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To : All Offices  
 From : General Manager ( IS Class)  
 Date : 2 May 2008  
 Ref : CIR08/0005

**Subject : LRIT – Long Range Identification and Tracking of Ships ( SOLAS Ch V/19-1)**

**To all concern**

**General**

This circular is intended to provide the information related to SOLAS Ch V/19-1 Long-Range Identification and Tracking regulation which has entered into force on 1 January 2008 with a compliance date of 31 December 2008.

**Applicability**

Following ship types engaged in international voyage are required to comply with LRIT regulation.

- Passenger ships, including high-speed craft;
- Cargo ships, including high-speed craft, of 300 gross tonnage and upwards; and
- Mobile Offshore Drilling Units ( MODU )

**Timetable for LRIT Implementation**

All ships to be complied with LRIT regulations as per following schedule date.

- Ships constructed on or after 31 December 2008 – From date of build.
- Ships constructed before 31 December 2008 and certified for operations in sea areas A1,A2 and A3 not later than the 1<sup>st</sup> survey of the radio installation after 31 December 2008.
- Ships constructed before 31 December 2008 and certified for operations in sea areas A1,A2,A3 and A4 not later than the 1<sup>st</sup> survey of the radio installation after 1 July 2009. However, these ships shall comply with the provision of paragraph 2 above while they operate within sea areas A1, A2 and A3.

(Note : Ships, irrespective of date of build, operating ONLY in sea area A1 and fitted with an Automatic Identification System (AIS) are exempted from the required to transmit LRIT information. )

**LRIT System**

The LRIT system consists of the ship-borne LRIT information transmitting equipment ( the “Terminal” ) capable of being configured to transmit the following minimum information set in an Automatic Position Report ( APR).

- Ship’s Identity
- Position of the Ship
- Time and date of transmission.

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In addition, the terminal must be

- Capable of being configured remotely to transmit LRIT information at variable intervals;
- Capable of transmitting LRIT information following receipt of polling commands;
- Interface directly to the ship-borne global navigation satellite system equipment, or have internal positioning capability;
- Supplied with energy from the main and emergency source of electrical power

There will be no interface between LRIT and AIS. One of the most distinctions between LRIT and AIS, apart from the obvious one of range, is that whereas AIS is a broadcast system, data deprived through LRIT will be available only to recipients who are entitled to receive such information and safeguards concerning the confidentiality of those data have been built into the regulatory provisions. SOLAS Contracting Governments will be entitled to receive information about ships navigating within a distance not exceeding 1000 nautical miles of their coast.

**Obligations**

Contracting Governments are required to provide to the LRIT data Centre it has selected, a list of the ships entitled to fly its flag, which are required to transmit LRIT information.

Ship Operators and ship owners are responsible for ensuring that the equipments fitted onboard should be of a type approved by the Flag and conform to the Performance standards and functional requirements adopted by the IMO as defines in the Resolution MSC.210(81). As most of the majority of ships required to comply with the regulations are already fitted with Inmarsat C , mini C systems. LRIT data can be provided by using such equipments onboard and therefore no major hardware investment should be required on the part of the ship owners.

However different flags may adopt slightly different LRIT implementation strategies.

The Flag may impose voluntary compliance in advance of the 31 December 2008 compliance date in order to fully test their DC ( Data Centre ). It is expected that DCs will be integrated with the IDE ( International Data Exchange) by 1 July 2008.

**RESOLUTION MSC.202(81)**  
**(adopted on 19 May 2006)**

**ADOPTION OF AMENDMENTS TO THE INTERNATIONAL CONVENTION  
FOR THE SAFETY OF LIFE AT SEA, 1974, AS AMENDED**

THE MARITIME SAFETY COMMITTEE,

RECALLING Article 28(b) of the Convention on the International Maritime Organization concerning the functions of the Committee,

RECALLING FURTHER article VIII(b) of the International Convention for the Safety of Life at Sea (SOLAS), 1974 (hereinafter referred to as “the Convention”), concerning the amendment procedure applicable to the Annex to the Convention, other than the provisions of chapter I thereof,

HAVING CONSIDERED, at its eighty-first session, amendments to the Convention, proposed and circulated in accordance with article VIII(b)(i) thereof,

1. ADOPTS, in accordance with article VIII(b)(iv) of the Convention, amendments to the Convention, the text of which is set out in the Annex to the present resolution;
2. DETERMINES, in accordance with article VIII(b)(vi)(2)(bb) of the Convention, that the said amendments shall be deemed to have been accepted on 1 July 2007, unless, prior to that date, more than one third of the Contracting Governments to the Convention or Contracting Governments the combined merchant fleets of which constitute not less than 50% of the gross tonnage of the world’s merchant fleet, have notified their objections to the amendments;
3. INVITES SOLAS Contracting Governments to note that, in accordance with article VIII(b)(vii)(2) of the Convention, the amendments shall enter into force on 1 January 2008 upon their acceptance in accordance with paragraph 2 above;
4. REQUESTS the Secretary-General, in conformity with article VIII(b)(v) of the Convention, to transmit certified copies of the present resolution and the text of the amendments contained in the Annex to all Contracting Governments to the Convention;
5. FURTHER REQUESTS the Secretary-General to transmit copies of this resolution and its Annex to Members of the Organization, which are not Contracting Governments to the Convention.

ANNEX

**AMENDMENTS TO THE  
INTERNATIONAL CONVENTION FOR THE SAFETY OF LIFE AT SEA, 1974,  
AS AMENDED**

**CHAPTER V  
SAFETY OF NAVIGATION**

**Regulation 2 – Definitions<sup>1</sup>**

1 The following text is inserted after the existing paragraph 5:

“6 *High-speed craft* means a craft as defined in regulation X/1.3.

7 *Mobile offshore drilling unit* means a mobile offshore drilling unit as defined in regulation XI-2/1.1.5.”

2 The following new regulation 19-1 is inserted after the existing regulation 19:

**“Regulation 19-1  
Long-range identification and tracking of ships**

1 Nothing in this regulation or the provisions of performance standards and functional requirements<sup>2</sup> adopted by the Organization in relation to the long-range identification and tracking of ships shall prejudice the rights, jurisdiction or obligations of States under international law, in particular, the legal regimes of the high seas, the exclusive economic zone, the contiguous zone, the territorial seas or the straits used for international navigation and archipelagic sea lanes.

