

## Chapter 4. Investigation and Statistics of Maritime Accidents

As mentioned in Section 2.6, to establish adequate SAR systems, it is indispensable to make detailed investigation, analysis and statistics of accidents at sea.

These must be started as early as possible and continued year after year to reduce the maritime accidents and to improve SAR systems gradually.

Perhaps it will be difficult to take all the measures at the same time, so it is desirable to take possible measures first by the Year 2000 and then to intensify effort to reach ideal stage along with the completion of SAR systems towards the Year 2010.

This is the reason why this topic is placed as Chapter 4, between Chapter 3: Targets for the Year 2000 and Chapter 5: Targets for the Year 2010.

### 4.1 Investigation of Maritime Accidents

Any kind of accident, regardless of whether the ship involved in it needs assistance or not and whether the accident is serious or minor, the causes of the accident must be examined and investigated thoroughly. It is advisable to prepare in advance an investigation sheet with the following data:

These data are corrected and added according to the special circumstances of this country. It will be better that most of the data are those to be just checked by marks. They will be processed by computers in the future.

#### *Work Sheet for the Investigation of Marine Accidents - Model -*

1) Time and date of accident:

2) Place of accident:

□□□ degrees □□□ miles/meters from □□□  
Lat. □□ - □□ - □□ N; Long. □□□ - □□ - □□ E

3) Sea Area Ex. Vinh Ha Long

4) Distance from coast:

(01) Within port	(02) Within 3 miles	(03) 3-12 miles
(04) 12-20 miles	(05) 20-50 miles	(06) 50-100 miles
(07) 100-200 miles	(08) 200-500 miles	(09) 500-1000 miles
(10) 1000 miles~	(11) unknown	

5) The ship involved:

The name of ship:      Flag    Tonnage

6) Necessity of assistance:    Yes/No

7) Kind of accident:

(01) Collision	(02) Grounding	(03) Capsizing
(04) Fire	(05) Explosion	(06) Flooding
(07) Engine Trouble	(08) Propeller trouble	(09) Rudder trouble
(10) Missing	(11) Others	

8) Result:    (01) Submerged      (02) Sank      Depth of water (    ) m

9) Main Engines:    Kind of engine:  
Power PS (    ) KW x (    ) units

10) Number of Registry:

11) Owner of the ship: Name  
Address

12) Captain:    Name  
Address

13) Port of Registry:

14) Port of departure: Port, at      □□ min. □□hr. Date

15) Port of destination:

16) Number of persons on board: Crew (    ) Passengers (    )

17) Code of Ship (Call Sign):

18) Nationality of Captain:

19) Material of hull:

(01) Steel	(02) Light alloy	(03) Wood
(04) Wood and steel	(05) FRP	(06) Rubber
(07) Other (    )		

20) Type of Service

Passenger Ship: (01) Passenger only (02) Passenger ferry  
(03) Cargo and passenger (04) Other type( )

Cargo Ship: (11) General cargo  
(16) Dangerous cargo except for oil and chemicals  
(17) Ore (18) Cars  
(19) Containers (20) Timbers  
(21) Gravel (22) Sand  
(23) Other ( )

Tanker: (12) Oil (ignition point > 61°C)  
(13) Oil (ignition point ≤61°C)  
(14) Chemicals (15) Liquefied gas

Fishing Boat: (31) Unregulated (32) Regulated  
(33) Other ( )

Pleasure Boat: (41) ~ (50)

Others: (51) Transportation (52) Pushing Tug  
(53) Pushed (54) Towing tug  
(55) Barge (56) Work ship  
(57) Other ( )

21) Length Overall: (01) Under 7m (02) 7~12m -----  
(06) 70~100m

22) Service Restriction:

23) Vessel's situation when the accident occurred:

Navigating, drifting, at anchor, fishing, etc.  
as detailed as possible:

24) Usual navigation speed:

25) Certificates of the Captain, Chief Engineer and other officers:

26) Period of experience of the above:

27) In case of fishing vessel: type of fishing:

28) Kinds of catch:

- 29) Cargo:
- |            |                |               |               |
|------------|----------------|---------------|---------------|
| General:   | (01) Vehicles  | (02) Timber   | (03) Gravel   |
|            | (04) Cement    | (05) Coal     | (06) Steel    |
|            | (07) Ore ----- |               |               |
| Dangerous: | (01) Crude oil | (02) Gasoline | (03) Kerosene |
|            | (04) LPG       | (05) (LNG)    | (06) Naphtha  |
|            | -----          |               |               |

29) Loading condition: Empty; Half-loaded; Full-loaded; Over loaded  
 Passenger: Within regulated number; Overloaded

30) Navigation Equipment: Radar, Loran, Omega, NNSS, Gyro, Magnet; -----

31) Communications Equipment: Radio telephone, Radio telegraphy, -----

32) Life-saving Equipment: Life boat; Life raft; Life Jacket; Epirb; --

33) Weather and Sea Conditions:

Weather: Clear; Fair; Cloudy; Rainy; Foggy; -----

Wind: Direction: Velocity: -----

Wave: Direction: Height: -----

Swell: Direction: Height: -----

Visibility:

Sea and tidal current:

34) Unusual Weather: Typhoon; Tropical depression; Low  
 Kind of warning:

35) Cause of Accident:

- Error of Operation:
- |  |                       |
|--|-----------------------|
| (01) Careless watch                          |                       |
| (02) Wrong positioning                       |                       |
| (03) Violation of traffic regulations        |                       |
| (04) Inadequate operation                    |                       |
| (05) Misjudge of ATN                         | (06) Error of compass |
| (07) Late evacuation                         |                       |
| (08) Careless of weather                     |                       |
| (09) Wrong maintenance of hull and equipment |                       |
| (10) Operation in a doze                     | (11) Other ( )        |

- Engines:
- |                          |                     |
|--------------------------|---------------------|
| (21) Wrong maintenance   | (22) Wrong handling |
| (23) Insufficient repair |                     |

- Loading: (31) Wrong loading  
 (32) Wrong handling of cargo  
 (33) Over-loading (34) Other ( )
- Fire/Inflammable: (41) Careless handling  
 (42) Leak of electricity  
 (43) Careless handling of dangerous substance  
 (44) Other ( )
- Material/Structure: (51) Worn out (52) Wrong materials  
 (53) Structural deficiency (54) Other ( )
- Force Majeure: (61) Natural ignition  
 (62) Mistake of other ship  
 (63) Deficiency of port facilities  
 (64) Abnormal weather (65) Other ( )

36) Collision/Grounding:

Movement of third vessels:

Use of Radar, automatic steering, remote control of engines, etc.:

The speed of the ship just before the accident:

Number of crewmembers on lookout:

Steps taken to avoid collision:

Relation with the vehicle collided with:

- (01) Reciprocal (02) Crossing (03) Overtaking  
 (04) Being overtaken (05) Other ( )

Ship/object collided with:

- (01) Passenger (02) Ferry (03) Oil Tanker  
 (04) Ship with dangerous cargo (05) Ship with general cargo  
 (06) Fishing vessel (07) Other ship ( )  
 (08) Port facility (09) Drifting object (10) Other ( )

37) Fire/Explosion:

Source of fire: Cigarette, cooking instrument, etc.

Ignited object: Leaked oil, cargo, etc.

Place of fire source: Engine room, cooking room, etc.

38) Engine trouble/Propeller trouble:

Shaft, cylinder, fuel system, lubricating system, etc.

39) Extent of damage:

Hull: Total loss, Serious, Medium, Light, etc.

Engine: -do-

Cargo: -do-

40) Spilled oil:

Kind of oil: Crude oil, heavy oil, gasoline, etc.

Amount: 100 ltr, 50 kltr, etc.

41) Information on the accident:

Channel of information: Sighted by person, coastal radio station, owner, agent, etc.

Information sent from: Ship in distress, ship collided with, ship in the vicinity, aircraft, person who sighted from land, etc.

Means of communication:

Radio, telephone / telegraph Distress communications; Urgent communications; General communications

Other: Land telephone, etc

42) Time taken for SAR activities:

Time of accident~1st information received:

(01) within 5 min. (02) 5~30 min. (03) 30~60 min.  
(04) 1~3 hrs. (05) 3~6 hrs. (06) 6~12 hrs.  
(07) 12~24 hrs. (08) 1~3 days (09) 3~7 days  
(10) 7 days ~

Information received ~ Start for SAR:

By sea; by air; by land;

(01) within 5 min. (02) 5 ~ 30 min. (03) 30 ~ 60 min.  
(04) 1 ~ 3 hrs. (05) 3 ~ 6 hrs. (06) 6 ~ 12 hrs.  
(07) 12 ~ 24 hrs. (08) 24 hrs. ~

Start of Rescue ~ Finish: hrs.

43) Mobilized vessels and aircraft in detail:

44) SAR activities in detail:

By sea and/or land (for vessel in distress):

- |                         |             |                      |
|-------------------------|-------------|----------------------|
| (01) Search             | (02) Escort | (03) Arrange rescue  |
| (04) Towing             | (05) Freed  | (06) Fire - fighting |
| (07) Discharge of water |             | (08) Repair          |
| (09) Other              |             |                      |

By sea and/or land (for persons on board):

- |                            |                            |
|----------------------------|----------------------------|
| (01) Transport of patients | (02) Dispatch of doctors   |
| (03) First aid             | (04) Transport of medicine |
| (05) Other ( )             |                            |

By air:

- |                     |                      |              |
|---------------------|----------------------|--------------|
| (01) Search         | (02) Leading the way | (03) Lifting |
| (04) Throwing goods | (05) Other ( )       |              |

45) Equipment used:

- |                     |                  |                              |
|---------------------|------------------|------------------------------|
| (01) Life boat      | (02) Rubber boat | (03) Line projectile         |
| (04) Radio buoy     | (05) Fire pump   | (06) Gasoline pump           |
| (07) Chemical agent | (08) Gas sensor  | (09) Fire - fighting clothes |
| (10) Saving net     | (11) Other ( )   |                              |

46) Vessels, aircraft and persons involved in SAR activities:

- |                              |                     |                            |
|------------------------------|---------------------|----------------------------|
| (01) VMS                     | (02) Salvage        | (03) Police                |
| (04) Customs                 | (05) Military       | (06) Local authority       |
| (07) Cargo ship              | (08) Passenger ship | (09) Fishing boat          |
| (10) Foreign government ship |                     | (11) Foreign civilian ship |
| (11) Other ( )               |                     |                            |

47) Rescue results:

Vessel: Rescued by ; by the vessel itself; Total loss:  
Cargo: -do-  
Persons: Rescued by ; self - rescued; Missing; Dead; Injured; Other ( )

48) Estimated Amount of Damage:

To vessel; To cargo:

#### 49) Description of Accident and SAR Activities:

The data are just for your information, but the data must be as detailed as possible so as to include every factor necessary for the prevention of further accidents and the improvement of SAR systems.

#### 4.2 Statistics of Marine Accidents

The reasons why accurate and detailed statistics of marine accident is indispensable for the prevention of accidents and the improvement of SAR systems is explained in the preceding Chapter 2.6.

Here, for your information, detailed know-how to make statistics is introduced based on detailed investigation mentioned in 4.1. For the purpose, examples are shown below. They are the ones picked up from among those made by JMSA, which are thought to be useful for Vietnam.

It is advisable to make statistics not only by means of figures but also by means of illustrative diagrams to make the situation clear and easy to understand. The combination of statistics of accidents with marine charts will be one of the informative means for the future plans.

##### 4.2.1 General:

Number and tonnage of vessels in accident by year (Ex. 1990 ~ 1996)  
Number of accidents by type (collision, grounding, ----- ) and year  
Number of accidents by type of service (cargo ship, tanker, ----- ) and year  
Number of accidents by tonnage (under 5 tons, 5~20, 20~50, ----- ) and year  
Number of accidents by distance from coast (under 3 miles, 3~12, ----- ) and year  
Number of accidents by tonnage and distance from coast in (Ex. 1996)  
Number of accidents by type and tonnage and 1996  
Number of accidents by type and distance from coast in 1996  
Number of accidents by type and by month in 1996  
Number of accidents by type and type of service in 1996  
Number of accidents by type and tonnage in 1996  
Number of accidents by type and distance from coast in 1996

##### 4.2.2 Accidents of Vessels by Type of Accident and Type of Service

Type of accident: Collision, grounding, engine trouble, fire, explosion, flooding, capsizing, propeller trouble, rudder trouble, missing and others.

Tonnage: under 5 tons, 5~20, 20~50, 50~100, 100~500, 500~1,000, 1,000~3,000, 3,000~10,000, 10,000~30,000, 30,000~



Distance from coast: Within port, within 3 miles, 3~12, 12~20, 20~50, 50~100, 100~200, 200~500, 500~1,000, 1,000~

(1) Ships except for fishing vessels:

1) Cargo ships:

Number of accidents by type and year (Ex. 1990~1996)

Number of accidents by tonnage and year

Number of accidents by distance from coast and year

Number of accidents by tonnage and by distance from coast in 1996

Number of accidents by type and tonnage

Number of accidents by type and distance from coast

The same statistics for special cargo ships:

Ore carrier, vehicle carrier, container carrier, etc.

2) Tankers:

The same statistics as the above should apply to tankers.

Oil tankers, chemical/liquefied gas tankers, etc.

3) Passenger ships:

The same statistics as the above should apply to passenger ships.

4) Other ships:

(2) Fishing vessels:

The same statistics as the above should apply to fishing vessels. In addition, it is advisable to divide them into two groups: fishing vessels with engine and without engine.

#### 4.2.3 Accidents of Vessels by Sea Area:

How sea areas along the coast of Vietnam should be delimited will depend on maritime safety policies and/or administration of the Government. However, it is very important to spot the scenes of accidents in the charts of various kinds. These will be very useful to take preventive measures and establish SAR systems in the future as mentioned in 2.6.

Number of accidents by area/region, by type (collision, grounding, -----) and type of service (cargo ship, Tanker, fishing vessel, ---) in 1996

Number of accidents by area/region and by year (1990~1996)

Special areas of busy vessel traffic where many accidents have taken place so far should be treated separately and in detail for the above data. Provided that there are three such areas as mentioned above, say they are A Area, B Area and C Area. In addition to general statistics, special statistics should be made for the three areas.

It is also recommended that such statistics should be made for each port of busy traffic and each river channel to the port.

