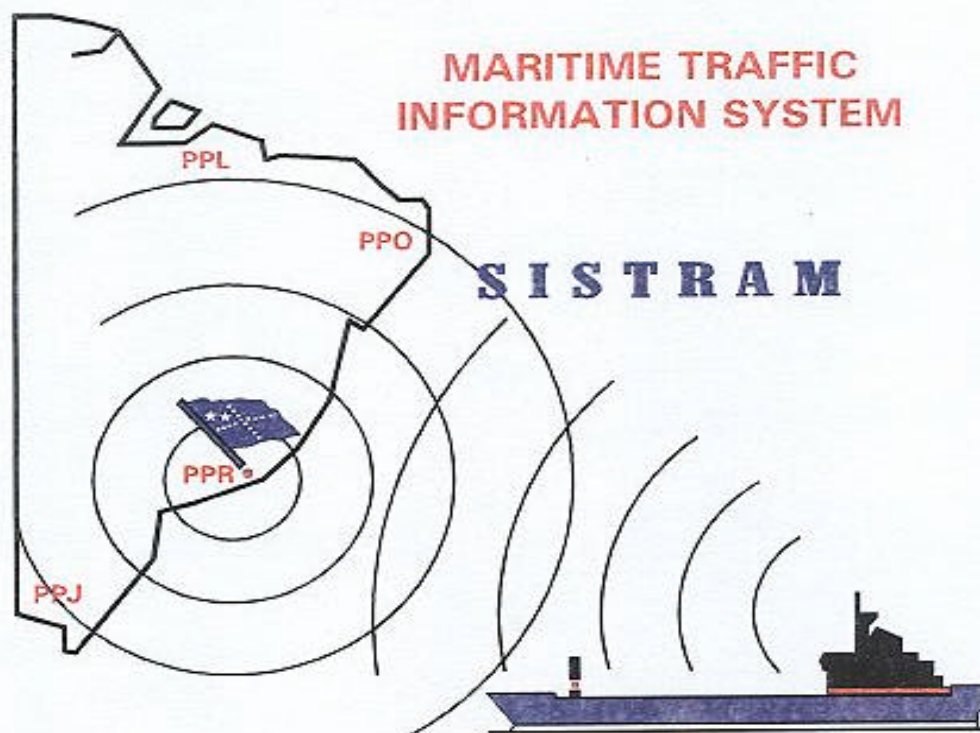


MINISTÉRIO DA MARINHA
COMANDO DE OPERAÇÕES NAVAIS



ISSUED AUGUST 1998

COMANDO DO CONTROLE NAVAL DO TRÁFEGO MARÍTIMO

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SISTRAM

1. INTRODUCTION

Brazil has signed the International Convention for the Safety of Life at Sea and the International Convention on Maritime Search and Rescue (SAR). Therefore, Brazil is required to utilize all available means to help any merchant ship in distress within its own SAR maritime area of responsibility.

To achieve this goal, Brazil uses **SISTRAM**, an electronic Information System for Maritime Traffic. This system tracks all merchant vessels engaged in ocean, coastal and inland navigation within the Brazilian SAR area.

The existing world systems for tracking maritime traffic, have as objective, the necessary assistance to the vessels in cases of emergency, known as "SAR incidents".

SISTRAM is compatible with the USA's **AMVER** system and other systems in the world. These systems allow

quick identification of nearby vessels which may be capable of assisting the ship in distress. In addition, these systems can help render urgent medical assistance.

The greater the number of vessels participating in the program, the greater its effectiveness and reliability, thus enhancing the security of those same vessels. Therefore, all merchant ships are invited to participate in the "SISTRAM" system. Brazilian ships participation is mandatory, however, participation by foreign vessels is voluntary. This participation involves transmission of standard type messages about their planned voyage.

These transmissions are free when are made through "**RENEC**" (Brazilian Coastal Radio Stations Network).

This pamphlet is intended to show the procedures for the participation of maritime vessels in the **SISTRAM**.