2.1 Subject to the provisions of paragraphs 4.1 and 4.2, this regulation shall apply to the following types of ships engaged on international voyages:

- .1 passenger ships, including high-speed passenger craft;
- .2 cargo ships, including high-speed craft, of 300 gross tonnage<sup>3</sup> and upwards; and
- .3 mobile offshore drilling units.

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<sup>1</sup> The amendments to regulation 2 take into account the amendments to the regulation which were adopted on 20 May 2004, under cover of resolution MSC.153(78), and which will enter into force on 1 July 2006.

<sup>2</sup> Refer to the Performance standards and functional requirements for the long-range identification and tracking of ships, adopted by the Maritime Safety Committee of the Organization by resolution MSC.210(81).

<sup>3</sup> The gross tonnage to be used for determining whether a cargo ship or high-speed craft is required to comply with the provisions of this regulation shall be that determined under the provisions of the International Convention on Tonnage Measurement of Ships, 1969 irrespective of the date on which the ship or high-speed craft has been or is being constructed.

2.2 The term “ship”, when used in paragraphs 3 to 11.2, includes the passenger and cargo ships, the high-speed craft and the mobile offshore drilling units which are subject to the provisions of this regulation.

3 This regulation establishes provisions to enable Contracting Governments to undertake the long-range identification and tracking of ships.

4.1 Ships shall be fitted with a system to automatically transmit the information specified in paragraph 5 as follows:

- .1 ships constructed on or after 31 December 2008;
- .2 ships constructed before 31 December 2008 and certified for operations:
  - .1 in sea areas A1 and A2, as defined in regulations IV/2.1.12 and IV/2.1.13; or
  - .2 in sea areas A1, A2 and A3, as defined in regulations IV/2.1.12, IV/2.1.13 and IV/2.1.14;

not later than the first survey of the radio installation after 31 December 2008;

- .3 ships constructed before 31 December 2008 and certified for operations in sea areas A1, A2, A3 and A4, as defined in regulations IV/2.1.12, IV/2.1.13, IV/2.1.14 and IV/2.1.15, not later than the first survey of the radio installation after 1 July 2009. However, these ships shall comply with the provisions of subparagraph .2 above whilst they operate within sea areas A1, A2 and A3.

4.2 Ships, irrespective of the date of construction, fitted with an automatic identification system (AIS), as defined in regulation 19.2.4, and operated exclusively within sea area A1, as defined in regulation IV/2.1.12, shall not be required to comply with the provisions of this regulation.

5 Subject to the provisions of paragraph 4.1, ships shall automatically transmit the following long-range identification and tracking information:

- .1 the identity of the ship;
- .2 the position of the ship (latitude and longitude); and
- .3 the date and time of the position provided.

6 Systems and equipment used to meet the requirements of this regulation shall conform to performance standards and functional requirements<sup>4</sup> not inferior to those adopted by the Organization. Any shipboard equipment shall be of a type approved by the Administration.

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<sup>4</sup> Refer to the Performance standards and functional requirements for the long-range identification and tracking of ships, adopted by the Maritime Safety Committee of the Organization by resolution MSC.210(81).

7 Systems and equipment used to meet the requirements of this regulation shall be capable of being switched off on board or be capable of ceasing the distribution of long-range identification and tracking information:

- .1 where international agreements, rules or standards provide for the protection of navigational information; or
- .2 in exceptional circumstances and for the shortest duration possible where the operation is considered by the master to compromise the safety or security of the ship. In such a case, the master shall inform the Administration without undue delay and make an entry in the record of navigational activities and incidents maintained in accordance with regulation 28 setting out the reasons for the decision and indicating the period during which the system or equipment was switched off.

8.1 Subject to the provisions of paragraphs 8.2 to 11.2, Contracting Governments shall be able to receive long-range identification and tracking information about ships, for security and other purposes as agreed by the Organization, as follows:

- .1 the Administration shall be entitled to receive such information about ships entitled to fly its flag irrespective of where such ships may be located;
- .2 a Contracting Government shall be entitled to receive such information about ships which have indicated their intention to enter a port facility, as defined in regulation XI-2/1.1.9, or a place under the jurisdiction of that Contracting Government, irrespective of where such ships may be located provided they are not located within the waters landward of the baselines, established in accordance with international law, of another Contracting Government; and
- .3 a Contracting Government shall be entitled to receive such information about ships entitled to fly the flag of other Contracting Governments, not intending to enter a port facility or a place under the jurisdiction of that Contracting Government, navigating within a distance not exceeding 1,000 nautical miles of its coast provided such ships are not located within the waters landward of the baselines, established in accordance with international law, of another Contracting Government; and
- .4 a Contracting Government shall not be entitled to receive, pursuant to subparagraph .3, such information about a ship located within the territorial sea of the Contracting Government whose flag the ship is entitled to fly.

8.2 Contracting Governments shall specify and communicate to the Organization relevant details, taking into account the performance standards and functional requirements adopted by the Organization<sup>5</sup>, to enable long-range identification and

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<sup>5</sup> Refer to the Performance standards and functional requirements for the long-range identification and tracking of ships, adopted by the Maritime Safety Committee of the Organization by resolution MSC.210(81).

tracking information to be made available pursuant to the provisions of paragraph 8.1. The Contracting Government concerned may, at any time thereafter, amend or withdraw such communication. The Organization shall inform all Contracting Governments upon receipt of such communication together with the particulars thereof.

9.1 Notwithstanding the provisions of paragraph 8.1.3, the Administration shall be entitled, in order to meet security or other concerns, at any time, to decide that long-range identification and tracking information about ships entitled to fly its flag shall not be provided pursuant to the provisions of paragraph 8.1.3 to Contracting Governments. The Administration concerned may, at any time thereafter, amend, suspend or annul such decisions.

9.2 The Administration concerned shall communicate, pursuant to paragraph 9.1, such decisions to the Organization. The Organization shall inform all Contracting Governments upon receipt of such communication together with the particulars thereof.

9.3 The rights, duties and obligations, under international law, of the ships whose Administration invoked the provisions of paragraph 9.1 shall not be prejudiced as a result of such decisions.