#### 4.2.4 Accidents of Vessels by Cause

Detailed information on the causes of accidents is very important to take concrete measures to prevent accidents in the future. By analyzing the data, causes will be made clear such as human error; unusual weather; and deficiency of hull, engine and equipment.

These statistics should be made as detailed as possible as to types of accidents (collision, grounding, fire, -----), types of service (cargo ships, tankers, passenger ships, ---) and causes of accidents. If the data cannot be covered at the same time, more detailed statistics should be made separately.

For example:

(1) Accidents by cause in detail:

Accidents by type, type of service and cause:

Combination of types of accidents (collision, engine trouble, ---), types of service (cargo ships, tankers, passenger ships, ---) and causes in general (operational error, mis-handling of engines, wrong loading, mis-handling of fire/inflammable, deficiency of materials/structure, force majeure, unknown, other)

Accidents by cause in detail:

The above causes in general should be explained in detail as follows:

Operational error: Careless lookout;  
Non-confirmation of position;  
Violation of traffic regulations;  
Mis-operation of vessels;  
Mis-judging of aids to navigation;  
Non-confirmation of compass error;  
Careless about bilge;  
Wrong timing of evacuation;  
Careless about weather and sea conditions;  
Insufficiency of nautical charts and other publications

Wrong maintenance of hull and navigational equipments;  
Insufficient preparedness for storm;  
Wrong anchorage;  
Insufficient study of traffic routes;  
Operation in doze;  
Others:

Engines: Wrong maintenance;  
Careless handling;  
Insufficient repair;  
Others:

Loading: Wrong loading;  
Careless handling of cargoes;  
Overloading;  
Over passengers;  
Others:

Fire/inflammable: Careless handling;  
Leakage of electricity;  
Wrong handling of dangerous cargoes;  
Wrong handling of oil;  
Others:

Material/structure: Time worn;  
Defective materials;  
Defective structure;  
Others:

Force majeure: Natural ignition;  
Error of other vessel;  
Deficiency of port facilities;  
Unusual weather;  
Death of person on board;  
Others:

Cause unknown:  
Others:

(2) Visibility/wind velocity and accidents:

- Collision and grounding in bad visibility by region/area by month;
- Accidents by wind velocity (Beaufort scale), by type (collision, grounding, capsizing, --- ) and distance from coast:

Distance from coast; for example:

Within port: under 3 miles; 3~12 miles;  
12~50 miles; 50 miles~

(3) Accidents by typhoon and other unusual weather:

- Accidents by type and by year (Ex. 1990~1996);
- Accidents by distance from coast by year;
- Accidents by tonnage and by year;
- Accidents by tonnage and distance from coast;
- Accidents by tonnage and type of service;
- Accidents by type, type of service and distance from coast:

(4) Other accidents:

1) Spots of engine trouble by type of service:

Spots of engine:

Shaft, cylinder, starter, fuel system; lubricating system; cooling system;  
gear, auxiliary, others:

2) Spots of fire by type of service:

Bridge; engine room; radio room; crew compartment; passenger room; dining  
room; etc.

3) Sources of fire by type of service:

Match; cigarette; room heater; etc.

4) Objects catching fire by type of service:

Leaked oil; waste; bilge; gas; explosive; cargo; structure; etc.

#### **4.3 Statistics of Marine Accidents in which Human Lives are Involved**

As mentioned in 2-6, the data of the accidents in which human lives are involved should be treated independently, even if there may be some duplication, because in thinking about every aspect of SAR, the first priority must be placed on and everything must be started with "the Safety of Life."

Human accidents at sea are largely divided into two groups: human accidents caused by vessels' accidents and human accidents without vessels' accidents.

(1) Death and missing caused by vessels' accidents:

- Number of death and missing and number of vessels by type of service and by year: (Ex. 1990~1996)
- Number of death and missing by type of service, tonnage and type of accidents:
- Number of death and missing by type of service, type of accident and distance from coast:
- Number of death and missing by tonnage and distance from coast:
- Number of death and missing by type of service, type of accidents and tonnage:
- Number of death and missing by type of service, type of accidents and tonnage:
- Number of death and missing by region/area and month:
- Number of injured by type of service and type of accident:

(2) Death, missing and injured without vessels' accidents:

- Number of death, missing and injured by year; on board ship, near beach (for recreation and others):
- Number of death, missing and injured by type of human accident:
  - A. On board ship:
    - Falling into sea; injured; illness; wounded; poisoning; suicide; other ( ):
  - B. Accidents on beach, etc.:
    - Swimming; fishing; working; suicide; other ( )
- Human accidents by type (Falling into sea, injured, etc.), by type of service and distance from coast:

#### 4.4 Statistics of Rescue Activities

(1) Rescue of vessels:

- Number of vessels in accident, vessels rescued by SAR organizations, vessels by others, vessels make port themselves, vessels in total loss; etc. (Ex. 1990~1996)
- Estimated value of vessels of the above;
- Rescue of vessels by distance from coast for each of the above factors 1);
- Rescue of vessels by type of accident for the same;
- Rescue of vessels by tonnage and type of service for the same;
- Rescue of vessels by time from the occurrence of accident to the first information received for the same;
- Rescue of vessels by type of service and distance from coast, for the same;
- Number of vessels by type of accident and by kind of rescue activity;

**Examples of rescue activities:**

Search; escort; arrangement of rescue; towing; pulling down; fire-fighting; discharge of water; repair; diving; others ( ):

**For persons:**

Transport of patient; dispatch of doctors; first aid; transport of medicines; picking up patient; search:

- Receiving of accident information by type of service and by means of communication (distress signal, telephone, oral, etc.);
- Receiving of information by type of accident and means:

Based on the results of investigation, a lot of important data for the establishment and improvement of SAR systems will be obtained.

## **Chapter 5. Targets for the Year 2010**

### **5.1 Procurement of Rescue Vessels and Craft Including Supportive Land Facilities**

Most of the vessels actually used for SAR activities in Vietnam are very old. Some are over 50 years old and not capable of carrying out SAR missions. In the worst case, it is anticipated that rescue boats themselves will be involved in secondary accidents. In addition, Vietnam has no organizations with vessels responsible for SAR in case where necessity arises.

Under these circumstances, it is necessary to set up SAR stations with new SAR vessels in major ports, always ready for any accident at sea. Of course, these stations and vessels should be equipped with proper communications facilities to carry out SAR missions and other maritime safety duties effectively and efficiently.

Those rescue vessels should be medium-sized and deployed one by one at proper ports based on the urgency and necessity in consideration of the frequency and seriousness of accidents.

Finally three vessels each will be deployed at Hai Phong Port to cover the Northern Area and Vung Tau Port for the Southern Port, and two vessels at Da Nang Port for the Central Area.

Those SAR vessels will be multi-purpose vessels of about 500 gross tons with the capacity of fire-fighting, anti-disaster and towing, etc.

They will be engaged in any kind of SAR activities, and also capable of carrying out a wide variety of Maritime Safety Services such as marine pollution prevention, traffic safety and aids to navigation.

They should be able to reach up to 150 miles from the coast and carry out SAR missions for a week or over.

Detailed specifications, functions and other factors should be studied and designed in consideration of the specific circumstances of Vietnamese coastal sea area such as weather and sea conditions and vessel traffic situations.

In consideration of the above factors, a special type of multi-purpose SAR vessel with various anti-disaster capabilities will be advised as a model.

(1) Main Specifications:

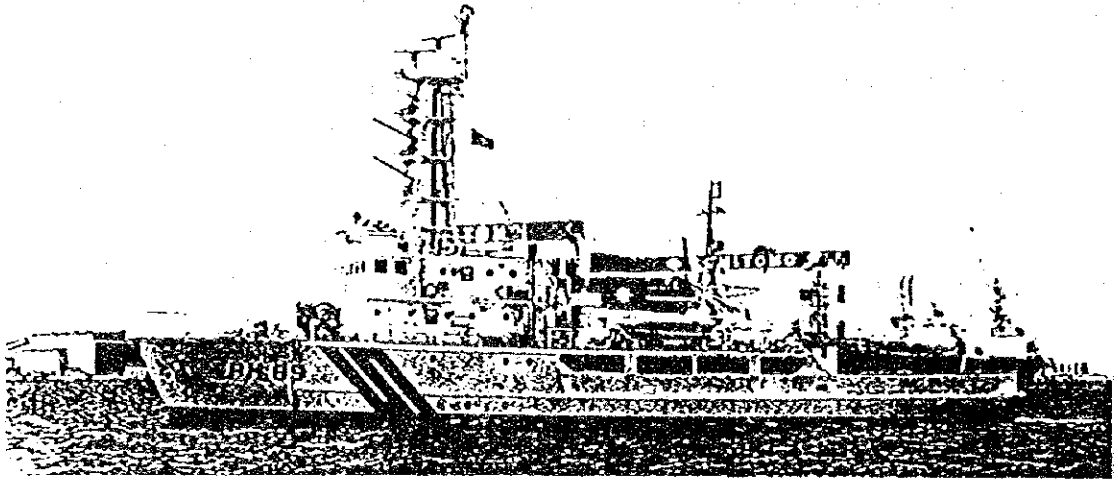
Material of Hull:	Steel
Navigation:	Ocean-going (limited)
Gross tonnage:	500 tons
L x B x D:	46.5 x 9.2 x 4.3 m
Main Engines:	Diesel 1,500 PS x 2 units
Speed:	15 knots

(2) Other Characteristics

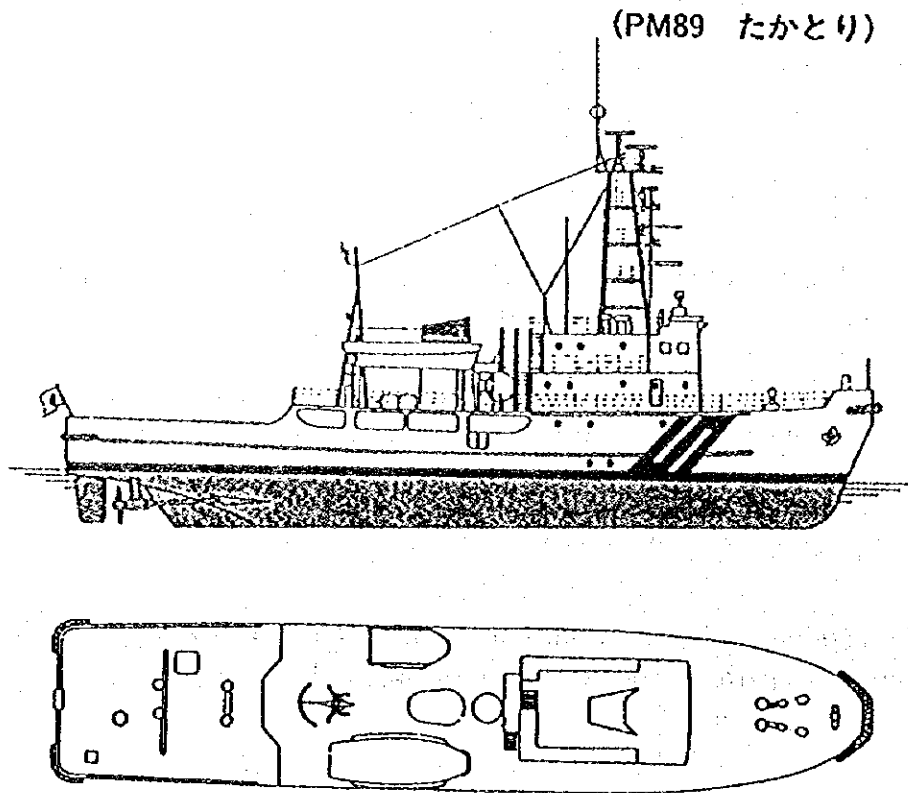
- Fire-fighting equipment:  
Foam shooting guns: 3,000 ltr/min x 2 units  
Powder shooting guns: 35 kg/sec x 1 unit  
Heat -protecting nozzles:
- Towing equipment:  
30-ton towing hook and 30-ton towing wench on the stern
- Oil boom lifting devices:
- All the machinery on the deck are operated by oil pressure instead of electricity in order to prevent from explosion
- Operations Information Center (OIC): In case of a large-scale disaster, OIC plays a role of On Scene RCC
- Construction cost: About 14 million USD if built in Japan as of November 15, 1996

In addition to the above medium-sized vessels, small rescue craft in 3-2 should be further deployed properly along the coast based on the frequency of accidents involving human lives.

Photo



(PM89 たかとり)





## **5.2 Establishment of Ship Reporting System**

The purpose and usefulness of Ship Reporting System have already been reported in 2.5. Vietnam will be able to participate in one or some established systems of other countries if she wants. However, in consideration of the specific circumstances of the country such as weather, sea conditions, geography and shipping development, it is recommended that she have her own reporting system to cover the coastal sea areas in parallel with the systems of other countries.

The first ship reporting system in the world is the AMVER System of the United States of America. It has been implemented since 1958, and a lot of ships in distress have been successfully rescued by participating in the System.

In the provisions of the International Convention on Maritime Search and Rescue, 1979 (SAR Convention), which came into effect on June 22, 1985 with a purpose of establishing an international search and rescue system, it is prescribed that a ship reporting system should be established.

In the near future, Vietnam will be a member of the SAR Convention. To be a member, Vietnam will have to set up adequate SAR system including Ship Reporting System.

For the time being, it is advisable for Vietnam to utilize SINGREP (SINGAPORE SHIP REPORTING SYSTEM) which covers all the coastal sea area from south up to Latitude 17 degrees N, and JASREP (JAPANESE SHIP REPORTING SYSTEM) which covers all the coastal sea area from north down to 17 degrees N.

For the information for participating and also for establishing the independent system, JASREP USER'S MANUAL and SINGREP INSTRUCTIONS FOR MASTER are attached at the end of this report.

## **5.3 Fostering of SAR Personnel**

To carry out SAR activities efficiently and effectively, it is necessary to educate and train SAR personnel to acquire knowledge and skill as the experts in the field of search and rescue. Search and rescue service is really a professional job with dangerous missions, sometimes rescuers' lives may be in peril.

For the purpose, it is desirable to find an expert training facility for the education and training of personnel responsible for SAR (for example; Maritime Safety Academy.) There, in addition to the general seafarers' education, special education and training for knowledge and skill will be given in the field of SAR and other maritime safety services.

If it is thought that to find an independent training facility for maritime safety services is too early, re-education in the field for those who have seamen's background and enough experience will be advisable at seamen's training facilities such as Vietnam Maritime University.