2. PROCEDURES

2.1 - Purpose of SISTRAM

The purpose of SISTRAM is to improve SAR efforts within the Brazilian maritime area. This is accomplished by gathering navigational information from participating vessels. This information is then used during a SAR effort to route nearby vessels to the scene. The ability to quickly divert nearby vessels to the scene provides faster response than can be provided from shore and increases the safety of life at sea.

2.2 – Benefits of participating in SISTRAM

- (1) - Rapid start of SAR operations.
- (2) - Designation of nearby ships for quick assistance.
- (3) - Urgent medical assistance for vessels without a doctor.

2.3 – SISTRAM Operational Area

The **Brazilian SAR maritime area** as delineated in figure 1.

2.4 - Participation

Per the International Convention, ships of all countries are invited to participate in SISTRAM. To participate, the ship should send her sailing plan inside Brazilian SAR AREA (figure 1), even if she is just crossing it bound for another country's port.

This is accomplished by sending a **Sailing Plan** (message type 1) to COMCONTRAM (Comando do Controle Naval do Tráfego Marítimo) for each trip. The invitation implies in a voluntary participation for foreign merchant ships while not sailing in Brazilian territorial waters (12NM). Inside those limits the participation is required.

All Brazilian merchant ships are required to participate wherever they are, even in foreign waters.

Participation is free of charge as long as reports are sent through **RENEC**.

2.5 - Types of Messages

TYPE 1 - Sailing Plan

This report provides the basic information required to estimate the ship's position. It can be sent when the ship joins **SISTRAM**, when departing from a Brazilian port, or when entering the Brazilian SAR area from other ports.

NOTE

Preferably, the Sailing Plan will be sent as early as possible prior to entering the SAR area or prior to departure from Brazilian port. In port, it may be sent as a written document.

TYPE 2 - Position Report

This report confirms if the ship departed, or if its position is correct per the Sailing Plan. It must be sent within the first 24 hours after departing from a Brazilian port.

NOTE

Position Reports can be sent whenever the ship is under heavy weather or under other adverse conditions and at any time interval desired.

TYPE 3 - Deviation Report

This report provides information for necessary corrections to the existing Sailing Plan. A deviation report should be sent whenever the ship's position deviates 25 miles or more from the original track, the destination port is changed or other changes occur which result in changing the Sailing Plan.

TYPE 4 - Final Report

The Final Report provides the information which terminates participation in the System. Accordingly, reports should be sent at least one hour before entering the destination port or when exiting from the Brazilian SAR area of figure 1.

**FOR REPORTING PROCEDURES, SEE THE
'REPORTING EXAMPLES' (pages 6 and 7)**

2.6 - How to Join

Participation in this system starts when a ship sends their Sailing Plan (message type 1) and ends when the ship sends their Final Report (message type 4).

NOTE

If the ship decides to participate although already inside the SAR area, she can join SISTRAM by sending a Sailing Plan (message type 1).

If a ship wants to terminate participation in the System, she just sends a Final Report (message type 4) at any time, filling line "X" with the comment that she is ending such participation.

2.7 - Forwarding

Send **SISTRAM** messages to **Comando do Controle Naval do Tráfego Marítimo - COMCONTRAM**, a branch of the Navy Department in **Rio de Janeiro**. These messages can be sent through the stations from **RENEC**, listed in Table 1, at any time, toll free.

SISTRAM Reports can also be sent to **COMCONTRAM** by other means of communication such as telex, telephone or facsimile. However, the ship will be charged for any communication expenses incurred by using these methods.