10 Contracting Governments shall, at all times:

- .1 recognize the importance of long-range identification and tracking information;
- .2 recognize and respect the commercial confidentiality and sensitivity of any long-range identification and tracking information they may receive;
- .3 protect the information they may receive from unauthorized access or disclosure; and
- .4 use the information they may receive in a manner consistent with international law.

11.1 Contracting Governments shall bear all costs associated with any long-range identification and tracking information they request and receive. Notwithstanding the provisions of paragraph 11.2, Contracting Governments shall not impose any charges on ships in relation to the long-range identification and tracking information they may seek to receive.

11.2 Unless the national legislation of the Administration provides otherwise, ships entitled to fly its flag shall not incur any charges for transmitting long-range identification and tracking information in compliance with the provisions of this regulation.

12 Notwithstanding the provisions of paragraph 8.1, the search and rescue services of Contracting Governments shall be entitled to receive, free of any charges, long-range identification and tracking information in relation to the search and rescue of persons in distress at sea.

13 Contracting Governments may report to the Organization any case where they consider that provisions of this regulation or of any other related requirements established by the Organization have not been or are not being observed or adhered to.

14 The Maritime Safety Committee shall determine the criteria, procedures and arrangements for the establishment, review and audit of the provision of long-range identification and tracking information to Contracting Governments pursuant to the provisions of this regulation.”

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**RESOLUTION MSC.210(81)**  
**(adopted on 19 May 2006)**

**PERFORMANCE STANDARDS AND FUNCTIONAL REQUIREMENTS FOR THE  
LONG-RANGE IDENTIFICATION AND TRACKING OF SHIPS**

THE MARITIME SAFETY COMMITTEE,

RECALLING Article 28(b) of the Convention on the International Maritime Organization concerning the functions of the Committee,

RECALLING ALSO resolution A.886(21) on Procedure for the adoption of, and amendments to, performance standards and technical specifications, by which the Assembly resolved that the function of adopting performance standards and technical specifications, as well as amendments thereto shall be performed by the Maritime Safety Committee,

RECALLING FURTHER the provisions of the new regulation V/19-1 of the International Convention for the Safety of Life at Sea, 1974, as amended (the Convention), relating to the long-range identification and tracking of ships,

RECOGNIZING the need to adopt appropriate performance standards and functional requirements on long-range identification and tracking of ships,

HAVING CONSIDERED the recommendation made by the Sub-Committee on Radiocommunications, Search and Rescue, at its tenth session,

1. ADOPTS the Performance standards and functional requirements for the long-range identification and tracking of ships, set out in the Annex to the present resolution;
2. RECOMMENDS Contracting Governments to the Convention to ensure that:
  - .1 shipborne systems and equipment used to meet the requirements of regulation V/19-1 of the Convention conform to performance standards not inferior to those specified in the Annex to the present resolution;
  - .2 all Long-range identification and tracking (LRIT) Data Centres and the International LRIT Data Exchange conform to functional requirements not inferior to those specified in the Annex to the present resolution; and
  - .3 they promptly submit to the Organization and to the LRIT Data Centres the required information to enable the establishment and the continuous functioning of the LRIT system and that they update such information as and when changes occur;
3. AGREES to review and amend, in the light of experience gained as necessary, the Performance standards and functional requirements for the long-range identification and tracking of ships, set out in the Annex to the present resolution.

ANNEX

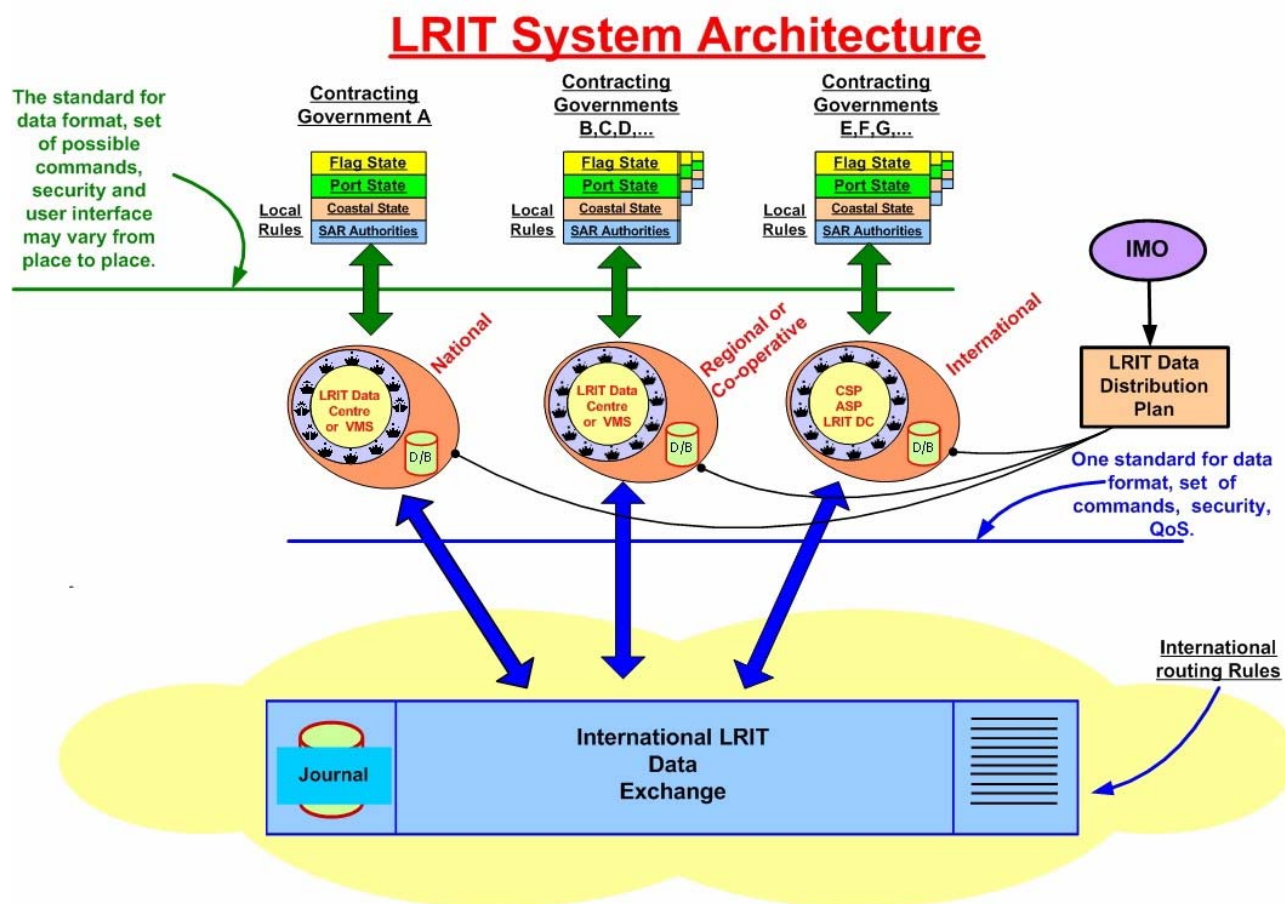
**PERFORMANCE STANDARDS AND FUNCTIONAL REQUIREMENTS FOR THE LONG-RANGE IDENTIFICATION AND TRACKING OF SHIPS**