#### **5.4 Unification of SAR Organizations**

In order to carry out SAR activities efficiently, effectively and successfully, it is necessary that these activities are carried out under a system whose chain of command is as simple as possible. In this connection, it is desirable that SAR activities be carried out by a single integrated organization.

SAR missions should be carried out without charge as far as possible, at least for the rescue of accidents which involves rescue of human lives.

So, it is desirable that the SAR organization will be a non-profit government organization. The non-profit services, however, in the long run, will give invaluable benefit for the prosperity of the country, as has been proved in some SAR developed countries such as the United States and Japan.

As mentioned in 2 - 1, typical models are the United States Coast Guard (USCG) and the Japan Maritime Safety Agency (JMSA). USCG is a military organization and JMSA is a civilian organization, but their duties in the peace time are very similar to each other; e.g. search and rescue, law enforcement, traffic safety, environmental protection, aids to navigation, etc.

In any case, SAR has the first priority. For example, if they get information about a ship in distress and people on board are in danger, while they are chasing smugglers, they will go to the scene of the accident without hesitation, suspending the law enforcement service.

The chains of commands of the above agencies are very simple and firmly established with communication network which is exclusively used for their own services. Cutters (USCG) and patrol services (JMSA) on alert are immediately proceed to the scene without waiting for instructions from RCC. In the process, RCC gives necessary instructions and if necessary, RCC will send other rescue ships and aircraft. In a very particular case, RCC will ask other agencies such as Navy and foreign ships for their cooperation. But most of SAR missions are performed with their own resources efficiently and effectively.

In Vietnam also, it will be ideal to set up such single organization as the above, but the political, economic and social circumstances of this country are very different from those of the above two countries. Under the structure of Vietnam and in consideration of the development on every field, all efforts should be made toward the ideal stage step by step.

## 5.5 Installation of Communication Network in Relation to GMDSS

It is understood that Vietnam Ship and Electronic Communication Company (VISHIPEL) is now planning to establish GMDSS land facilities except for satellite systems. The System will be realized by the year 1999.

GMDSS (Global Maritime Distress and Safety System) is literally and virtually the System for Maritime Safety especially for Search and Rescue. Naturally and logically, it must have direct connection with SAR systems. Therefore, the establishment of GMDSS should go along with the establishment and improvement of SAR systems.

As mentioned in the above 5 -4, it is ideal that GMDSS network is incorporated into SAR systems. If it is very difficult for inevitable reasons, the network should be used for the purpose with the first priority and during the process of SAR activities from the start, receiving information until the completion of rescue works, it must be used exclusively for the activities.

It is desirable for GMDSS to be utilized for SAR at the same time of the completion, if possible even in the process of construction. After the completion, utilization of the system should be expanded step by step. For example, the following are recommended:

- 1) The three RCCs in 3.1 should be incorporated into the GMDSS network as early as possible. They should be able to get distress information and other maritime safety information directly with the receivers at their operations rooms and instructions and information should be sent directly to SAR vessels and ships in distress and those concerned.
- 2) SAR vessels should also be equipped with GMDSS devices and should be able to get SAR information.
- 3) Not only ocean-going vessels under the SOLAS Convention but also vessels engaged in coastal shipping should be equipped with GMDSS devices at least NAVTEX receivers and EPIRBs.
- 4) Motor fishing boats operating off the coast should be equipped with EPIRBs at least.
- 5) RCCs, SAR vessels, ships in distress and ships in the vicinity should be able to exchange SAR information directly with each other.
- 6) In addition to those three RCCs, it will be necessary to set up some Rescue Sub-centers (RSC) under each RCC to make up for it. In such case, these RSCs should have the same communication functions as RCC.

- 7) GMDSS network should be organically connected with MSI in 3.1, and also with Ship Reporting System in 5.2 each other in order to exchange necessary information.
- 8) Data of these networks should be processed and exchanged with computers and real time information will be acquired at any terminal.

## 5.6 The Idea of Coastal Life Saving System

It is not known whether an idea of an officer (writer) of VMS or a plan under study by VMS, but according to the article entitled, "The Idea on Search and Rescue at Sea" (MOTC Magazine No. 7 - 1996), about 140 small rescue craft should be placed at 120 stations along the coast of Vietnam for the rescue of lives within 30~50 miles from the coast.

Detailed information such as where those stations will be has not yet been obtained, if the system is operated by the government, it seems waste of persons and money because because each station must have supporting functions with personnel and facilities such as communication equipment only for one small rescue boat.

If this kind of system should be made, it is advisable that the system should be autonomous one supported by the government.

As far as possible, the SAR boats of this kind should be built and operated by a certain group of people who have interests in common. For example, each port of fishing will have some rescue boats which are operated and financially supported by those who are engaged in fishing operation there.

For your information, in Japan, besides government organization (JMSA), there have been such non-government organization on voluntary basis. It was founded in 1888 and has been contributed enormously to the safety of lives and properties in the coastal sea areas of Japan. It has 333 rescue stations with rescue boats and has saved more than 200 lives and 100 boats every year.

## **Chapter 6 Maritime Communications**

### **6.1 Present Situation of Maritime Safety Communications**

Maritime safety communications is carried out by coastal radio stations. Vietnam has five internationally registered coastal radio stations: HAI PHONG RADIO (XVG); HO CHI MINH VILLE RADIO (XVS); DA NANG RADIO (XVT); NHA TRANG RADIO (XVN); VUNG TAU RADIO (XVR); and two national radio stations: QUANG NINH RADIO (XVQ) and CAN THO RADIO (XVU).

They are operated and maintained by the Vietnam Ship and Electronic Communication Company (VISHIPEL) which is under the Vietnam National Maritime Bureau (VINAMARINEO). The national stations carry out only domestic communications.

Those seven stations are keeping watch round the clock for search and rescue, medical assistance, weather forecast at sea, commercial services and so on. These duties are carried out by internationally certified radio operators.

### **6.2 Frequencies and Methods of Communications for Maritime Safety**

Table 6.1 below indicates the communications frequencies used by coastal radio stations. Frequencies of 500 KHz, 2182 KHz and 156.8 KHz are used to respond to distress and urgent calls but they are not equipped to receive EPIRB 406 Mhz which is required under GMDSS.

### **6.3 Problems with Present Communications**

Most of the facilities and equipment of the coastal radio stations are very old and should be modernized. In addition, technical condition of most ships and other facilities in service at present are poor and outdated.

The supply of technical equipment for ships, in conformity with the International Conventions for Maritime Safety which Vietnam has signed and adopted, has not yet met the demands, and thus the safety of ships has not yet been secured. Accordingly, in case of distress, ship captains have not been able to respond effectively and thus resulted in accidents.

Table 6.1  
**FREQUENCIES AND METYHODS OF COMMUNICATIONS  
 OF COASTAL RADIO STATIONS IN VIETNAM  
 (FOR MARITIME SAFETY COMMUNICATIONS)**

Equipment	Method of Communications	Frequencies	Vietnamese Coastal Stations						
			X V G	X V S	X V T	X V N	X V R	X V Q	X V U
TX/RX (MHF)	WT (A1A; A2A)	500 Khz	+	+	+	+			
TX/RX (MHF)	RT (J3E)	2182 Khz	+	+	+	+	+		+
RX (MHF) Automatic	RT (J3E)	2182 Khz	+	+	+	+	+		
TX/RX (VHF)	RT (F3E)	156.8 MHz	+	+	+	+	+	+	+
TX/RX (HF)	RT (J3E)	4125 Khz	+						+
		6215 Khz		+					
		12290 Khz	+	+	+				

#### 6.4 Maritime Communications Indispensable for Search and Rescue

For the ships engaged in coastal shipping, navigation safety information such as power failure of lighthouses and the existence of obstacles, and weather information such as visibility, depressions and typhoons are very important to prevent marine accidents. Therefore, means of communications must be established to obtain such information. In addition, when a ship is unfortunately in distress, communications means is vital to her to ask for assistance to the ships in the vicinity and SAR organizations.

On the other hand, communications means for general use is also necessary for efficient ship operation, on such occasions as to contact with the owner and the agent to ask for the arrangement of tug boats.

Radio communications at sea is, so to speak, the life lines indispensable for ships to arrive at the port of destination safely and efficiently.

#### 6.5 Problems with Traditional Communications System and the New System GMDSS

Traditional distress and safety communications system where the Morse code telegraphy has been used mainly, has played a great role for the safety of lives at sea. Under the system, however, some problems have been pointed out as follows:

- Difficulty with long distance communications;
- Difficulty in coping with very sudden accidents;

- Necessity of special technique and skill in operation because of the use of the Morse code telegraphy;
- Limitation of reliability because of human ear watching.

To solve the above problems and improve the communications systems drastically, GMDSS (Global Maritime Distress and Safety System) has been introduced under the SOLAS Convention. GMDSS has already been recognized as an international standard system and some Asian countries such as China, Indonesia and Malaysia are now underway to introduce the system.

GMDSS has another merit that under which officers with lower grade certificates can carry out communications compared with the traditional system, and thus can save personnel power and their efforts.

## 6.6 Targets for the Year 2000

The International Maritime Organization (IMO) has been promoting the introduction of GMDSS. It is necessary for Vietnam as a Party to the SOLAS Convention, to establish GMDSS as promptly as possible.

### 1) Class, Location and Functions of Coastal Radio Stations (CRS):

#### Class 1: Hai Phong and Ho Chi Minh

NAVTEX, DSC/MF, HF, VHF

Hai Phong CRS will be connected with RCC Hai Phong

Class 1 CRS will have satellite communication functions in the future.

#### Class 2: Vung Tau

NAVTEX, DSC/MF, HF, VHF (NAVTEX Vung Tau will be remotely controlled from Ho Chi Minh)

CRS will be connected with RCCs Vun tau, Nha Trang, Danang

DSC/MF, HF, VHF

Class 1 and Class 2 CRSs are internationally registered ones.

#### Class 3: Kieng Giang, Mong Cai, Cua Ong, Ha Long, Ben Thuy,

Hue, Dung Quat, Qui Nhon, Can Tho

DSC/MF, HF, VHF Class 3 CRSs are for domestic communications.

#### Automatic CRSs:

Thanh Hoa, Bach Long Vi, Hon La, Cua Viet, Ly Son, Quang

Ngai, Cam Ranh, Phan Thiet, Phu Quy, Con dao, Troung Sa

Islands (4), Nam Can, Phu Quoc

These CRSs will have only DSC/VHF remotely controlled by above CRSs and will make up for their coverage.

- 2) VHF: Lighthouses should be equipped with VHF exclusively used for SAR in addition to communications equipment for ATN.
- 3) NETWORK: To form a unified network connecting GMDSS stations, SAR organizations (RCCs, weather observatories, etc.) and ATN.
- 4) RCC, etc.: Each RCC and its corresponding Communication Center should have the following function:
  - Management and Control of Maritime Safety Information (MSI) for NAVTEX Broadcasting;
  - Command for SAR activities, and Management and Control of Distress and Safety Information;
  - Remote Control and Monitoring of each Coastal Radio Station (Operations of communications are unified at RCC or Communications Center);
  - Maintenance of Communication Facilities (Vessels, vehicles, measuring instruments for maintenance).
- 5) Personnel: To establish a training system for the education and training of Communications Operators and Maintenance Staff.
- 6) Estimated Cost: USD 33.8 M (2.3 for construction; 28.4 for equipment; 3.1 for engineering service)

#### 6.7 After the Year 2000

The establishment of GMDSS does not merely mean the construction and procurement of facilities and equipments necessary under the System. The System would not function effectively without the best combination with a well-organized SAR system. Therefore, it is indispensable for GMDSS to do utmost to organize and operate for the above purpose.

RCCs and RSCs mentioned in SEARCH AND RESCUE should be well combined with GMDSS for the efficient and effective SAR operations step by step but steadily.



## Chapter 7. Conclusion and Recommendations

Marine accidents may occur at this moment, and SAR activities must be carried out to cope with the accidents day by day. While on the other hand, all possible efforts must be made at the same time to improve SAR systems to save as many lives and properties as possible.

In this study, advice and suggestions have been made based on the very limited information on the side of Vietnam, so far as SAR is concerned. It would be highly appreciated if they would be picked up fully or partly for the improvement of SAR activities as early as possible.

However, thinking about the present environment surrounding SAR, it seems premature to take steps to establish firmly organized SAR System. So far very little information has been obtained as the basic data for the purpose. To say frankly and as a matter of fact, there is no systematic organization in this field. So far as SAR is concerned, so to speak, just on the starting line.

Even if it takes a little longer time, it is necessary to establish enduring SAR system with high effectiveness and efficiency. In this connection, it is necessary to re-study this field in consideration of all related factors as follows:

- 1) According to the unofficial but trustworthy information, most of the accidents especially those which involve human lives have been caused by storms. The observation and forecasting system of weather and sea conditions should be thoroughly checked and studied.
- 2) Liaison and cooperation among agencies in charge of meteorology and other related agencies seems insufficient. Thus weather information has not been fully utilized by needed agencies. There seems to be many organizations which can make up for the weather observation network. For example, lighthouses are located at very convenient places for weather observation. If they observe all possible data about the weather and sea conditions and send them to the weather agencies and passing ships, they would be very useful for preventing accidents at sea. Visual observation of sea conditions near a lighthouse will be helpful for passing ships.
- 3) The accident of fishing boats in which hundreds of fishermen were killed and missing mentioned in 2 - 3 must be a serious one, but not be taken so serious as should be. A mentioned in 2 - 3, no detailed information has been available so far. It is needless to say that the safety of life is the most important factor in thinking about SAR. The Vietnam News dated October 1, 1996 says, "There were 351 deaths reported at sea last year, from the sinking or damage to 1,111 fishing trawlers and boats." But the Number of Maritime Accidents in 1995 reported only

33. It is not thinkable that this big difference in number is due to the difference of government agencies' jurisdiction.

Any way SAR organization should keep close contact with agencies in charge of fishing under the Ministry of Marine Products.

