从, 遵守

Notes

1. Titanic: “泰坦尼克号”, 是当时世界上最大、最豪华的游轮, 该轮于 1912 年 4 月 4 日, 载着 2224 名乘客从欧洲开往纽约, 次日午夜撞上冰山, 并发出了遇险信号, 尽管当时“加利福尼亚人”号轮离它只有 20 海里, 但由于报务员在睡觉, 没有受到求救信号; 又由于船上没有配备足够的救生艇, 大约只有 700 人幸免于难, 最后, 该轮沉没。“泰坦尼克号”沉船事件是航海史上震惊世界的海难。

2. 该句中“it”指代前句的 GMDSS。全句意为: GMDSS 实质上是一个能提供遇险报警和遇险转播、提供海上安全信息以及基本通信链路的自动船到船、岸到船和船到岸通信的全球性网络。

3. enable … to do (be) … 能使 …

4. 系统的基本概念是岸上的搜救机构以及航行紧靠遇险船附近的船舶, 将通过卫星和地面技术迅速得到一个遇险事件的报警, 这样, 他们可以以最短的时间延误帮助开展一个协调搜救工作。该句中, as well as 相当于 and … as well, 作连词用, 侧重其前项(即 search and rescue authorities ashore); shipping 相当于 ships navigating, 即航行在…的船舶; alert 在此作及物动词用。

5. 句中“By”意为“按照, 根据”。全句意为: 按照海上人命安全公约的条款规定, 全球海上遇险与安全系统适用于从事国际航线的 300 总吨及其以上的货轮以及载客多于 12 人的船舶。

6. 和以往根据船型规定船载设备的配备规则不同, GMDSS 的设备配备要求是根据船舶航行海区来配备的, 因为, 组成 GMDSS 的各个分系统在洋区覆盖方面都具有不同的局限性。句中“as …”引导原因状语从句。

7. “An area within …, as may be defined by …”文字虽多, 但不构成句子, 主词 an area 受介词短语“within …”及非限制性定语从句“as …”的修饰, 对 Sea area A1 作说明, 这种结构在

科技文章中对名词的定义或解释时用得较多。as 在此作关系代词,引导一个非限制性定语从句,对 an area 作附加的进一步说明。

8. excluding, 除外。前缀“ex-”表示“超出”、“免除”。

including, 包括在内,前缀“in-”表示“在内”。

9. 在该段中,operate 相当于 sail。

Exercise

I. Answer the following questions according to the text:

1. The introduction of the GMDSS is the result of amendments by contracting governments to SOLAS, isn't it?
2. How long did it take the world organization concerned to finish the work of establishing the GMDSS?
3. What kind of system is the GMDSS and what main functions does it provide?
4. What can be safeguarded by the GMDSS, the modern world-wide communication network?
5. What is the greatest advantage of the GMDSS?
6. How do ships decide what equipment to be carried for meeting the functional requirements of the GMDSS?
7. What is the basic concept of the GMDSS?
8. What is the first method of distress alerting in both Sea Areas A1 and A2?
9. In what directions and on what frequencies is DSC equipment operated?
10. What is the coverage of INMARSAT geo-stationary satellites?
11. What equipment should ships operating beyond MF range carry?
12. For what purpose do mariners use SART or EPIRB?

II. Multiple choices:

1. The GMDSS is a world-wide communication network combining _____ with _____.
A. satellite/terrestrial system B. INMARSAT/COSPAS - SARSAT
C. SART/EPIRB D. geo-stationary/polar orbiting satellites
2. Effort made for marine safety _____ the Titanic tragedy in 1912.
A. started / after B. has started / since
C. was beginning / when D. begins / after
3. The GMDSS enables distress alerting and its relay to be transmitted in _____ directions.
A. ship-to-ship B. ship-to-shore
C. shore-to-ship D. both A, B, C
4. The purpose of the GMDSS is to _____ safety of life and property at sea all over the world.
A. promote B. improve
C. guarantee D. both A and B
5. The equipment to be carried by ships _____ the area where they proceed.