**1 Overview**

1.1 The Long-Range Identification and Tracking (LRIT) system provides for the global identification and tracking of ships.

1.2 The LRIT system consists of the shipborne LRIT information transmitting equipment, the Communication Service Provider(s), the Application Service Provider(s), the LRIT Data Centre(s), including any related Vessel Monitoring System(s), the LRIT Data Distribution Plan and the International LRIT Data Exchange. Certain aspects of the performance of the LRIT system are reviewed or audited by an LRIT Co-ordinator acting on behalf of all Contracting Governments. Figure 1 provides an illustration of the LRIT system architecture.

**FIGURE 1**



1.3 LRIT information is provided to Contracting Governments and Search and rescue services<sup>1</sup> entitled to receive the information, upon request, through a system of National, Regional, Co-operative and International LRIT Data Centres, using where necessary, the LRIT International Data Exchange.

1.4 Each Administration should provide to the LRIT Data Centre it has selected, a list of the ships entitled to fly its flag, which are required to transmit LRIT information, together with other salient details and should update, without undue delay, such lists as and when changes occur. Ships should only transmit the LRIT information to the LRIT Data Centre selected by their Administration.

1.5 The obligations of ships to transmit LRIT information and the rights and obligations of Contracting Governments and of Search and rescue services to receive LRIT information are established in regulation V/19-1 of the 1974 SOLAS Convention.

## 2 Definitions

2.1 Unless expressly provided otherwise:

- .1 *Convention* means the International Convention for the Safety of Life at Sea, 1974, as amended.
- .2 *Regulation* means a regulation of the Convention.
- .3 *Chapter* means a chapter of the Convention.
- .4 *LRIT Data User* means a Contracting Government or a Search and rescue service which opts to receive the LRIT information it is entitled to.
- .5 *Committee* means the Maritime Safety Committee.
- .6 *High-speed craft* means a craft as defined in regulation X/1.3.
- .7 *Mobile offshore drilling unit* means a mobile offshore drilling unit as defined in regulation XI-2/1.1.5.
- .8 *Organization* means the International Maritime Organization.
- .9 *Vessel Monitoring System* means a system established by a Contracting Government or a group of Contracting Governments to monitor the movements of the ships entitled to fly its or their flag. A Vessel Monitoring System may also collect from the ships information specified by the Contracting Government(s) which has established it.
- .10 *LRIT information* means the information specified in regulation V/19-1.5.

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<sup>1</sup> The term *search and rescue service* is defined in SOLAS regulation V/2.5 (see amendments to chapter V adopted on 20 May 2004, under cover of resolution MSC.153(78), which will enter into force on 1 July 2006).

2.2 The term “ship”, when used in the present Performance standards and functional requirements for long-range identification and tracking of ships (the Performance standards), includes mobile offshore drilling units and high-speed craft as specified in regulation V/19-1.4.1 and means a ship which is required to transmit LRIT information.

2.3 Terms not otherwise defined should have the same meaning as the meaning attributed to them in the Convention.

### **3 General provisions**

3.1 It should be noted that regulation V/19-1.1 provides that:

*Nothing in this regulation or the provisions performance standards and functional requirements adopted by the Organization in relation to the long-range identification and tracking of ships shall prejudice the rights, jurisdiction or obligations of States under international law, in particular, the legal regimes of the high seas, the exclusive economic zone, the contiguous zone, the territorial seas or the straits used for international navigation and archipelagic sea lanes.*

3.2 In operating the LRIT system, recognition should be given to international conventions, agreements, rules or standards that provide for the protection of navigational information.

3.3 The present Performance standards should always be read together with regulation V/19-1.

### **4 Shipborne equipment**

4.1 In addition to the general requirements contained in Assembly resolution A.694(17) on Recommendations on general requirements for shipborne radio equipment forming part of the global maritime distress and safety system (GMDSS) and for electronic navigational aids, the shipborne equipment should comply with the following minimum requirements:

- .1 be capable of automatically and without human intervention on board the ship transmitting the ship’s LRIT information at 6-hour intervals to an LRIT Data Centre;
- .2 be capable of being configured remotely to transmit LRIT information at variable intervals;
- .3 be capable of transmitting LRIT information following receipt of polling commands;
- .4 interface directly to the shipborne global navigation satellite system equipment, or have internal positioning capability;
- .5 be supplied with energy from the main and emergency source of electrical power<sup>2</sup>; and

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<sup>2</sup> This provision should not apply to ships using for the transmission of LRIT information any of the radio communication equipment provided for compliance with the provisions of chapter IV. In such cases, the shipborne equipment should be provided with sources of energy as specified in regulation IV/13.

- .6 be tested for electromagnetic compatibility taking into account the recommendations<sup>3</sup> developed by the Organization.

4.2 In addition to the provisions specified in paragraph 4.1 above, the shipborne equipment should provide the functionality specified in table 1.