- 4) Information related SAR must be open and correct. It was very difficult to get information. Questionnaire was sent to the government office in charge via the counterpart but very few answered, and the data given orally are different by person and time.
- 5) No information has been obtained about SAR capability such as coordination, training and skill. Taking into consideration the above, a new study just for SAR should be made as early as possible by a team including the following experts:
  - Accident Investigation Expert
  - SAR Coordination Expert
  - SAR Skill Training Expert
  - SAR Communication Expert
  - Expert on Maritime Meteorology
  - Expert on Coastal Fishing

## **PART 2 MARITIME SEARCH AND RESCUE AND COMMUNICATION**

- 1. JASPER User's Manual**
- 2. SINGREP Instruction for masters**
- 3. NAVAREA X1 NAVIEX Service**

Appendix 1

**J A S R E P**

(Japanese Ship Reporting System)

**USER'S MANUAL**

for

**Ocean-going Ships**

**Japan Maritime Safety Agency**

# JASREP User's Manual for Ocean-going Ships

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# 1. Introduction

A large number of ships including ore and oil carriers and fishing vessels are constantly navigating through the peripheral waters of Japan, and marine casualties caused by these ships are hardly exterminated whereby many of precious human lives and sizable amounts of wealth are lost every year.

To develop effective search and rescue operations in a possible event of unfortunate marine casualty, it is highly instrumental that the authorities responsible for such activities are fully provided with information on the movements of ships.

In this connection, the AMVER System, a ship reporting system, has been implemented in the United States since 1958, and many ships in distress were successfully rescued through positive utilization of this system. In the provisions of the International Convention on Maritime Search and Rescue, 1979 (SAR Convention), which came into effect on June 22, 1985 with a purpose of establishing an international search and rescue system, it was prescribed that a ship reporting system should be established.

In order to respond to such an international move, the Japan Maritime Safety Agency commenced a ship position reporting system from October 1, 1985 under the name of "Japanese Ship Reporting System (JASREP)."

The JASREP System is almost compatible with the AMVER System of USA where the information

including sailing plan, positional data, etc., reported from each ship is processed in the computer of the JASREP System for enabling the Japan Maritime Safety Agency to recognize the ongoing movement of such a ship.

Participation in this system is not compulsory but is voluntary. No charge whatsoever is applied to all radiotelephonic reports which pass through coastal radio stations designated by the Japan Maritime Safety Agency. All informations of ship's position and others reported to the Japan Maritime Safety Agency will be strictly kept confidential and protected and will never be used for any purposes other than those for search and rescue operations in the event of marine casualty and for the prevention thereof.

In a vast expanse of the sea, it is seldom to have other ships in sight although a number of ships are, in fact, making their respective ways.

The effectiveness of the JASREP System serving to develop most reliable search and rescue operations in a possible event of marine casualty by the close linkage between the Japan Maritime Safety Agency and participating ships through the computer system will be much more enhanced by increase of the number of participating ships.

The Japan Maritime Safety Agency is awaiting for reports from many ships.

## 2. Outline

### (1) Name

Japanese Ship Reporting System (JASREP)

### (2) Purpose

The JASREP System provides up-to-date information on the movements of vessels in order, in the event of a distress incident:

① to reduce the interval between the loss of contact

with a vessel and the initiation of search and rescue operations in cases where no distress signal has been received;

② to permit rapid determination of vessels which may be called upon to provide assistance;

③ to permit delineation of a search area of limited size in case the position of a vessel in distress is unknown or uncertain; and

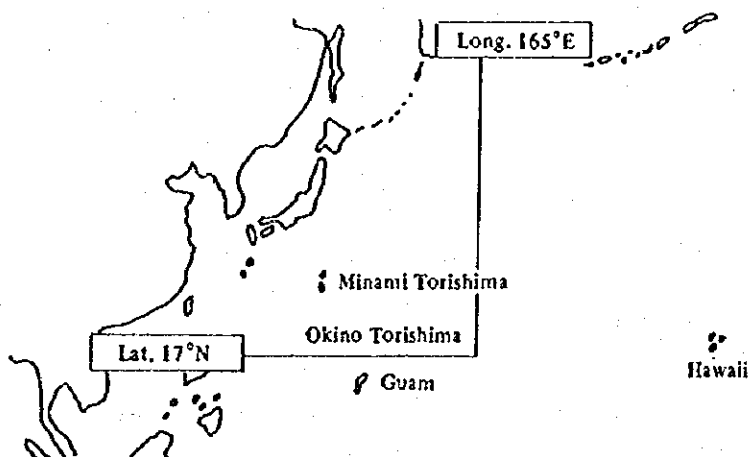
④ to facilitate the provision of urgent medical

assistance or advice to vessels not carrying a doctor.

llel of latitude 17° N and the meridian of longitude 165° E.

### (3) Service area

The approximate service area covered by the JASREP System is the sea enclosed by the para-



### (4) Participating ships

Any ship regardless of tonnage, flag or type is welcome in the JASREP System as far as she is within the service area of the system. Participation is voluntary.

### (5) Types of reports and timing

There are four types of JASREP Reports : Sailing Plan, Position Report, Deviation Report and Final Report.

#### ① Sailing Plan

Sailing Plan is the basic information to estimate ship's position, and it should be sent at the time when a ship participates in this system. Reports should therefore be made when the ship departs from a port within the service area or when the ship enters the area.

#### Note:

When Sailing Plan is sent after departure from a port or after entering the service area, such reporting should be made as soon as practicable.

When Sailing Plan is to be sent before departure

from a port, such a report may be sent in a written document.

#### ② Position Report

Position Report is the information to verify if ship's position input according to the Sailing Plan is correct. The 1st report should therefore be sent at an optional time within 24 hours of departure from a port or entering the service area, and then the reports should be sent subsequently no less frequently than every 24 hours until Final Report.

#### Note 1 :

In case where delayed reporting is anticipated due to change of radio operator's duty hours or else, reports should be sent earlier than the scheduled time of reporting as far as practicable.

#### Note 2 :

Reports should be sent more frequently than the above schedule, when the ship is in heavy weather or under other adverse conditions.

**Note 3 :**

In the JASREP service area, no coordination with weather reporting service is made.

**③ Deviation Report**

Deviation Report is the information to be used for necessary correction of pre-reported Sailing Plan when a ship deviates from the intended course due to change in Sailing Plan. Reports should be sent whenever the ship's position deviates 25 miles or more from the original track, or the port of destination is changed, or other changes occur with resultant change in Sailing Plan.

**④ Final Report**

Final Report is the information to terminate participation in the system. Accordingly, reports should be sent prior to or on arrival at port, or when a ship departed from the service area of the system.

**Note :**

When Final Report is intended to be sent after departing from the service area, such a report should be sent as soon as practicable.

If report is sent after arrival at port, such a report may be sent in a written document.

For reporting procedures, see the "Report Examples."

**(6) Special reporting procedure to participate in both the JASREP and AMVER systems**

Any ship desiring to participate in both the JASREP and AMVER systems should enter JASREP on the system name line and AMVER on the Y line when the ship sends report to one of the coastal stations designated by the Japan Maritime Safety Agency, and enter AMVER on the system name line and JASREP on the Y line when the ship sends report to one of the coastal stations designated by the United States Coast Guard.

Hereby above, the information will be transferred mutually between the Japan Maritime Safety Agency and the United States Coast Guard. (If you fail to follow this procedure you

have to pay charges.)

**(7) Special reporting procedure to link with JASREP and weather report**

Any ship which send weather report to Japan Meteorological Agency (JMA) can omit Position Report of JASREP.

If you enter OBS on the X line of Sailing Plan, JMSA get your position information from JMA.

**(8) How to participate**

Participation in this system initiates when a ship sends her Sailing Plan and terminates when the ship sends her Final Report to the Japan Maritime Safety Agency.

**Note :**

If any non-participating ship on departure from a port or on entering the JASREP service area has a desire of participation halfway, it is possible to join the JASREP System by sending her Sailing Plan whenever decision is made. If, on the contrary, any ship desires to terminate her participation in the system, it is possible to terminate the participation simply by sending Final Report at any time.

If no Position Report or Final Report is received from a participant in no less than 24 hours subsequent to the previous report, the Japan Maritime Safety Agency will verify the safety and whereabouts of the ship through radiotelegraphic calls and inquiries addressed to the relevant coastal stations, shipowners, agents and ships proceeding in the vicinity.

Depending on circumstances, search and rescue operations will be initiated, and hence Position Reports and Final Reports must be sent without fail.



### 3. Reporting procedure

(1) Reporting format

1) Sailing Plan

Sailing Plan							(Notes)
(Required data items)							
System name		Type of report					(1)
JASREP		SP		//			
Ship name		International Radio Call Sign					
A/					//		
Time of departure							(2)
B/	//						
Port of departure		Latitude	Longitude				(3)
G/					//		
Port of destination		Latitude	Longitude		Estimated time of arrival		
I/					//		
Route information							(4)
	Navigation method	Average speed	Latitude	Longitude	Estimated time of arrival	Name of land-mark or sea area	
L/	/	/	/	/	/	//	
L/	/	/	/	/	/	//	
L/	/	/	/	/	/	//	
L/	/	/	/	/	/	//	
L/	/	/	/	/	/	//	
L/	/	/	/	/	/	//	
L/	/	/	/	/	/	//	
L/	/	/	/	/	/	//	
L/	/	/	/	/	/	//	
L/	/	/	/	/	/	//	
L/	/	/	/	/	/	//	
L/	/	/	/	/	/	//	
L/	/	/	/	/	/	//	
Onboard medical resources							(5)
V/	//						
AMVER							(6)
Y/	//						
(Optional data items)							(7)
Current course							
E/	//						
Estimated average speed							
F/	//						
Current coastal radio station		Next coastal radio station, if any					
M/					//		
Up to 65 characters of amplifying comments							(8)
X/	//						

(Notes)

(1) System name

Enter JASREP on the system name line. Also enter SP on the type of report line.

(2) Date/time

All times must be expressed as a six-digit group giving date of month (first two digits), hours and minutes (last four digits). Only Universal Coordinated Time (i.e., Greenwich Mean Time) is to be used. The six-digit date-time-group is to be followed by Z.

Example: 201200Z for 1200 hours on the 20th (GMT)

(3) Latitude and longitude

Latitude is a four-digit group expressed in degrees and minutes, and suffixed with "N" for north or "S" for south.

Longitude is a five-digit group expressed in degrees and minutes, and suffixed with "E" for east or "W" for west.

Example: 3538N for lat. 35°38'N, and 13950E for long. 139°50'E

(4) Route information

Express route information between the turn-points along the intended route in accordance with the following explanations:

And L lines are needed at least three points, twelve points at maximum. When a ship enters the service area, express latitude and longitude of the point of entrance and the date on the first line without fail.

(Navigation method)

Use GC for great circle, and RL for rhumb line.

(Average speed)

Express estimated average speed up to the intended turnpoint in three-digit group in knots and tenths of knots.

Example: 150 for a speed of 15.0 knots

(Latitude, longitude and estimated time of arrival)

Express latitude, longitude and estimated time of arrival by referring to examples shown in (2) and (3) above.

(Name of landmark or sea area)

Give well-known names of landmark or sea area. Although reporting of these names is not essential, it is requested to provide as far as practicable.

(5) Onboard medical resources

Select as appropriate from the following:

MD (Physician) PA (Physician's assistant or health supervisor)

NURSE NONE

(6) AMVER

In case where a dual participation in the JASREP and AMVER systems is desired, enter "AMVER" on this line.

If no participation in the AMVER System is desired, no entry on this line is required.

(7) Optional data items

These optional data items are useful, but are not necessarily required to report. When report is made, express current course on the line E in three-digit group, and estimated average speed for the entire passage on the F line in three-digit group in knots and tenths of knots.

Example: E/234// for a course of 234°

F/153// for a speed of 15.3 knots

(8) Line X (Reference data item)

Although these are optional, it is requested to provide estimated time of next reporting, type of cargo, No. of INMARSAT, ID No. of DSC, etc.

If you desire to be omitted Position Report (PR) by linking with JASREP and weather report, enter "OBS" on this line.

Example: X/OBS/251500Z/LNG/SAT 1234567//  
for the request of OBS, the estimated time of next reporting at 1500 hours on the 25th, type of cargo LNG and INMARSAT phone No. 1234567

2) Position Report

Position Report			(Notes)
(Required data items)			
System name	Type of report		(1)
JASREP /	PR //		
Ship name	International Radio Call Sign		
A /	/	//	
Date/time at specific position			(2)
B /	//		
Latitude	Longitude		(3)
C /	/	//	
AMVER			(4)
Y /	//		
(Optional data items)			
Current course			(5)
E /	//		
Intended average speed			
F /	//		
Current coastal radio station	Next coastal radio station, if any		
M /	/	//	
Up to 65 characters of amplifying comments			(6)
X /		//	

(Notes)

(1) System name

Enter JASREP on the system name line. Also enter PR on the type of report line.

(2) Date/time

All times must be expressed as a six-digit group giving date of month (first two digits), hours and minutes (last four digits). Only Universal Coordinated Time (i.e., Greenwich Mean Time) is to be used. The six-digit date-time-group is to be followed by Z.

Example: B/201200Z for 1200 hours on the 20th (GMT)

(3) Latitude and longitude

Latitude is a four-digit group expressed in degrees and minutes, and suffixed with "N" for north or "S" for south.

Longitude is a five-digit group expressed in degrees and minutes, and suffixed with "E" for east or "W" for west.

Example: C/2511N/12505E// for lat. 25°11'N

and long. 125°05'E

(4) AMVER

In case of a ship with a dual participation in the JASREP and AMVER systems, express "AMVER" on this line.

If not, no entry on this line is required.

(5) Optional data items

These optional data items are useful, but are not necessarily required to report. When report is made, express current course on the E line in three-digit group, and estimated average speed for the entire passage on the F line in three-digit group in knots and tenths of knots.

Example: E/234// for a course of 234°

F/153// for a speed of 15.3 knots

(6) Line X (Reference data item)

These are optional, but when reported, provide estimated time of next reporting.

Example: X/251500Z// for the estimated time of next reporting at 1500 hours on the 25th (GMT)

3) Deviation Report

Deviation Report						(Notes)
(Required data items)						
System name		Type of report				(1)
JASREP /		DR //				
Ship name		International Radio Call Sign				
A /					//	
AMVER						(2)
Y /					//	
(One or more from the following optional data items)						(3)
Time of departure						
B /					//	
Current course						
E /					//	
Intended average speed						
F /					//	
Port of departure		Latitude	Longitude			
G /			/			//
Port of destination		Latitude	Longitude	Estimated time of arrival		
I /			/	/	//	
Route information						
	Navigation method	Average speed	Latitude	Longitude	Estimated time of arrival	Name of land mark or sea area
L /	/	/	/	/	/	//
L /	/	/	/	/	/	//
Current coastal radio station		Next coastal radio station, if any				
M /					//	
Onboard medical resources						
V /					//	
Up to 65 characters of amplifying comments						
X /					//	

(Notes)

(1) System name

Enter JASREP on the system name line. Also enter DR on the type of report line.