For further details, please contact **COMCONTRAM**, at the following address :

Comando do Controle Naval do Tráfego Marítimo
Edifício Almirante Tamandaré - 6° andar
Praça Barão de Ladário, s/n, Centro
Rio de Janeiro - RJ - Brazil CEP: 20091-000
Phone:(550XX21) 2104-6353 Telex:(55-21) 30933 /
36931
Fax:(550XX21)-2104-6341
e-mail – controle@cotram.mar.mil.br
Home page -
<http://www.comcontram.mar.mil.br>

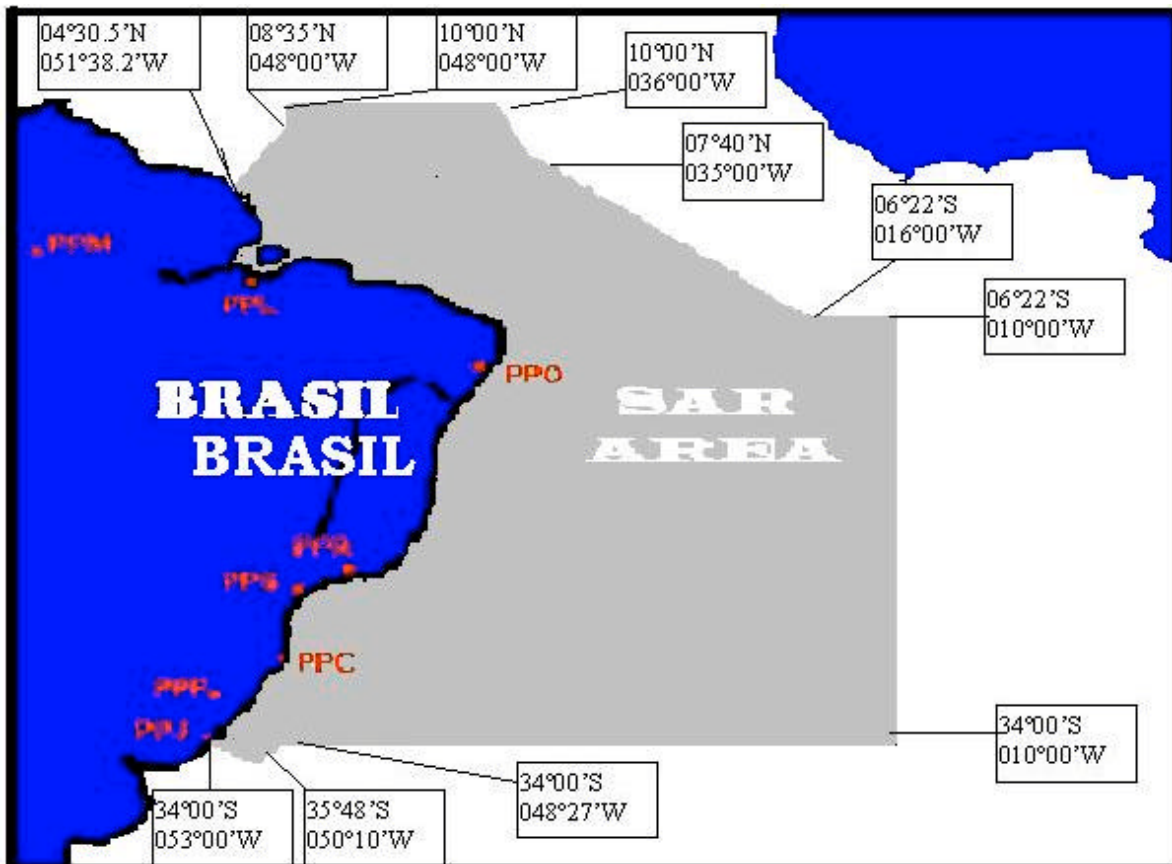


FIGURE 1 – BRAZILIAN SAR AREA

Reporting Format

Sailing Plan - (Message Type 1)