**TABLE 1**

**DATA TO BE TRANSMITTED FROM THE SHIPBORNE EQUIPMENT**

<b>Parameter</b>	<b>Comments</b>
Shipborne equipment Identifier	The identifier used by the shipborne equipment.
Positional data	<p>The GNSS position (latitude and longitude) of the ship (based on the WGS84 datum).</p> <p><i>Position:</i> The equipment should be capable of transmitting the GNSS position (latitude and longitude) of the ship (based on WGS84 datum) as prescribed by regulation V/19-1, without human interaction on board the ship.</p> <p><i>On-demand<sup>(1)</sup> position reports:</i> The equipment should be capable of responding to a request to transmit LRIT information on demand without human interaction onboard the ship, irrespective of where the ship is located.</p> <p><i>Pre-scheduled<sup>(2)</sup> position reports:</i> The equipment should be capable of being remotely configured to transmit LRIT information at intervals ranging from a minimum of 15 min to periods of 6 h to the LRIT Data Centre, irrespective of where the ship is located and without human interaction on board the ship.</p>
Time Stamp 1	<p>The date and time<sup>(3)</sup> associated with the GNSS position.</p> <p>The equipment should be capable of transmitting the time<sup>(3)</sup> associated with the GNSS position with each transmission of LRIT information.</p>

- Notes:
- <sup>(1)</sup> *On-demand position reports* means transmission of LRIT information as a result of either receipt of polling command or of remote configuration of the equipment so as to transmit at interval other than the preset ones.
  - <sup>(2)</sup> *Pre-scheduled position reports* means transmission of LRIT information at the preset transmit intervals.
  - <sup>(3)</sup> All times should be indicated as Universal Co-ordinated Time (UTC).

4.3 The shipborne equipment should transmit the LRIT information using a communication system which provides coverage in all areas where the ship operates.

<sup>3</sup> Refer to the Assembly resolution A.813(19) on General requirements for electromagnetic compatibility of all electrical and electronic ship's equipment.

4.4 The shipborne equipment should be set to automatically transmit the ship's LRIT information at 6-hour intervals to the LRIT Data Centre identified by the Administration, unless the LRIT Data User requesting the provision of LRIT information specifies a more frequent transmission interval.

## **5 Application Service Providers**

5.1 Application Services Provider(s) (ASPs) providing services to:

- .1 a National LRIT Data Centre, should be recognized by the Contracting Government establishing the centre;
- .2 a Regional or a Co-operative LRIT Data Centre, should be recognized by the Contracting Governments establishing the centre. In such a case, the arrangements for recognizing the ASPs should be agreed amongst the Contracting Governments establishing the centre; and
- .3 an International LRIT Data Centre, should be recognized by the Committee.

5.2 Contracting Governments should provide to the Organization a list with the names and contact details of the ASPs they recognize together with any associated conditions of recognition and thereafter should, without undue delay, update the Organization as changes occur.

5.3 An ASP function should:

- .1 provide a communication protocol interface between the Communication Service Providers and the LRIT Data Centre to enable the following minimum functionality:
  - .1 remote integration of the shipborne equipment into an LRIT Data Centre;
  - .2 automatic configuration of transmission of LRIT information;
  - .3 automatic modification of the interval of transmission of LRIT information;
  - .4 automatic suspension of transmission of LRIT information;
  - .5 on demand transmission of LRIT information; and
  - .6 automatic recovery and management of transmission of LRIT information;
- .2 provide an integrated transaction management system for the monitoring of LRIT information throughput and routing; and
- .3 ensure that LRIT information is collected, stored and routed in a reliable and secure manner.

5.4 The ASP where used should add the data identified in table 2 to each transmission of LRIT information:

**TABLE 2****DATA TO BE ADDED BY AN APPLICATION SERVICE PROVIDER  
AND AT THE LRIT DATA CENTRE**

<b>Parameters</b>	<b>Comments</b>
Ship Identity <sup>(1)</sup>	The IMO ship identification number <sup>(1)</sup> and MMSI for the ship.
Time Stamp 2	The date and time <sup>(2)</sup> the position report is received by the ASP (if used).
Time Stamp 3	The date and time <sup>(2)</sup> the position report is forwarded from the ASP (if used) to the appropriate LRIT Data Centre.
LRIT Data Centre Identifier	The identity of the LRIT Data Centre to be clearly indicated by a Unique Identifier.
Time Stamp 4	The date and time <sup>(2)</sup> the position report is received by the LRIT Data Centre.
Time Stamp 5	The date and time <sup>(2)</sup> the position report is forwarded from the LRIT Data Centre to an LRIT Data User.

Notes: <sup>(1)</sup> See regulation XI-1/3 and Assembly resolution A.600(15) on IMO ship identification number scheme.

<sup>(2)</sup> All times should be indicated as Universal Co-ordinated Time (UTC).

5.5 In addition to the provisions of paragraph 5.3, Administrations, Contracting Governments and the Committee may establish, in relation to the ASPs seeking their recognition, specific requirements as a condition of recognizing a particular ASP.

## **6 Communications Service Providers**

6.1 Communications Service Providers (CSPs) provide services which link the various parts of the LRIT system using communications protocols in order to ensure the end-to-end secure transfer of the LRIT information. This requirement precludes the use of non-secure broadcast systems.

6.2 A CSP may also provide services as an ASP.

## **7 LRIT Data Centre**

7.1 All LRIT Data Centres should:

- .1 establish and continuously maintain systems which ensure, at all times, that LRIT Data Users are only provided with the LRIT information they are entitled to receive as specified in regulation V/19-1;
- .2 collect LRIT information from ships instructed by their Administrations to transmit the LRIT information to the centre;