(2) AMVER

In case of a ship with a dual participation in the JASREP and AMVER systems, express "AMVER" on this line.

If not, no entry on this line is required.

(3) Deviation items

Specify changes of sailing plan and others.

Example: I/LOSANGELES/3345N/11816W/

201055Z// for a case where the port of destination is changed from Vancouver to Los Angeles.

(4) OBS

In case of a ship with OBS system (linking with weather report), express "OBS" on this line.

Example: X/OBS//

#### 4) Final Report

Final Report				(Notes)
(Required data items)				
System name	Type of report			(1)
JASREP /	FR //			
Ship name	International Radio Call Sign			
A /	//			
Port of arrival	Latitude	Longitude	Time of arrival	(2) (3)
K /	/	/	//	
AMVER				(4)
Y /	//			
(Optional data item)				
Up to 65 characters of amplifying comments				
X /	//			(5)

#### (Notes)

##### (1) System name

Enter JASREP on the system name line. Also enter FR on the type of report line.

##### (2) Date/time

All times must be expressed as a six-digit group giving date of month (first two digits), hours and minutes (last four digits). Only Universal Coordinated Time (i.e., Greenwich Mean Time) is to be used. The six-digit date-time-group is to be followed by Z.

Example: 201200Z for 1200 hours on the 20th (GMT)

##### (3) Latitude and longitude

Latitude is a four-digit group expressed in degrees and minutes, and suffixed with "N" for north or "S" for south.

##### (2) Reporting instructions

As far as practicable, report should be sent by shortwave radiotelegraphy to the shortwave coastal radio station designated by the Japan Maritime Safety Agency in (①). (In an unavoidable case, report may be received by any of those coastal stations listed in (②).) Reporting will be charged free.

JASREP reports may be sent by other means of communication such as telex addressed to

Longitude is a five-digit group expressed in degrees and minutes, and suffixed with "E" for east or "W" for west.

Example: 3538N for lat. 35°38'N, and 13950E for long. 139°50'E

##### (4) AMVER

In case of a ship with a dual participation in the JASREP and AMVER systems, express "AMVER" on this line.

However, in case of departing from the service area of the JASREP System and continued participation in the AMVER System is desired, no entry on this line is required.

##### (5) OBS

In case of a ship with OBS system (linking with weather report), express "OBS" on this line.

Example: X/OBS//

the Japan Maritime Safety Agency, submission of documents or reporting by telegram or telephone (including cases where reporting is made via shipowners, agencies, etc.) to 11th Regional Maritime Safety Headquarters, a maritime safety office or station, or district communications center.

Note, however, that expenses incurred by these other means of communication are to be borne by the participants concerned.

- ( ① ) Shortwave coastal radio station  
 ( | ) Shortwave radio telegram

Identification signals	Calling frequency	Working frequency
JNA 2400	A1A 4,184 4,184.5 4,186 4,186.5 8,368 8,369 8,370 8,370.5 12,552 12,553.5 12,554 12,554.5 16,736 16,737.5 16,738 16,738.5 22,280.5 22,281 22,283.5 22,284	A1A 4,305.5 8,571 13,076.5 16,911.2 22,576.5
	F1B 4,179 6,269.5 8,379.5 12,487.5 16,688.5	F1B 4,216.5 6,320.5 8,419.5 12,590 16,812

- ( ii ) NBDP OR Shortwave radio telephone after DSC calling

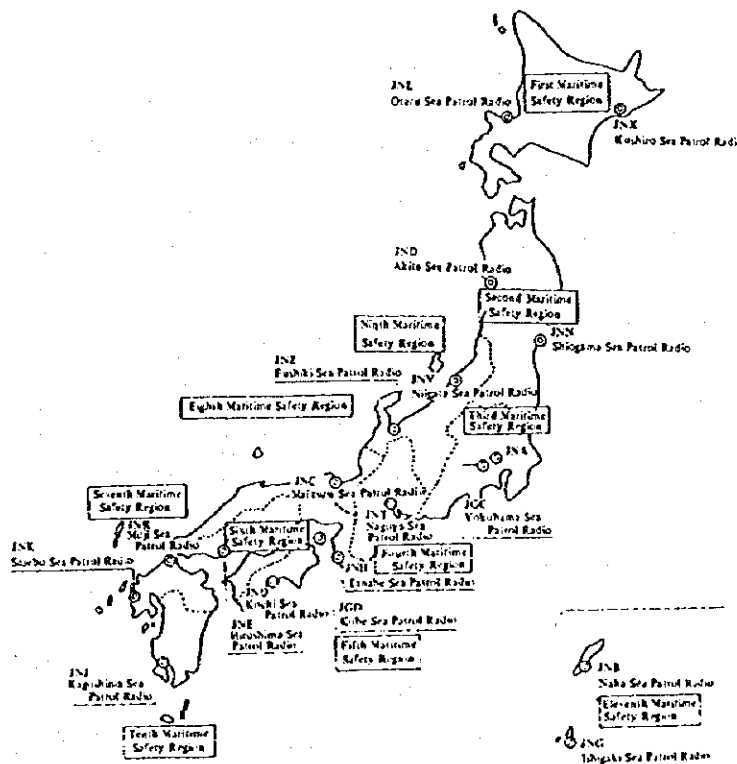
Identification signals	Calling frequency	Working frequency
JNA 004310001 TOKYO SEA PATROL RADIO	F1B 4,208 6,312.5 8,415 12,557.5 16,805 18,898.5 22,374.5 (DSC)	F1B 4,219.5 6,331 8,436.5 12,657 16,903 9,703.5 22,444 (DSC)
	F1B 4,179 6,269.5 8,379.5 12,487.5 16,688.5 18,874 22,327 (NBDO)	F1B 4,216.5 6,320.5 8,419.5 12,590 16,812 19,684.5 22,412 (NBDP)
	J3E 4,354 6,218 8,707 8,710 12,326 12,332 16,513 16,519 18,789 18,792 22,126 22,129	J3E 4,354 6,519 8,707 8,710 13,173 13,179 17,395 17,401 19,764 19,767 22,822 22,825

- ( ② ) Mediumwave, mediumshortwave and VHF coastal radio stations

Identification signals	Calling frequency	通 信 波
JNL OTARU SEA PATROL RADIO 004310101	A1A H2A 500 J3E H3E 2,182 F3E 156.6 MHz 156.8 MHz F1B 2,189.5 (DSC)	A1A 444 472 J3E 2,150 2,394.5 F3E 156.6 MHz F1B 2,177 (DSC) 2,417.5 (NBDP)
JNX KUSHIRO SEA PATROL RADIO 004310102	A1A H2A 500 J3E H3E 2,182 F3E 156.6 MHz 156.8 MHz F1B 2,189.5 (DSC)	A1A 436 472 J3E 2,150 2,394.5 F3E 156.6 MHz F1B 2,177 (DSC) 2,417.5 (NBDP)
JNN SHIOGAMA SEA PATROL RADIO 004310201	A1A H2A 500 J3E H3E 2,182 F3E 156.6 MHz 156.8 MHz F1B 2,189.5 (DSC)	A1A 464 J3E 2,150 2,394.5 F3E 156.6 MHz F1B 2,177 (DSC) 2,417.5 (NBDP)
JND AKITA SEA PATROL RADIO 004310202	A1A H2A 500 J3E H3E 2,182 F3E 156.6 MHz 156.8 MHz F1B 2,189.5 (DSC)	A1A 464 J3E 2,150 2,394.5 F3E 156.6 MHz F1B 2,177 (DSC) 2,417.5 (NBDP)
JGC YOKOHAMA SEA PATROL RADIO 04310301	A1A H2A 480 500 J3E H3E 2,182 F3E 156.6 MHz 156.8 MHz F1B 2,189.5 (DSC)	A1A 444 J3E 2,150 2,394.5 F3E 156.6 MHz F1B 2,177 (DSC) 2,417.5 (NBDP)
JNT NAGOYA SEA PATROL RADIO 004310401	A1A H2A 500 J3E H3E 2,182 F3E 156.6 MHz 156.8 MHz F1B 2,189.5 (DSC)	A1A 464 J3E 2,150 2,394.5 F3E 156.45 MHz 156.6 MHz F1B 2,177 (DSC) 2,417.5 (NBDP)
JGD KOBE SEA PATROL RADIO 004310501	A1A H2A 480 500 J3E H3E 2,182 F3E 156.6 MHz 156.8 MHz F1B 2,189.5 (DSC)	A1A 472 J3E 2,150 2,394.5 F3E 156.45 MHz 156.6 MHz F1B 2,177 (DSC) 2,417.5 (NBDP)
JNH TANABE SEA PATROL RADIO 004310502	A1A H2A 500 J3E H3E 2,182 F3E 156.6 MHz 156.8 MHz F1B 2,189.5 (DSC)	A1A 472 J3E 2,150 2,394.5 F3E 156.6 MHz F1B 2,177 (DSC) 2,417.5 (NBDP)
JNO KOCHI SEA PATROL RADIO 004310503	A1A H2A 500 J3E H3E 2,182 F3E 156.6 MHz 156.8 MHz F1B 2,189.5 (DSC)	A1A 472 J3E 2,150 2,394.5 F3E 156.6 MHz F1B 2,177 (DSC) 2,417.5 (NBDP)
JNE HIROSHIMA SEA PATROL RADIO 004310601	A1A H2A 500 J3E H3E 2,182 F3E 156.6 MHz 156.8 MHz F1B 2,189.5 (DSC)	A1A 464 J3E 2,150 2,394.5 F3E 156.6 MHz F1B 2,177 (DSC) 2,417.5 (NBDP)
JNR MOJI SEA PATROL RADIO 004310701	A1A H2A 480 500 J3E H3E 2,182 F3E 156.6 MHz 156.8 MHz F1B 2,189.5 (DSC)	A1A 444 J3E 2,150 2,394.5 F3E 156.6 MHz F1B 2,177 (DSC) 2,417.5 (NBDP)

JNK SASEBO SEA PATROL RADIO 004310702	A1A H2A 480 J3E H3E 2,182 F3E 156.6 MHz F1B 2,189.5 (DSC)	500 156.8 MHz	A1A 400 J3E 2,150 F3E 156.6 MHz F1B 2,177 (DSC) 2,417.5 (NBDP)	2,394.5
JNC MAIZURU SEA PATROL RADIO 04310801	A1A H2A 500 J3E H3E 2,182 F3E 156.6 MHz F1B 2,189.5 (DSC)	156.8 MHz	A1A 464 J3E 2,150 F3E 156.6 MHz F1B 2,177 (DSC) 2,417.5 (NBDP)	2,394.5
JNV NIIGATA SEA PATROL RADIO 004310901	A1A H2A 500 J3E H3E 2,182 F3E 156.6 MHz F1B 2,189.5 (DSC)	156.8 MHz	A1A 472 J3E 2,150 F3E 156.6 MHz F1B 2,177 (DSC) 2,417.5 (NBDP)	2,394.5
JNZ FUSHIKI SEA PATROL RADIO 004310902	A1A H2A 500 J3E H3E 2,182 F3E 156.6 MHz F1B 2,189.5 (DSC)	156.8 MHz	A1A 472 J3E 2,150 F3E 156.6 MHz F1B 2,177 (DSC) 2,417.5 (NBDP)	2,394.5
JNJ KAGOSHIMA SEA PATROL RADIO 004311001	A1A H2A 500 J3E H3E 2,182 F3E 156.6 MHz F1B 2,189.5 (DSC)	156.8 MHz	A1A 478 J3E 2,150 F3E 156.6 MHz F1B 2,177 (DSC) 2,417.5 (NBDP)	2,394.5
JNB NAHA SEA PATROL RADIO 004311101	A1A H2A 500 J3E H3E 2,182 F3E 156.6 MHz F1B 2,189.5 (DSC)	156.8 MHz	A1A 472 J3E 2,150 F3E 156.6 MHz F1B 2,177 (DSC) 2,417.5 (NBDP)	2,394.5
JNG ISHIGAKI SEA PATROL RADIO 004311102	A1A H2A 500 J3E H3E 2,182 F3E 156.6 MHz F1B 2,189.5 (DSC)	156.8 MHz	A1A 478 J3E 2,150 F3E 156.6 MHz F1B 2,177 (DSC) 2,417.5 (NBDP)	2,394.5

Locations of designated coastal radio stations



Addressee for telex communication :

Communications Operations Division of Guard and Rescue Department of the Japan Maritime Safety Agency, Telex No. 720-222-5193 with an answer back code of 2225193 JMSAHQJ

## 4. Communication from the Japan Maritime Safety Agency

For the purpose of verifying the safety and whereabouts of a ship due to her delayed reporting or to address request to the ships for rescue operations of the ship in distress, the Japan Maritime Safety Agency transmits general call through its shortwave radio coastal station (JNA) on the follow-

ing frequencies from 55 minutes on the every odd hours (JST).

Therefore, all ships are requested to watch these frequencies in the foresaid period of time as far as practicable.