Sailing Plan				NOTES
Required data items				
System Name	Type of Message	Date-Time-Month-Year	Transmission	
SISTRAM /	1 /		Z//	(1)
Intl Radio Call Sign	Ship's Name	Flag	Type	(2)
A / /	/	/	//	
Date-Time of Departure				(1)
B /	Z //			
Port of Departure	Latitude (?)	Longitude (?)		(3)
G / /	/	/	//	
Port of Destination	Latitude (?)	Longitude (?)	ETA	
I / /	/	/	Z//	(4)
Route Information				
Latitude (?)	Longitude (?)	ETA		
L / /	/	Z //		
L / /	/	Z //		
L / /	/	Z //		
L / /	/	Z //		
L / /	/	Z //		
On Board Medical Resources				(5)
V /	//			
Optional Data Items				(6)
Current Coastal Radio Station	Next Coastal Radio Station			
M / /	/		//	
Comments - up to 65 characters				(7)
X /			//	
Comments				(7)
Y /			//	

Position Report - (Message Type 2)

Position Report				NOTES
Required Data Items				
System Name	Type of Message	Date-Time-Month-Year	Transmission	
SISTRAM /	2 /		Z//	(1)
Intl RadioCall Sign	Ship's Name	Flag	Type	(2)
A / /	/	/	//	
Date-Time of Position				(1)
B /	Z //			
Latitude (?)	Longitude (?)			(3)
C / /	/	/	//	
Optional Data Items				(6)
Current Course				
E /	//			
Estimated Average Speed				
F /	//			
Current Coastal Radio Station	Next Coastal Radio Station			
M / /	/		//	
Comments - up to 65 characters				(7)
X /			//	
Comments				(7)
Y /			//	

Deviation Report - (Message Type 3)

Deviation Report			
Required Data Items			
System Name	Type of Message	Date-Time-Month-Year	Transmission
SISTRAM /	3 /		Z//
Intl Radio Call Sign	Ship's Name	Flag	Type
A / /	/	/	//
Deviation Course Data Items			
Port of Destination	Latitude (?)	Longitude (?)	ETA
I / /	/	/	Z //
Route Information			
Latitude (?)	Longitude (?)	ETA	
L / /	/	Z //	
L / /	/	Z //	
L / /	/	Z //	
Optional Data Items			
Current Coastal Radio Station	Next Coastal Radio Station		
M / /	//		
Comments - up to 65 characters			
X /	//		
Comments			
Y /	//		

NOTES
(1)
(2)
(8)
(4)
(6)
(7)
(7)

Final Report - (Message Type 4)

Final Report			
Required Data Items			
System Name	Type of Message	Date-Time-Month-Year	Transmission
SISTRAM /	4 /		Z//
Intl Radio Call Sign	Ship's Name	Flag	Type
A / /	/	/	//
Arrival Port or Exit Point	Latitude (?)	Longitude (?)	ETA
K / /	/	/	Z //
Optional Data Items			
Comments - up to 65 characters			
X /	//		
Comments			
Y /	//		

NOTES
(1)
(2)
(3)
(7)
(7)

NOTES:

(1) Date-Time Group

All date-time groups start with six (6) digits. The first two (2) digits are the day of month. The next four (4) digits are hours and minutes using the 24-hour clock. Only Universal Coordinate Time (i.e., Greenwich Mean Time) is allowed. The six-digit date-time-group must be followed by the capital letter Z.

Example: 201200Z-->12 o'clock noon on the 20th (GMT).

The remainder of the date-time group must contain the first three (3) letters of the month and the last two (2) digits of the year.

Example: 201200Z MAR 96

(2) Type of Ship

CGO - General Cargo; TKR - Tanker; BLK - Bulk Carrier; PAS - Passenger; FSH - Fishing; TUG - Tug; CTR - Container Carrier; ROL - Roll on / Roll off

(3) Latitude / Longitude

Latitude is a four digits group expressed in degrees and minutes, and suffixed with "N" for North or "S" for South.

Longitude is a five digits group expressed in degrees and minutes, and suffixed with "E" for East or "W" for West.

Example: 1830S for lat. 18° 30' South, and 03815W for long. 038° 15' West.

(4) Route Information

The planned route is expressed through the lat and long of its turning points, detailed in line "1", as many lines as necessary. A least 3 points should be informed, even if there is no turning point.

When a ship enters the SAR area, she must show, in the first line "L" of the Sailing Plan (message type 1), the Lat/Long of that entering point, and the estimated, time of arrival.