- .3 obtain, when requested to provide LRIT information transmitted by ships other than those which transmit the information to the centre, LRIT information from other LRIT Data Centres through the International LRIT Data Exchange;
- .4 make available, when requested to provide LRIT information transmitted by ships other than those which transmit the information to the centre, LRIT information transmitted to the centre to other LRIT Data Centres through the International LRIT Data Exchange;
- .5 execute requests received from LRIT Data Users for polling of LRIT information or for change(s) in the interval(s) of transmission of LRIT information by a ship or a group of ships transmitting the information to the centre;
- .6 relay, when required, requests received from LRIT Data Users through the International LRIT Data Exchange to the other LRIT Data Centres for polling of LRIT information or for change(s) in the interval(s) of transmission of LRIT information by a ship or a group of ships not transmitting the information to the centre;
- .7 execute requests received through the International LRIT Data Exchange from other LRIT Data Centres for polling of LRIT information or for change(s) in the interval(s) of transmission of LRIT information by a ship or a group of ships transmitting the information to the centre;
- .8 upon request disseminate to LRIT Data Users the LRIT information they are entitled to receive in accordance with the agreed arrangements and notify the LRIT Data User and the Administration when a particular ship stops transmitting LRIT information;
- .9 archive LRIT information from ships which transmit the information to the centre, for at least one year and until such time as the Committee reviews and accepts the annual report of the audit of its performance by the LRIT Co-ordinator. However, the archived LRIT information should provide a complete record of the activities of the centre between two consecutive annual audits of its performance;
- .10 for LRIT information archived within the last 4 days, send the LRIT information within 30 min of receiving a request;
- .11 for LRIT information archived between 4 and 30 days previously, send the LRIT information within 1 h of receiving a request;
- .12 for LRIT information archived more than 30 days previously, send the LRIT information within 5 days of receiving a request;
- .13 ensure using appropriate hardware and software, that LRIT information is backed-up at regular intervals, stored at suitable off-site location(s) and available as soon as possible in the event of disruption to ensure continuity of service;
- .14 maintain a record of the ships which transmit LRIT information to the centre including name of ship, IMO Ship identification number, call sign and Maritime Mobile Service Identity (MMSI);



- .15 use a standard protocol for communications with the International LRIT Data Exchange;
- .16 use a standard secure transmission method with the International LRIT Data Exchange;
- .17 use a secure authentication method with LRIT Data Users;
- .18 use a standard and expandable message format for communicating with the International LRIT Data Exchange;
- .19 use reliable connections (e.g. TCP) to ensure that the LRIT information is successfully received by the LRIT Data Centres; and
- .20 add the appropriate data identified in table 2 to each transmission of LRIT information collect by the centre.

7.2 The performance of all LRIT Data Centres should be audited by the LRIT Co-ordinator.

7.2.1 All LRIT Data Centres should co-operate and make available to the LRIT Co-ordinator the information required to enable the satisfactory completion of an audit of their performance.

7.3 Notwithstanding the provisions of paragraph 7.1, all LRIT Data Centres should provide to Search and rescue services (SAR services), LRIT information transmitted by all ships located within the geographic area specified by the SAR service requesting the information so as to permit the rapid identification of ships which may be called upon to provide assistance in relation to the search and rescue of persons in distress at sea. The LRIT information should be provided irrespective of the location of the geographic area and should be provided even if the geographic area is outside the search and rescue region associated with the SAR service requesting the information (regulation V/19-1.12 refers).

## **8 National, Regional and Co-operative LRIT Data Centres**

8.1 A Contracting Government may establish a National LRIT Data Centre. A Contracting Government establishing such a centre should provide relevant details to the Organization and thereafter should, without undue delay, update the information provided as and when changes occur.

8.2 A group of Contracting Governments may establish either a Regional or a Co-operative LRIT Data Centre. The arrangements for establishing such a centre should be agreed amongst the Contracting Governments concerned. One of the Contracting Governments establishing such a centre should provide relevant details to the Organization and thereafter should, without undue delay, update the information provided as and when changes occur.

8.3 Upon request, National, Regional and Co-operative LRIT Data Centres may provide services to Contracting Governments other than those establishing the centre.

8.3.1 The arrangements for providing services should be agreed between the LRIT Data Centre and the Contracting Government requesting the provision of the services.

8.3.2 The Contracting Government establishing the National LRIT Data Centre or one of the Contracting Governments establishing the Regional or Co-operative LRIT Data Centre should, if the centre provides services to Contracting Governments other than those which established the centre, provide relevant details to the Organization and thereafter should, without undue delay, update the information provided as and when changes occur.

8.4 National, Regional and Co-operative LRIT Data Centres may also serve as a National, Regional or Co-operative Vessel Monitoring System (VMS) and may require, as VMS, the transmission from ships of additional information, or of information at different intervals, or of information from ships which are not required to transmit LRIT information. VMSs may also perform other functions.

8.4.1 If a National, Regional or Co-operative LRIT Data Centre collects additional information from ships, it should transmit only the required LRIT information to the other LRIT Data Centres through the International LRIT Data Exchange.

## **9 International LRIT Data Centre**

9.1 An International LRIT Data Centre recognized by the Committee should be established.

9.2 Contracting Governments not participating in a National, Regional or Co-operative LRIT Data Centre, or Contracting Governments having an interest in the establishment of an International LRIT Data Centre should co-operate, under the co-ordination of the Committee, with a view to ensuring its establishment.

9.3 Ships, other than those which are required to transmit LRIT information to either a National, Regional or Co-operative LRIT Data Centre, should transmit the required LRIT information to the International LRIT Data Centre.

9.4 An International LRIT Data Centre may, upon request, collect additional information from ships entitled to fly the flag of an Administration on the basis of specific arrangements concluded with the Administration concerned.

## **10 International LRIT Data Exchange**

10.1 An International LRIT Data Exchange recognized by the Committee should be established.

10.2 Contracting Governments should co-operate, under the co-ordination of the Committee, with a view to ensuring the establishment of the International LRIT Data Exchange.

10.3 The LRIT International Data Exchange should:

- .1 route LRIT information between LRIT Data Centres using the information provided in the LRIT Data Distribution Plan;
- .2 be connected to all LRIT Data Centres;
- .3 use a store and forward-buffer to ensure LRIT information is received;
- .4 automatically maintain journal(s) containing message header information only which may be used for:

- .1 invoicing functions and settlement of invoicing disputes; and
- .2 audit purposes;
- .5 archive journal(s), for at least one year and until such time as the Committee reviews and accepts the LRIT Co-ordinator's annual report of the audit of its performance. However, the archived journal(s) should provide a complete record of the activities of the exchange between two consecutive annual audits of its performance;
- .6 prepare, as necessary, performance related statistical information based on the information contained in the journal(s);
- .7 use a standard protocol for communications with LRIT Data Centres;
- .8 use a standard secure access method with the LRIT Data Centres;
- .9 use a standard and expandable message format for communicating with the LRIT Data Centres;
- .10 use reliable connections (e.g. TCP) to ensure that the LRIT information is successfully received by the LRIT Data Centres;
- .11 use agreed protocols to connect to LRIT Data Centres;
- .12 not archive LRIT information; and
- .13 have continuous access to current LRIT Data Distribution Plan.