AIA : 4305.5 kHz, 8571 kHz, 13076.5 kHz, 16911.2 kHz, 22576.5 kHz

## 5. Inquiries on JASREP

Inquiries on JASREP should be addressed to :

- (1) Search and Rescue Division or Communications Operations Division (JNA) of Guard & Rescue Department of the Japan Maritime Safety Agency

By mail

1-3, Kasumigaseki 2 chome, Chiyoda-ku, Tokyo 100, Japan

By Phone

03-3591-6361, Extension 535 (Search and Rescue Division) or 571 (Communications Operations Division)

- (2) Nearest Maritime Safety Office or Station

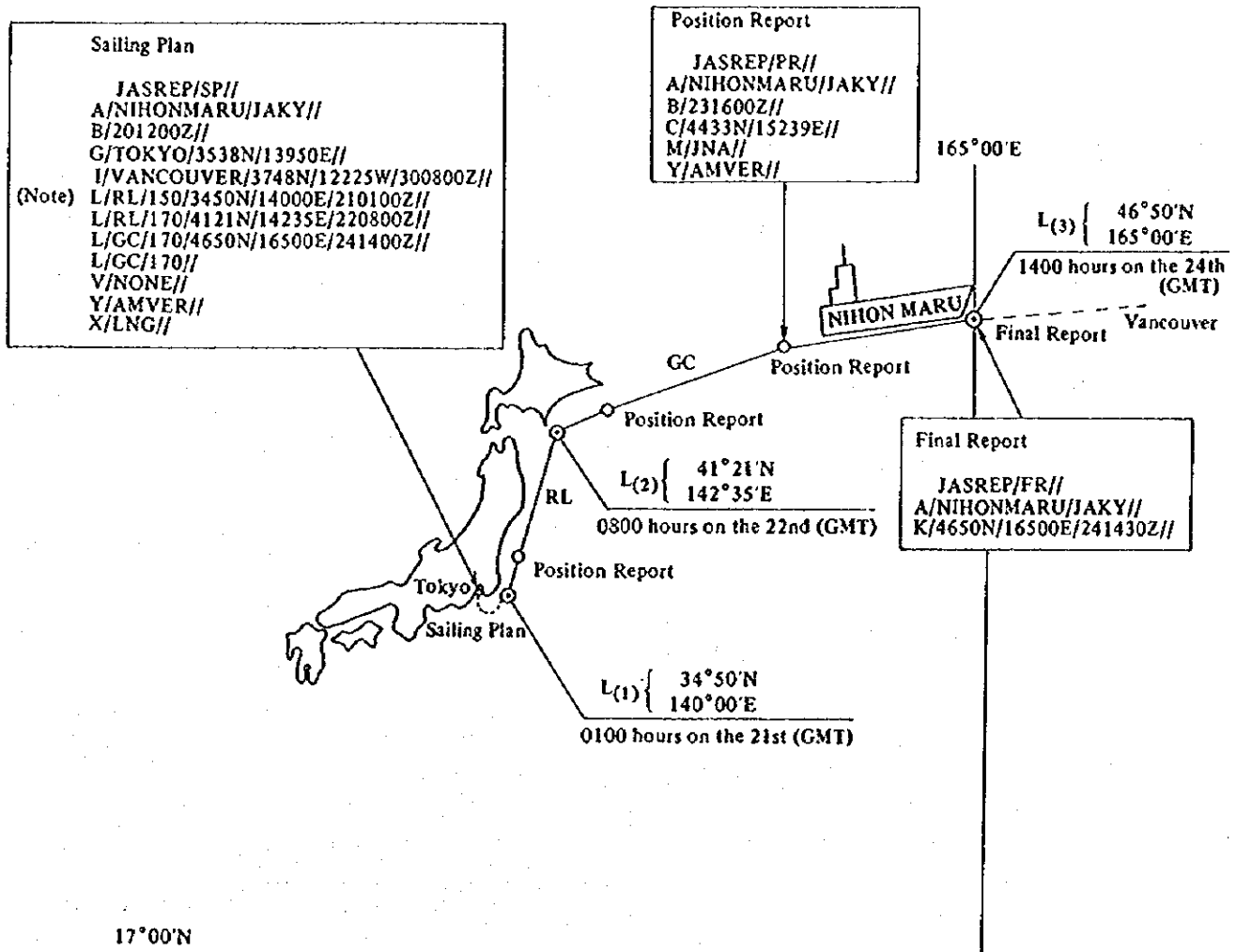


(Reference)

Report Example 1

Let us take, for instance, a case of the M/S "NIHON MARU," an ocean-going ship (call sign JAKY) that departed from the port of Tokyo (35°38' N, 139°50'E) at 1200 hours on the 20th (GMT), will pass points (34°50' N, 140°00'E) and (41°21' N,

142°35'E) and will be destined for Vancouver (37° 48' N, 122°25'W, with an estimated time of arrival at 0800 hours on the 30th (GMT)) by navigation method of great circle.



(Note) Route Information (L lines) represents the following contents:

- (1) Departed from Tokyo and will take navigation method of rhumb line (RL) to point L<sub>(1)</sub> (34° 50' N, 140°00'E) at an average speed of 15.0 knots with an estimated time of arrival at point L<sub>(1)</sub> at 0100 hours on the 21st (GMT).
- (2) Navigation method of rhumb line (RL) will be taken for the passage from point L<sub>(1)</sub> to point L<sub>(2)</sub> at an average speed of 17.0 knots with an estimated time of arrival at point L<sub>(2)</sub> at 0800

hours on the 22nd (GMT).

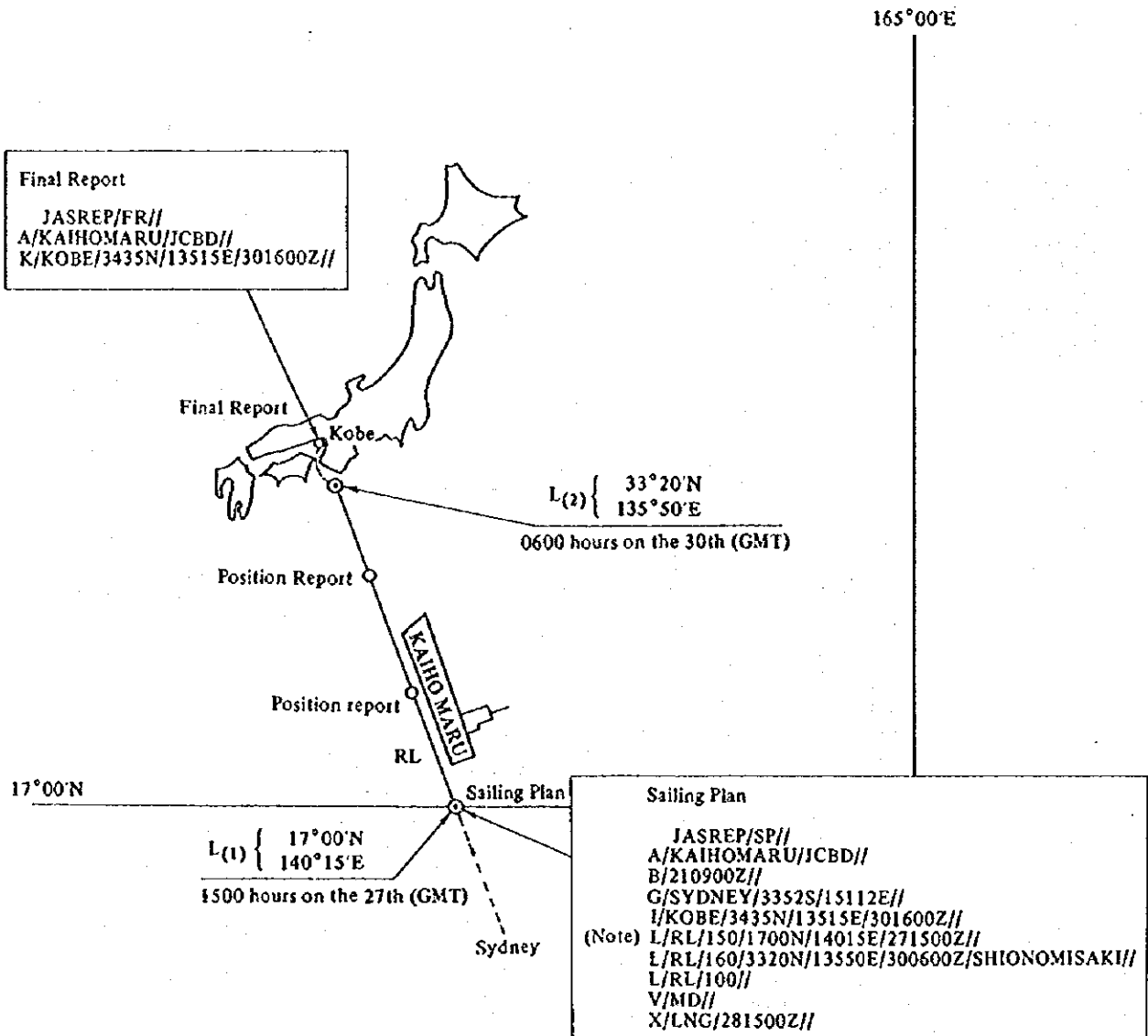
- (3) Navigation method of great circle (GC) will be taken for the passage from point L<sub>(2)</sub> to point L<sub>(3)</sub> at an average speed of 17.0 knots with an estimated time of arrival at point L<sub>(3)</sub> at 1400 hours on the 24th (GMT).

- (4) In the passage after point L<sub>(3)</sub>, navigation method of great circle (GC) will be taken at an average speed of 17.0 knots and the ship will be destined for Vancouver.

Report Example 2

This is a case of the M/S "KAIHO MARU," an ocean-going ship (call sign JCBD) that departed from the port of Sydney at 0900 hours on the 21st (GMT), reached a point (17°00'N, 140°15'E) within the

service area of JASREP at 1500 hours on the 27th (GMT) and will enter the port of Kobe with an estimated time of arrival at 1600 hours on the 30th (GMT) via off Shionomisaki (33°20'N, 135°50'E).



(Note) Route information (L lines) represents the following contents :

- (1) Departed Sydney and took navigation method of rhumb line (RL) to point L<sub>(1)</sub> (17°00'N, 140°15'E) at an average speed of 15.0 knots with a time of arrival at point L<sub>(1)</sub> at 1500 hours on the 27th (GMT).
- (2) Navigation method of rhumb line (RL) will be taken for the passage from point L<sub>(1)</sub> to off

Shionomisaki of point L<sub>(2)</sub> (33°20'N, 135°50'E) at an average speed of 16.0 knots with an estimated time of arrival at point L<sub>(2)</sub> at 0600 hours on the 30th (GMT).

- (3) In the passage after point L<sub>(2)</sub>, navigation method of rhumb line (RL) will be taken at an average speed of 10.0 knots and the ship will be destined for Kobe.

**SHIPPING CIRCULAR  
NO 10 OF 1994**

**From:** The Director of Marine, Singapore  
**To:** The Shipping Community  
**Date:** 15 Oct 94

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**SINGAPORE SHIP REPORTING SYSTEM (SINGREP)**

The Marine Department commenced operating the Singapore Ship Reporting System (SINGREP) on 5 Oct 94. SINGREP is a voluntary reporting system which complies with criteria set by the International Maritime Organisation.

It is established in accordance with the International Convention for the Safety of Life at Sea, 1974 (SOLAS'74) and the International Convention on Maritime Search and Rescue 1979 (SAR Convention). SINGREP is open to participation by all vessels and is free of cost to participating ships.

2 SINGREP's area of coverage is within Longitude 90° E to 120° E and Latitude 17° N to 12° S in the South China Sea, Latitude 10° N to 10° S in the Indian Ocean (see attached chartlet).

3 SINGREP maintains a computerized plot of participating vessels in the area covered by the system. In case of an emergency, it enables ships nearby to be identified for the coordination of maritime search and rescue and to provide speedy assistance to vessels which may require assistance.

4 To participate in SINGREP, vessels are required to forward a sailing plan (name, call sign, course, speed, estimated time of entry and position into SINGREP area, an outline of the intended passage and the number of persons on

board etc); position reports (date, time, course, speed and position update) at regular intervals; and a final report (date, time and position) when leaving the area covered by the system. These reports should be sent in coded format through Singapore Coast Radio Station. The detailed instructions to masters for participating in SINGREP are attached.

5 Shipowners are requested to bring this circular to the attention of their masters and crew and encourage them to participate in SINGREP when their vessels operate within SINGREP's coverage area.

6 Any queries relating to this circular should be directed to Capt I G Sangameswar (Tel 3756205) or Capt P J Thomas (Tel 3756214).



TEH KONG LEONG  
DIRECTOR OF MARINE

## Appendix 2

### SINGREP Instructions for Masters

#### 1 INTRODUCTION

Over the years, ships in distress from as far as the Indian Ocean and the South China Sea have been contacting Singapore's coast radio station (Singapore Radio) for assistance. Marine Department has been responding to such distress messages and where necessary coordinating maritime search and rescue (SAR) operations.

SINGREP commenced operations on 5 Oct 94. It is established in accordance with the International Convention for the Safety of Life at Sea 1974 (SOLAS'74) and the International Convention on Maritime Search and Rescue, 1979 (SAR Convention). SINGREP is operated by the Marine Department, Singapore.

Ships of any nationality, tonnage or type are welcome to participate as long as she is within service area of SINGREP. Participation in SINGREP is voluntary and cost free.

#### 2 PURPOSE

SINGREP serves to identify and monitor the positions of vessels which participate in the scheme in the area covered by the system. To achieve this vessels within the coverage area provide regular reports. This information is used to maintain a computerized plot of the vessels' positions. SINGREP is to aid search and rescue operations in that it:

- (a) reduces the time between the loss of a vessel and initiation of search and rescue action in cases where no distress signals are sent out;
- (b) limits the search area for rescue operations; and
- (c) provides up-to-date information on shipping resources available in the vicinity of a casualty.

### 3 AREA OF COVERAGE

The area of coverage of SINGREP is bounded by coordinates 10° N, 10° S, 90° E and 120° E and area upto Latitude 17° N in the South China Sea, and up to 12° S in the Indian Ocean between Longitudes 105° E and 120° E. (Annex 1)

### 4 TYPES OF REPORTS

Vessels participating in SINGREP are required to send the following four types of reports. All reports are to be preceded by "SINGREP" and coded using the format given in para 5.

#### 4.1 SAILING PLAN (SP)

A SP is sent within 24 hours prior to or 2 hours after a ship enters in SINGREP area or on departure from a port within SINGREP area. The SP contains information necessary to initiate a plot and give an outline of the intended passage.

#### 4.2 POSITION REPORT (PR)

The PR is sent everyday (preferably between 0000 to 0800 UTC) to the communications centre. The PR contains information about the ship's position (within SINGREP's coverage area), course and speed at the time of the report to update the plot.

#### 4.3 DEVIATION REPORT (DR)

A DR is sent when the ship's position varies more than 2 hours steaming from the position that would be predicted from the last sailing plan or position report eg changing route, speed etc.

#### 4.4 FINAL REPORT (FR)

A FR is the report to terminate participation in the SINGREP. The FR should be sent on arrival at a destination within SINGREP or when leaving the area covered by the system. SINGREP ceases to maintain plot of a ship when she sends the FR.

## 5 FORMAT OF REPORTS

All ship reports should be sent in the standard reporting coded format. This format complies with IMO Resolution A.648(16). Following gives all the components of the SINGREP reports.