3. Brazilian Legislation

These instructions are based on the following laws and documents:

a) Legislative Decree Number 11, of April 16, 1980. Published in the Official Newspaper dated April 18, 1980, section I, p.6730. Approves the text of the International Convention for the Safety of Life at Sea (**SOLAS-74**), signed in London, November 1, 1974.

b) Legislative Decree Number 34, of May 21, 1982. Published in the Official Newspaper of May 26, 1982, section I, p. 9529. Approves the text of the International Convention on Maritime Search and Rescue - SAR, (**SAR - 79 of the IMO**) signed by Brazil and other countries, in Hamburg, April 17, 1979.

c) Law Number 8617, January 4, 1993. Published in the Official Newspaper of January 5, 1993, section I, p. 057 and 058. Resolution regarding the Territorial Sea, the Exclusive Economic Zone and the Brazilian Continental Platform, as well as other subjects.

d) Law Number 9.537, December 11 1997, concerns about safety of maritime traffic in national waters.

In the Deviation Report (message type 3), the first line "L" contains data about the turning points or the first point which confirms deviation (if greater than 25 miles) from the planned route.

(5) Onboard Medical Resources

Select as appropriate from the following:

MD - Physician ; **PA** - Physician's assistant or health supervisor; **NURSE** - nurse ; **NONE**

(6) Optional Data Items

These optional data items are useful but are not required.

In message type 2, **Line E** contains the current course as a three-digit group, and **Line F** the estimated average speed knots and tenths of a knot.

Example:

E/234// specifies a course change to 234°

F/153// specifies a speed change to 15.3 knots.

(7) Line X and Y (Comments)

Optional information, useful to SISTRAM is entered in "X" such as, as for example Date-Time estimates for the next transmission, type of cargo, INMARSAT and EPIRB number, etc.

Line "Y" can be used for any other type of communications at the discretion of the merchant vessel.

(8) Course Deviation Data Items

Line " I " is used to specify changes to the Sailing Plan.

Example:

I / SALVADOR / 1258S / 03831W / 051800Z // In this example, the destination port was changed to Salvador.

e) Decree Number 2.596, May 18 1998, approves the law on Maritime Traffic safety in National Waters Law .

f) Ministerial Decree Number 67, March 18, 1998, the Maritime Authority delegates permission to the Naval Districts Commanders, Naval Commanders, Brazilian Ports Director and Hydrographic Office Director and Office Director to enforce and apply the law of item E.

g) Regulation Number 0024, May 12 1998, of Brazilian Navy Ports Director act approves the Rules for Maritime Authority Regarding Traffic and Permanence of Shipping in National Waters – "NORMAN-08".

Brazilian merchant vessels or under Brazilian contract must inform position wherever they are.

It is important to stress that, according to documents in item "g" above, all foreign ships when entering Brazilian territorial waters (12NM), must report their position, course, speed, port of departure, destination and ETA. The foreign vessels which, when joining SISTRAM, had informed the points of the sailing plan inside 12 NM, do not need to send it again. For that matter, COMCONTRAM already knows their movements inside the Brazilian territorial waters.

EXAMPLE 1

The ship KNFG / SEA WOLF, departs Santos (23° 56' S / 046° 19' W) at 0900 hours (GMT), on March 1, bound for New York (40° 42' N / 074° 01' W). Estimated exit from Brazilian

SAR area (10° 00' N / 044° 02' W) at 1340 hours (GMT) on March 8, and arrived in New York at 1410 hours (GMT) on March 14.



Note - Point **P** represents the ship's location in the Position Report (Type 2 message) sent within the first 24 hours after departure from a Brazilian port, and the **L** points represent ship's intended track.

(1) Departed from Santos to point **L1** (23° 46' S / 039° 45' W) at an average speed of 15 knots with an estimated arrival at point **L1** of 0900 hours (GMT) on March 2.