## **11 LRIT Data Distribution Plan**

11.1 The Organization should establish and maintain the LRIT Data Distribution Plan.

11.2 The LRIT Data Distribution Plan should include:

- .1 a list of Contracting Governments and Search and rescue services entitled to receive LRIT information, and their points of contact;
- .2 information on the boundaries of geographic areas within which each Contracting Government is entitled to receive LRIT information about ships in the area;
- .3 information on any standing orders given by a Contracting Government pursuant to paragraphs 16.1.2, 16.1.3 and/or 16.1.4;
- .4 information supplied by Administrations pursuant to the provisions of regulation V/19-1.8.1.4;
- .5 information supplied by Administrations pursuant to the provisions of regulation V/19-1.9.2;

- .6 a list of ports and port facilities together with the associated geographic co-ordinates (based on WGS 84 datum) located within the territory of each Contracting Government;
- .8 a list of the National, Regional, Co-operative and International LRIT Data Centre(s) and their points of contact; and
- .9 a record indicating which LRIT Data Centre is collecting and archiving LRIT information for each of the Contracting Governments.

## **12 LRIT system security**

12.1 LRIT communications using land-line links should provide for data security using methods such as:

- .1 authorization: Access should only be granted to those who are authorized to see the specific LRIT information;
- .2 authentication: Any party exchanging information within the LRIT system should require authentication before exchanging information;
- .3 confidentiality: Parties running an application server should protect the confidentiality of the LRIT information to ensure that it is not disclosed to unauthorized recipients when it travels across the LRIT system; and
- .4 integrity: Parties exchanging LRIT information should ensure that the integrity of the LRIT information is guaranteed and that no data has been altered.

## **13 LRIT system performance**

13.1 LRIT information should be available to an LRIT Data User within 15 min of the time it is transmitted by the ship.

13.2 On-demand LRIT information reports should be provided to an LRIT Data User within 30 min of the time the LRIT Data User requested the information.

13.3 The quality of service:

$$\frac{\text{Number of delivered reports meeting latency requirements}}{\text{Total number of report requests}} \times 100\%$$

should be:

- .1 95% of the time over any 24-hour period; and
- .2 99% over any 1 month.

## **14 LRIT Co-ordinator**

14.1 The LRIT Co-ordinator should be appointed by the Committee.

14.2 The LRIT Co-ordinator should assist in the establishment of the International LRIT Data Centre and International LRIT Data Exchange by:

- .1 participating in the development of any required technical specifications taking into account the present Performance standard and any relevant decisions of the Committee;
- .2 issuing requests for the submission of proposals for the establishment and operation of the International LRIT Data Centre and International LRIT Data Exchange;
- .3 evaluating the management, operational, technical and financial aspects of the proposals received taking into account the present Performance standard and any other related decisions of the Committee and submitting its recommendations in this respect for consideration by the Committee; and
- .4 participating in the initial developmental testing of the LRIT system and reporting its findings in this respect for consideration by the Committee.

14.3 The LRIT Co-ordinator should perform the following administrative functions:

- .1 upon request, investigation of disputes and operational, technical and invoicing difficulties and make recommendations for their settlement to the parties concerned;
- .2 participation in the testing for the integration of new LRIT Data Centres into the LRIT system and providing relevant information to the Committee; and
- .3 participation in the testing of new or modified procedures or arrangements for communications between the International LRIT Data Exchange and the LRIT Data Centres and providing relevant information to the Committee.

14.4 The LRIT Co-ordinator should undertake a review of the performance of the LRIT system taking into account the provisions of regulation V/19-1, the present Performance standard and any related decisions of the Committee and should report its findings to the Committee at least annually. In this respect, the LRIT Co-ordinator should:

- .1 review the performance of Application Service Providers (or Communication Service Providers when they act as Application Services Providers) providing services to the International LRIT Data Centre;
- .2 audit the performance of all LRIT Data Centres based on archived information and their fee structures;
- .3 audit the performance of the International LRIT Data Exchange and its fee structure, if any; and
- .4 verify that Contracting Governments and Search and rescue services receive the LRIT information they have requested and are entitled to receive.

14.5 The LRIT Co-ordinator should, for the purpose of reviewing the performance of the LRIT system:

- .1 be given the required level of access, by the LRIT Data Centres and the International LRIT Data Exchange, to management, charging, technical and operational data;
- .2 collect and analyse samples of LRIT information provided to LRIT Data Users; and
- .3 collect and analyse statistics compiled by LRIT Data Centres and the International LRIT Data Exchange.

14.6 In addition to reporting to the Committee on the performance of the LRIT system including any identified non-conformities, the LRIT Co-ordinator may make recommendations to the Committee, based on an analysis of its findings, with a view to improving the efficiency, effectiveness and security of the LRIT system.

14.7 Neither the Organization nor any of the Contracting Governments should be responsible for making any direct payments to the LRIT Co-ordinator for the services it may provide. However, Contracting Governments may be required to pay fees to LRIT Data Centres for the LRIT information they request and receive which, for example, may contain elements to offset the costs associated with functions performed by the LRIT Co-ordinator. The LRIT Co-ordinator may recover its costs for the services it provides.

## **15 Administrations**

15.1 Each Administration should decide to which LRIT Data Centre ships entitled to fly its flag are required to transmit LRIT information.

15.2 Each Administration should provide to the selected LRIT Data Centre the following information for each of the ships entitled to fly its flag which is required to transmit LRIT information:

- .1 name of ship;
- .2 IMO Ship identification number;
- .3 call sign; and
- .4 Maritime Mobile Service Identity.

15.3 Upon the transfer of the flag of a ship which is required to transmit LRIT information from another State, the Administration whose flag the ship is now entitled to fly should provide, without undue delay, to the selected LRIT Data Centre in addition to the information specified in paragraph 15.2 the following information:

- .1 the effective date and time (UTC) of transfer; and
- .2 the State whose flag the ship was formally entitled to fly, if known.

15.4 Administrations should, without undue delay, update the LRIT Data Centre as and when changes to the information they have provided under paragraphs 15.2 and 15.3 occur.

15.5 Upon the transfer of the flag of a ship which is required to transmit LRIT information to another State or when the ship is to be taken permanently out of service, the Contracting Government of the State whose flag the ship was entitled to fly hitherto should provide, without undue delay, to the LRIT Data Centre the following information:

- .1 name of ship;
- .2 IMO Ship identification number;
- .3 the effective date and time (UTC) of the transfer, or when the ship was, or will be, taken permanently out of service; and
- .4 the State to which the flag of the ship has been transferred, if known.