CODE IDENTIFIER	FUNCTION OF THE CODE	EXPLANATION
A.	Ship identity	Name and call sign of ship. The symbol "/" should be used to separate the ship's name and call sign [eg Ocean Queen/ASDFG].
B.	Time	A 6 digit group event giving day of month, and hours and minutes in Universal Co-ordinated Time (UTC), or Greenwich Mean Time (GMT) [eg 17th 1200 GMT = 171200].
C.	Position	A 4 digit group giving latitude in degrees and minutes suffixed with N/S and a 5 digit group giving longitude in degrees and minutes [eg 12°10'N 91°14'E = C.1210N09114E].
E.	Course(s)	A 3 digit group for the present course being steered [eg 045° = E.045].
F.	Ship's speed	Ship's speed in knots and tenths of knot [eg 8.5 knots = F.8.5].
G.	Departure Port	Name of the last port of call. [eg G.Colombo]
H.	Entry into SINGREP	Date, time and position of entry into the SINGREP area. Entry date and time expressed as in (B) and entry position expressed as in (C). [eg vessel entering SINGREP on 26 Mar at 1230 UTC in position 17°00'N 118° 15'E = H.261230 1700N11815E].
I.	Destination & ETA.	Name of the destination port and the expected date and and time of arrival at the port. Time group expressed as

in (B). [eg Colombo ETA on 30 Mar at 0800 UTC = I.Colombo 300800]

- K. ETD from SINGREP. Estimated date, time and position the vessel exits from SINGREP coverage. Date & time expressed as in (B) and exit position expressed as in (C). [eg K.101100 0600N09000E]
- L. Route Information Route information in Latitude and Longitude should be given for each way point (WP) in the SINGREP area expressed as in (C). The way points to be numbered as WP1, WP2 etc. For vessels transitting through the Singapore Strait, it is not necessary to give positions of all WP within the traffic separation scheme (TSS), give the WP on entry and departure of TSS. [eg L.WP1 1110N11010E WP2 0300N10600E etc]
- M. Communications State the type of communications equipment on board, and name of coast radio station(s) and frequencies guarded. [eg radio-telephony (RT), radio-telegraphy (WT), Radiotelex, INMARSAT etc]
- N. Time of next report. Time the next position or deviation report will be sent. Date/time group expressed as in (B). [eg N.120400]
- O. Draught Draught in metres and centimetres (eg 7.1m = 0.7.1).
- P. Cargo A brief indication of cargo carried on board [eg P.Bulk coal, General, Chemicals etc]
- Q. Defects. Brief details of defects, damages or other deficiencies (eg radio equipment)
- T. Ship's owner or agent Name and contact number of the owner or ship's agent who could be contacted for information about the ship's



whereabouts and crew details.

- U. Size and Type Ship's gross tons and type. [eg U.3500GT Passenger].
- V. Medical personnel State whether any medical personnel eg doctor or nurse is carried on board. [eg V.DOCTOR, NURSE if there is a qualified doctor or nurse on board, state V.NIL if none].
- W. No of POB State the total number of persons on board. [eg 26 crew = W.26]
- X. Miscellaneous Any other useful information.

5.2 The ship reports will normally contain the following groups.

- (a) SAILING PLAN: SINGREP SP, A, F, G, H, I, L, M, N, O, P, U, V, AND W
- (b) POSITION REPORT: SINGREP PR, A, B, C, E, F & N.
- (c) DEVIATION REPORT: SINGREP DR, A, B, C, E, F, L, N & X.
- (d) FINAL REPORT: SINGREP FR, A, B & C.

A full stop "." should be used after each code (eg A.) and a space between each code. All reports should include system identifier "SINGREP" and code for appropriate report (eg SINGREP SP). Masters should only include those components listed above. Others may be included at the master's discretion if relevant to the type of report (see Annex 3 and Annex 4). Care should be taken when sending the reports as improperly coded messages will not be accepted by the SINGREP computer.

## 7 METHOD OF PASSING REPORTS

All messages should be forwarded through Singapore coast radio station using radio-telegraphy, radio-telephony, INMARSAT or radio-telex. The details of the frequencies for contacting Singapore Radio are given in Annex 2

**8. OVERDUE SHIPS**

If a ship does not report at the indicated time, actions will be taken to check the safety of the ship. To avoid unnecessary search action being initiated, it is important that ships report at the nominated reporting time each day and send their Final Report when leaving the SINGREP area. If a ship is unable to pass a position report due to faulty radio equipment, all attempts should be made to pass through other ships (via VHF) or as soon as it arrives at a port.

**9 INQUIRIES ON SINGREP**

Any inquiries on SINGREP should be addressed to:

Director of Marine

Marine Department

1, Maritime Square

#09-66 World Trade Centre

Singapore (0409)

Attn: Capt P J Thomas

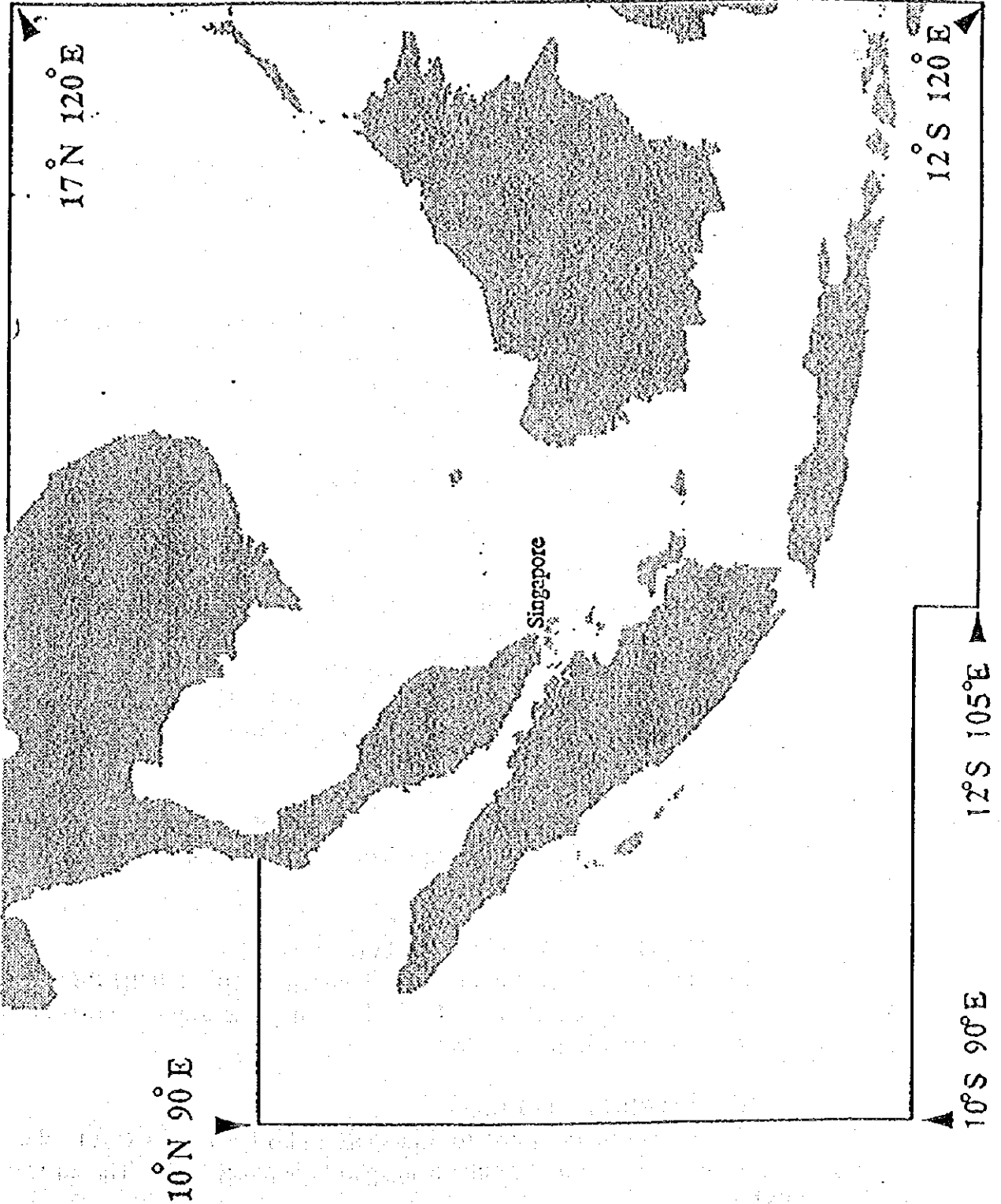
Tel: (65) 3756 214

Fax: (65) 3756 231

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ANNEX 1

SERVICE AREA OF THE SINGAPORE SHIP REPORTING SYSTEM (SINGREP)



## METHODS OF PASSING SINGREP REPORTS

All SINGREP messages should be passed through Singapore's coast radio station (Singapore Radio). The details of the frequencies for contacting Singapore Radio and hours of operation are given in the Admiralty List of Radio Signals (ALRS). Following is an extract of the various modes which may be used by ships to pass SINGREP reports via Singapore Radio.

## 2 BY RADIO-TELEGRAPHY

Vessels to initially contact Singapore Radio on any one of the following Watch and Reply frequencies and pass on the report on the assigned working channel: (a) 9VG56 8476/8366 kHz  
(b) 9VG57 12724/12550 kHz

Alternatively, vessels can call Singapore Radio and pass the report on any of the following Watch and Work frequencies:

- (a) 9VG33 4313/4182 kHz
- (b) 9VG9 6340.5/6277 kHz
- (c) 9VG58 16966.5/16734 kHz
- (d) 9VG53 17232.9/16734 kHz

## 3 BY RADIO-TELEPHONY (HF)

Vessels to contact Singapore radio on any of the following Watch and Reply frequencies and pass on the report on the assigned working channel.

- (a) 9VG4 2182 kHz
- (b) 9VG89 8779/8255 kHz (Ch 821)
- (c) 9VG90 13137/12290 kHz (Ch 1221)
- (d) 9VG91 17302/16420 kHz (Ch 1621)

## 4 BY RADIO-TELEPHONY (VHF)

Vessels to call Singapore radio on any one of the following channels and pass the report on the assigned working channel. (a) Channel 16 or (b) Channel 23.

## 5 BY AUTO-RADIO TELEX SERVICES (ARTS)

Vessels may call Singapore Radio and send their SINGREP reports using the ARTS Service Code "TGM". The vessels may use any of the radiotelex operating frequencies listed in the ALRS.

## 6 BY INMARSAT TELEX

Vessels can send reports to Singapore radio via INMARSAT telex using the telex access code "43" through Singapore's Sentosa LES. The answer back is "MARTEL".

\*\*\*\*\*

## EXAMPLES OF SHIP REPORTS TO SINGREP

## A) SAILING PLANS

## Example SP-1.

Sailing Plan from a vessel entering SINGREP area and proceeding to a port outside SINGREP.

IN PLAIN LANGUAGE:

Mv OCEAN ACE, call sign 9ABCD, on a voyage from Kobe to Colombo. GRT 1455, draught 13.5 metres. Container vessel, general cargo. No medical trained personnel, Total crew 25.

Ship's position on 20 Jan at 1300 UTC is 20° 00'N, 120° 00'E. Course 170°.

The ship is expected to enter the SINGREP coverage on 21 Jan at about 0000 UTC in position 17°N 117°12'E. Next report 21 Jan 1200 UTC.

The way points of her intended passage are as follows:

Way Point (1 WP) 17° N 117°12'E  
 (2 WP) 10° 00'N 110° 24'E; (3 WP) 3° 10'N 105°30'E;  
 (4 WP) 1° 25'N 104° 30'E thence through TSS;  
 (5 WP) 1° 39'N 102° 56'E; (6 WP) 2° 35'N 101° 38'E;  
 (7 WP) 2° 51'N 100° 58'E; (8 WP) 3° 53'N 100° 52'E;  
 (9 WP) 5° 30'N 98° 00'E; (10 WP) 6° 20'N 95° 00'E; and  
 (11 WP) 6° 08'N 90° 00'E.

Estimated time of arrival at Colombo on 28 Jan at 1800 UTC. Ship's average speed 15.3 knots. Vessel expected to leave SINGREP area in position 6° 08'N 90° 00'E on 26 Jan at 1600 UTC.

The ship has INMARSAT C (Tlx No 1234567), monitoring Singapore radio. In an emergency contact the owners, Mss Alfa Pte Ltd, Tel 1234567. Vessel will stop off Singapore port to pick up stores, expected time of stoppage 4 hours.

IN CODED FORM:

FORMAT	EXAMPLE
SINGREP SP	SINGREP SP
A. Vessel's name/Call sign	A.OCEAN ACE/9ABCD
E. Course	E.170
F. Speed	F.153
G. Name of last port	G.KOBE
H. Date/time and point of	

entry at SINGREP H.210000 1700N11712E

I. Destination and ETA I.COLOMBO 281800

K. Estimated Date/time and point of exit from SINGREP K.261600 0608N09000E

L. Vessel's intended route L.1WP 1700N11712E  
 2WP 1000N10530E 3WP 0310N 10530E  
 4WP 0125N10420E 5WP 0139N10256E  
 6WP 0235N10138E 6WP 0251N10058E  
 8WP 0353N10052E 9WP 0530N09800E  
 10WP 0620N09500E 11WP 0608N09000E.

M. Communications M.9VG INMARSAT C NO 1234567

N. Date/time of next report N.211200

O. Draught O.15.10

P. Cargo P.GENERAL

T. Ship's owners/agents T.ALFA PTE LTD TEL 1234567.

U. Size/type U.1455 GRT CONTAINER

V. Medical personnel V.NIL.

W. No of persons onboard W.26

X. Remarks X. STOPPING OFF SINGAPORE FOR FOUR HOURS TO PICK UP STORES.

MESSAGE TRANSMITTED: (Via TELEX or RADIO-TELEGRAPHY)  
 SINGREP SP A.OCEAN ACE/9ABCD E.170 F.15.3 G.KOBE H.210000  
 1700N11712E I.COLOMBO 281800 K.261600 0608N09000E L.1WP  
 1700N11712E 2WP 1000N10530E 3WP 0310N10530E 4WP 0125N10420E 5WP  
 0139N10256E 6WP 0235N10138E 7WP 0251N10058E 8WP 0353N10052E 9WP  
 0530N09800E 10WP 0620N09500E and 11WP 0608N09000E. M.9VG  
 INMARSAT NO123456 N.211200 O.15.10 P.GENERAL T.ALFA PTE  
 LTD TEL 1234567 U.1455GRT CONTAINER V.NIL W.26  
 X.STOPPING OFF SINGAPORE FOR FOUR HOURS TO PICK UP STORES.