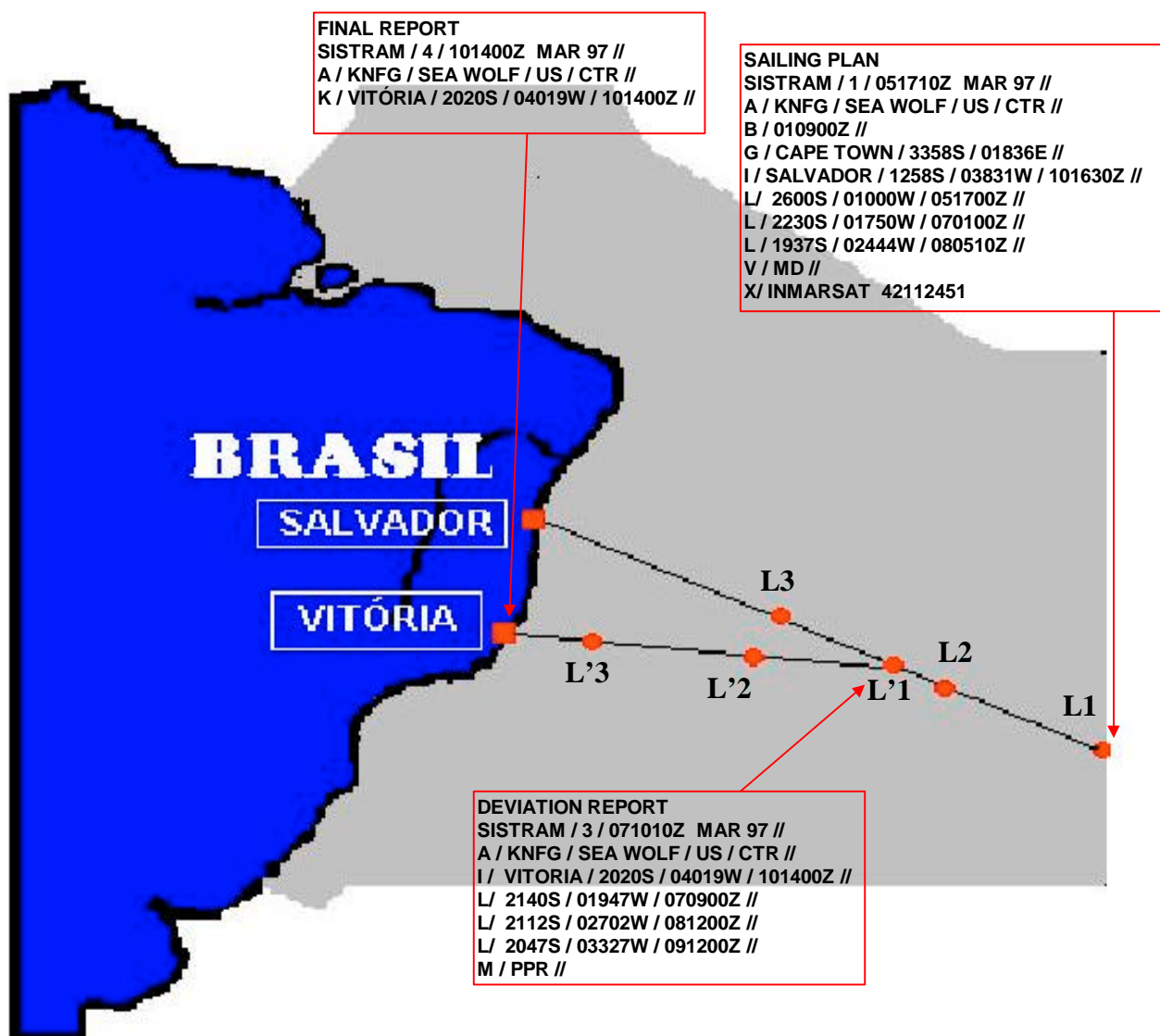
(2) The ship will head from point **L1** to point **L2** (05° 24' S / 031° 55' W) at an average speed of 15 knots with an estimated arrival at point **L2** 1630 hours (GMT) on March 5.