## **16 Contracting Governments**

16.1 Each Contracting Government should:

- .1 obtain the LRIT information to which it is entitled to under the provisions of regulation V/19-1, and has requested, from the LRIT Data Centre designated under paragraph 15.1. Contracting Governments which have no ships entitled to fly their flag may receive the LRIT information they are entitled to under the provisions of regulation V/19-1 from any one of the LRIT Data Centres but should select one LRIT Data Centre from which they wish to receive the information;
- .2 if it wishes to receive LRIT information pursuant to the provisions of regulation V/19-1.8.1.1, indicate to the LRIT Data Centre the criteria for receiving such information. If so decided the Contracting Government may give the LRIT Data Centre a standing order regarding the criteria for receiving LRIT information;
- .3 if it wishes to receive LRIT information pursuant to the provisions of regulation V/19-1.8.1.2, indicate to the LRIT Data Centre the name and the IMO Ship identification number of the particular ship and either:
  - .1 the distance from its coast; or
  - .2 the distance from a port; or
  - .3 a point in time,

from when it requires the provision of LRIT information transmitted by the ship. If so decided the Contracting Government may give the LRIT Data Centre a standing order regarding the criteria for receiving LRIT information. If the standing order is a distance from a port, the Contracting Government also has to inform the centre of the name of the port each ship is proceeding to;

- .4 if it wishes to receive LRIT information pursuant to the provisions of regulation V/19-1.8.1.3, indicate the distance from its coast within which it requires the provision of LRIT information transmitted by ships. If so decided, the Contracting Government may give the LRIT Data Centre a standing order regarding the criteria for receiving LRIT information;
- .5 co-operate with a view of resolving any issues in connection with which flag a particular ship is entitled to fly; and
- .6 ensure either the destruction of all received LRIT information which is no longer in use or their archiving in a secure and protected manner.

## **17 Search and rescue services**

17.1 Subject to the provisions of the national legislation of the Contracting Government concerned, search and rescue services should provide information when requested by the LRIT Co-ordinator to enable the holistic review of the performance of the LRIT system and for the investigation of any disputes.

17.2 Subject to the provisions of paragraph 7.3, search and rescue service when it wishes to receive LRIT information pursuant to the provisions of regulation V/19-1.12 should indicate to the LRIT Data Centre the criteria for receiving such information.

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**RESOLUTION MSC.211(81)**  
**(adopted on 19 May 2006)**

**ARRANGEMENTS FOR THE TIMELY ESTABLISHMENT OF THE  
LONG-RANGE IDENTIFICATION AND TRACKING SYSTEM**

THE MARITIME SAFETY COMMITTEE,

RECALLING Article 28(b) of the Convention on the International Maritime Organization concerning the functions of the Committee,

HAVING adopted amendments to the International Convention for the Safety of Life at Sea, 1974, as amended (the Convention) relating to the long-range identification and tracking of ships (SOLAS regulation V/19-1) which, upon acceptance on 1 July 2007, will enter into force on 1 January 2008,

HAVING ALSO adopted Performance standards and functional requirements for the long-range identification and tracking of ships (the Performance standards),

ALSO HAVING agreed with the establishment of *ad hoc* Working Group on engineering aspects of LRIT,

RECOGNIZING the need to put in place arrangements with a view to ensuring the prompt establishment of the International LRIT Data Centre and of the International LRIT Data Exchange as well as the need for testing and confirming the function of the LRIT system as envisaged in the LRIT architecture,

1. INVITES Contracting Governments to the Convention (Contracting Governments) to advise the Committee, at its eighty-second session, of their firm intentions in relation to the establishment of National, Regional and Co-operative LRIT Data Centre(s);
2. INVITES ALSO Contracting Governments to submit proposals on the issues which need to be addressed in relation to the establishment of the International LRIT Data Centre and of the International LRIT Data Exchange or on any other issues relating to the establishment, operation, performance review and audit of the LRIT system for consideration by the Committee at its eighty-second session;
3. AGREES that, at its eighty-second session, the Committee will make the necessary decisions in order to initiate the process for consideration, at its eighty-third session, of the proposals relating to the establishment of the International LRIT Data Centre and of the International LRIT Data Exchange;
4. ALSO AGREES that, at its eighty-second session, the Committee will make the necessary decisions in relation to the assignment of the performance of the functions of the LRIT Co-ordinator;

5. URGES Contracting Governments to promptly put in place the necessary arrangements:
  - .1 so as to be able to submit to:
    - .1 the Organization, the information required by SOLAS regulation V/19-1 and those needed for the establishment of the LRIT Data Distribution Plan not later than 1 January 2008; and
    - .2 the LRIT Data Centre they would be selecting, the information specified in the Performance standards not later than 1 July 2008;and to update such information as and when changes occur;
  - .2 for the smooth integration of the ships entitled to fly their flag into the LRIT system;
6. ALSO INVITES Contracting Government to urge ships entitled to fly their flag to participate in trials and testing of the LRIT system;
7. AGREES ALSO that International LRIT Data Centre and the International LRIT Data Exchange should commence trials and testing of the LRIT system not later than the 1 July 2008;
8. AGREES FURTHER that LRIT Data Centres, other than the International LRIT Data Centre, should be in a position to commence the integration of ships into the LRIT system as soon as possible after 1 July 2008 and, preferably, not later than 1 October 2008;
9. REQUESTS the Secretariat to provide information for consideration by the Committee, at its eighty-second session, on the arrangements for the establishment and maintenance of the LRIT Data Distribution Plan so as to enable Contracting Governments to commence populating the plan with data as from 1 January 2008;
10. FURTHER RECOMMENDS that Contracting Governments to take early appropriate actions to ensure that all necessary infrastructures are in place, timely, for the establishment of the LRIT system;
11. ALSO URGES Contracting Governments, in consultation with the industry, to seek, if feasible, to implement the provisions of SOLAS regulation V/19-1 before the dates its provision are envisaged to become effective;
12. DECIDES to review, in the light of the developments, the aforesaid arrangements and to amend them as necessary.

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