**Example SP-2.**

Sailing Plan from a vessel proceeding between two ports within SINGREP area.  
 The SP should be sent before departure or within 2 hours after departure. The

point of entry and point of exit of SINGREP in this case is the position of departure and arrival port.

IN PLAIN LANGUAGE

MV OCEAN SUCCESS/ABCD on a voyage from Singapore to Surabaya. Her speed is 13.5 knots, total crew 9. Draught 7.5 m. Cargo Nil. Her present course is 110°. Her intended passage is as follows. Leave Singapore pilot station (01° 21'N 103° 50'E) at on 11 Apr at 0630 UTC. The way points of her intended route is as follows:

- 1WP 01° 21'N 103° 50'E through TSS
- 2WP 01° 21'N 104° 37 E
- 3WP 01° 00'N 105° 00'E
- 4WP 01° 00'S 106° 15'E Through Gelasa Strait
- 5WP 03° 10'S 107° 17'E
- 6WP 03° 41'S 107° 35'E
- 7WP 06° 45'S 112° 45'E

Next report will be sent on 12 Apr at 1100UTC. No doctor on board. Estimated time of arrival at Surabaya 14 Apr 0500 UTC. Has radiotelegraphy monitoring Singapore Radio. In an emergency contact ship's agent, Beta Agencies Ltd, Tel 1234567.

IN CODED FORM:

FORMAT	EXAMPLE
SINGREP SP	SINGREP SP
A. Vessel's name/Call sign	A.OCEAN SUCCESS/ABCD
E. Present Course	E.110
F. Speed	F.13.5
G. Name of last port	G.SINGAPORE
H. Date/time and point of entry at SINGREP	H.110630Z 0121N10350E
I. Destination and ETA	I.SURBAYA 120500Z
L. Vessel's intended route	L.1WP 0121N10350E VIA TSS 2WP 0121N10437E 3WP 0100N10500E 4WP 0100S10615E 5WP 0310S10717E 6WP 0341S10735E 7WP 0645S11245E

M.	Communications	M.RADIOTELEGRAPHY 9VG
N.	Date/time of next report	N.121100
O.	Draught	O.7.5
P.	Cargo	P.NIL
T.	Ship's owners/agents	T.BETA AGENCIES TEL 1234567
V.	Medical personnel	V.NIL.
W.	No of persons onboard	W.9

**MESSAGE TRANSMITTED: (BY TELEX or RADIO TELEGRAPHY)**  
 SINGREP SP A.OCEAN SUCCESS/ABCD E.110 F.13.5 G.SINGAPORE  
 H.110630 0121N10350E I.SURBAYA 120500 L.IWP 0121N10350E VIA  
 TSS 2WP 0121N10437E 3WP 0100N10500E 4WP 0100S10615E GELASA  
 STRAIT 5WP 0310S10717E 6WP 0341S10735E 7WP 0645S11245E  
 M.RADIOTELEGRAPHY 9VG N.120500 O.7.5 P.NIL T.BETA  
 AGENCIES TEL 1234567 V.NIL W.9

**POSITION REPORT:  
 Example PR-1.**

Position report from a vessel participating in SINGREP.

**IN PLAIN LANGUAGE:**

OCEAN ACE/9ABCD, Position at 1200 UTC on 23 Jan, 15° 12'N 116° 00'E,  
 present course 325°(T), speed 12.0 knots, next report will be sent at 1200 UTC on  
 24 Jan.

**IN CODED FORM:**

	FORMAT	EXAMPLE
A.	SINGREP PR Vessel's name/call sign	SINGREP PR A.OCEAN ACE/9ABCD
B.	Date/time of position	B.231200
C.	Position	C.1512N11600
E.	Course	E.325



F. Speed F.12.0

N. Date/Time of next report N.241200.

MESSAGE TRANSMITTED: (BY TELEX OR RADIO TELEGRAPHY)

SINGREP PR A.OCEAN ACE/9ABCD B.231200 C.1512N11600 E.325  
F.126 N.241200.

**DEVIATION REPORT**

**Example DR-1**

Deviation report from a vessel which has changed her destination and consequently the way points.

IN PLAIN LANGUAGE:

RUBY ACE/9ABCD, On 22 Jan at 0430 UTC; in position 6° 00'N 107° 34'E. The vessel's destination changed to Singapore. Her course is 190° and the way points (WP) of her intended track are: (1WP) 6° 00'N 107° 34'E; (2WP) 3° 10'N 105° 30'E; (3WP) 1° 25'N 104° 20'E; and (4WP) 1° 10'N 103° 58'E. Speed 13 knots. Next report at 23 Jan 0200 UTC.

IN CODED FORM:

FORMAT	EXAMPLE
SINGREP DR	SINGREP DR
A. Vessel's name/Call sign	A.RUBY ACE/9ABCD
B. Date/time of position	B.220430
C. Position	C.0600N10734E
E. Course	E.190
F. Speed	F.13.0
L. Route	L. 1WP 0600N10734E 2WP 0310N10530E 3WP 0125N10420E 4WP 0110N10358E
N. Date/time of next report	N.230200Z.
X. Remarks	X.DESTINATION SINGAPORE.

MESSAGE TRANSMITTED:

SINGREP DR A.RUBY ACE/9VXY B.220430 C.0600N10734 E.190 F.13.0  
L.1WP 0600N10734E 2WP 0310N10530E 3WP 0125N10420E 4WP  
0110N10358E N.230200. X.DESTINATION SINGAPORE

**Example DR-2**

Deviation Report from a vessel whose position will vary from the predicted position due to reduction in speed.

IN PLAIN LANGUAGE:

SEA PRINCESS/ELABC, On 7 Jan at 0430 UTC, in position 10° 00'N 110° 34'E, speed reduced to 6.5 knots due to rough weather, next report at 8 Jan 0400 UTC.

IN CODED FORM:

<u>FORMAT</u>	<u>EXAMPLE</u>
SINGREP DR	SINGREP DR
A. Vessel's name/Call sign	A.SEA PRINCESS/ELABC
B. Date/Time of position	B.70430
C. Position	C.1000N110034E
F. Speed	F.6.5
N. Date/Time of next report	N.80400
X. Remarks	X.REDUCED SPEED DUE TO ROUGH WEATHER.

MESSAGE TRANSMITTED:

SINGREP DR A.SEA PRINCESS/ELABC B.70430 C.1000N11034 F.6.5  
N.80400. X.REDUCED SPEED DUE TO ROUGH WEATHER.

**FINAL REPORT.**

**Example FR-1.**

Final report from a vessel leaving SINGREP area.

IN PLAIN LANGUAGE:

MV EQUATOR PRINCE/A6XYZ leaving SINGREP area on 24 Jan at 2030 UTC in Position 10° 00'N 90° 00'E.

IN CODED FORM:

	FORMAT	EXAMPLE
	SINGREP FR	SINGREP FR
A.	Vessel's name/Call sign	A.EQUATOR PRINCE/A6XYZ
B.	Date/Time of exit from from SINGREP area.	B.242030
C.	Position of exit	C.1000N09000E.

MESSAGE TRANSMITTED:

SINGREP FR A.EQUATOR PRINCE/A6XYZ B.242030 C.1000N09000.

Example FR-2.

Final report on arrival at a port within SINGREP area.

IN PLAIN LANGUAGE

MV EQUATOR KING/AEFG arriving Penang on 26 Jan at 0930 UTC in Position 5° 30'N 100° 35'E.

IN CODED FORM:

	FORMAT	EXAMPLE
	SINGREP FR	SINGREP FR
A.	Vessel's name/Call sign	A.EQUATOR KING/AEFG
B.	Date and time of exit from SINGREP area.	B.260930
C.	Position of vessel	C.0530N10035E PENANG.

MESSAGE TRANSMITTED:

SINGREP FR A.EQUATOR PRINCE/A6XYZ B.260930 C.0530N10030E PENANG.

## KEY FOR CODES USED IN SINGREP SHIP REPORTS

CODE	SP	PR	FR	DR	EXPLANATION
A.	*	*	*	*	Name of ship/Call sign eg. A.DANI/HAM123
B.		*	*	*	Date/time of position in UTC eg B.041200
C.		*	*	*	Position in Lat/Long eg C.0124N10434E
E.		*		*	Course eg E.320
F.	*	*		+	Speed in knots and decimals eg F.13.5
G.	#				Last port of call. eg G.BANGKOK
H.	*				Date/time and point of entry (Lat/long) into SINGREP area, or on departure from a port within the SINGREP area. eg H.012300 0124N10435E
I.	#			+	Destination and the estimated time of arrival (ETA) in UTC. eg I.Surabaya 051230
K.	*		*	+	Estimated date/time and point of exit. Either on arrival at a port within SINGREP area or on leaving SINGREP area. eg. K.231230 1700N11600E
L.	*			+	An outline of the intended route. Positions of way points (WP). Wp are indicated as WP1, 2 etc. eg L. 0124N10355E WP2 0150N10430E WP3 0450N10450E etc.
M.	*			+	Radio stations monitored. INMARSAT and Telex call number (if fitted) eg. M.WT 9VG. M.INMARSAT C No 123456 9VM. 9VG.
N.	*	*		*	Time of next report. eg N.071200
O.	#				Draught in metres and centimetres. eg 12.50M 0.12.50
P.	#				A brief indication of Cargo carried. eg P.BULK COAL: P.GENERAL IN CONTAINERS etc
T.	#				Name and contact numbers of owners or agent. eg T.ALPHA AGENCIES TELEX 223450
U.	#				Ship's gross tons and type of ship eg U.23450 TANKER
V.	*				Medical personnel carried. eg V.DOCTOR, V.NURSE, V.NIL
W.	*				No of crew and passengers on board. W.24
X.	#	#	#	+	Remarks in plain language. EG X.DESTINATION CHANGED DUE TO ROUGH WEATHER

SINGREP System identifier

SINGREP SP Sailing Plan

SINGREP PR

Position Report

SINGREP DR Deviation report

SINGREP FR

Final report.

\* These codes are required to be included in the report.

# These codes may be included at the master's discretion.

+ Included only if affected by deviation.

## Appendix 3

### NAVAREA X1 NAVIEX Service

## NAVARIA XI NAVTEX SERVICE (as of September, 1996)

NAVTEX Coast Station	Location	Range	Identification character B1	Transmission times	Language	Status of implementation
China	18-14N 109-30E	250	M	0200, 0600, 1000, 1400, 1800, 2200	English	Planned(N.I.)
	23-08N 113-29E	250	N	0210, 0610, 1010, 1410, 1810, 2210	Chinese	Operational
	26-01N 119-18E	250	O	0220, 0620, 1020, 1420, 1820, 2220	Chinese	Planned(N.I.)
	31-08N 121-32E	250	Q	0240, 0640, 1040, 1440, 1840, 2240	Chinese	Operational
	38-50N 121-31E	250	R	0250, 0650, 1050, 1450, 1850, 2250	Chinese	Operational
Hong Kong	22-13N 114-15E	400	L	0150, 0550, 0950, 1350, 1750, 2150	English	Operational
Indonesia	02-31S 140-43E	N.I.	A	0000, 0400, 0800, 1200, 1600, 2000	English	Operational
	03-42S 128-12E	N.I.	B	0010, 0410, 0810, 1210, 1610, 2010	English	Operational
	05-06S 119-26E	N.I.	D	0030, 0430, 0830, 1230, 1630, 2030	English	Operational
	06-06S 106-54E	N.I.	E	0040, 0440, 0840, 1240, 1640, 2040	English	Operational
Japan	43-19N 140-27E	400	J	0130, 0530, 0930, 1330, 1730, 2130	English	Operational
	42-57N 144-36E	400	K	0051, 0451, 0851, 1251, 1651, 2051	Japanese	Operational
	35-14N 139-55E	400	I	0140, 0540, 0940, 1340, 1740, 2140	English	Operational
	34-01N 130-56E	400	H	0108, 0508, 0908, 1308, 1708, 2108	Japanese	Operational
	26-05N 127-40E	400	G	0120, 0520, 0920, 1320, 1720, 2120	English	Operational
				0034, 0434, 0834, 1234, 1634, 2034	Japanese	Operational
				0110, 0510, 0910, 1310, 1710, 2110	English	Operational
				0017, 0417, 0817, 1217, 1617, 2017	Japanese	Operational
				0100, 0500, 0900, 1300, 1700, 2100	English	Operational
				0000, 0400, 0800, 1200, 1600, 2000	Japanese	Operational

NAVTEX Coast Station	Location	Range	Identification character BI	Transmission times	Language	Status of implementation
Korea Chukpyn Light House Kasado Light House Ongdo Light House	37-03N 129-26E	200	N. I	N. I N. I N. I	English, Korean English, Korean English, Korean	Planning Inauguration January 1, 1999
	34-27N 126-08E	200	N. I			
	36-39N 126-01E	200	N. I			
Malaysia Penang Kuantan Stapok Miri Sandakan	05-25.50N 100-24.25E	250	N. I	N. I N. I N. I N. I N. I	English English English English English	Planning    Inauguration September, 1996
	03-57.75N 103-22.42E	250	N. I			
	01-30.25N 110-17.55E	250	N. I			
	04-26.42N 114-01.15E	250	N. I			
	05-54.01N 118-00.01E	250	N. I			
Philippines Manila Cebu Puerto princesa Davao	14-35.16N 121-08.45E	320	N. I	N. I N. I N. I N. I	English English English English	Planning 1997
	10-19.21N 123-55.27E	320	N. I			
	09-44.36N 118-43.36E	320	N. I			
	07-04.30N 125-36.37E	320	N. I			
Singapore	01-20N 103-42E	400	C	0020, 0420, 0820, 1220, 1620, 2020	English	Operational
Taiwan Chi-lung	25-12N 121-42E	400	P	0230, 0630, 1030, 1430, 1830, 2230 0330, 0730, 1130, 1530, 1930, 2330	English Chinese	August 1996 Planning 1996
Thailand Bangkok	13-43N 100-34E	200	F	0050, 0450, 0850, 1250, 1650, 2050	English	Operational
United States Guam	13-29N 144-50E	200	V	0100, 0500, 0900, 1300, 1700, 2100	English	Operational
Vietnam Haiphong Ho Chi Minh Ville	20-44N 106-44E 10-47N 106-40E	400 400	N. I N. I	0030, 0630, 1230 0118, 0818, 1118	English English	Planning 1996