(3) At point **L2**, the ship will turn to course 322° with average speed of 17 kts. The estimated arrival time at point **L3** (10° 00' N / 044° 02' W) is 1340 hours (GMT) on March 8. This will mark the departure of the ship from the Brazilian SAR area.

EXAMPLE 2

American ship KNFG / SEA WOLF departs from CAPE TOWN (33° 58' S / 018° 36' E) bound for SALVADOR (12° 58' S / 038° 31' W) at 0900 hours (GMT) on March 1. Estimated entry into the Brazilian SAR area is at point L1 (26° 00' S / 010° 00' W) at 1700 hours (GMT) on March 5. Estimated arrival time in SALVADOR is 1630 hours (GMT) on

March 10. At 0900 hours (GMT) on March 7, at position L'1 (21° 40' S / 019° 47' W), the ship needs to change destination to the port of VITÓRIA (20° 20' S / 040° 19' W). The estimated arrival at VITÓRIA is 1400 hours (GMT) on March 10.



Note - The points on the routes above represent the following situation:

L1 - 26° 00'S / 010° 00'W at 1700 hours (GMT) on March 5 - entered on SAR area;

L2 - 22° 30'S / 017° 50'W at 0100 hours (GMT) on March 7 - estimated position in the Sailing Plan;

L3 - 19° 37'S / 024° 44'W at 0510 hours (GMT) on March 8 - estimated position in the Sailing Plan;

L'1 - 21° 40'S / 019° 47'W at 0900 hours (GMT) on March 7 - position where the course changed;

L'2 - 21° 12'S / 027° 02'W at 1200 hours (GMT) on March 8 - estimated position in the Deviation Report;

L'3 - 20° 47'S / 033° 27'W at 1200 hours (GMT) on March 09 - estimated position in the Deviation Report.

TABLE 1

National Network Coastal Radio Stations from Embratel - RENEK

STATION NAME	CALL SIGN	WATCH FREQUENCIES	REMARKS	REMOTE STATIONS	CALL SIGN
RIO RÁDIO LAT: 22° 57'53" S LONG: 043° 40'23" W TELEX: 21930 TEL: 07821141	PPR	500 KHz 2;4;8;12;16;22;25 MHz 156 A 174 MHz	VOICE, MORSE AND RTLX	MANAUS RÁDIO ITACOATIARA RÁDIO PARINTINS RÁDIO BELÉM RÁDIO MACAPÁ RÁDIO BREVES RÁDIO S. LUIS RÁDIO SANTARÉM RÁDIO ALMERIM RÁDIO OLINDA RÁDIO F. DE NORONHA RÁDIO ARACAJÚ RÁDIO ILHÉUS RÁDIO SALVADOR RÁDIO SÃO MATEUS RÁDIO RIO NOVO SUL RÁDIO T. DE FREITAS RÁDIO CAVALINHO RÁDIO FORTALEZA RÁDIO VITÓRIA RÁDIO NATAL RÁDIO MOÇORÓ RÁDIO MACEIÓ RÁDIO ARACATI RÁDIO CABEDELLO RÁDIO PORTO ALEGRE RÁDIO PARANAGUÁ RÁDIO MORRO REUTER RÁDIO OSÓRIO RÁDIO CAMPOS RÁDIO A. DOS REIS RÁDIO C. DE ABREU RÁDIO SANTOS RÁDIO S. SEBASTIÃO RÁDIO ITAJAÍ RÁDIO JOINVILLE RÁDIO FLORIANÓPOLIS RÁDIO LAGUNA RÁDIO JUNÇÃO RÁDIO	PPM PTM PRM PPL PTL PRL PPB PPT PTT PPO PTO PTA PPI PPA PVR PRI PTI PPE PPF PPV PPN PRQ PRO PTF PTN PPP PPG PRP PTP PTV PTR PRR PPS PTS PPC PRD PTC PRC PPJ