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RADIOCOMMUNICATIONS AND
SEARCH AND RESCUE
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Agenda item 12

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MEASURES TO ENHANCE MARITIME SECURITY

Report of the Working Group

Introduction

1 The Working Group on Measures to enhance maritime security met from 7 to 10 February 2005, under the chairmanship of Mr. Robert Markle (United States).

2 The Working Group was attended by delegations from the following Contracting Governments:

ALGERIA	LIBERIA
ARGENTINA	MALTA
AUSTRALIA	MARSHALL ISLANDS
BAHAMAS	NETHERLANDS
BAHRAIN	NIGERIA
BRAZIL	NORWAY
BULGARIA	PANAMA
CANADA	POLAND
CHINA	PORTUGAL
DEMOCRATIC REPUBLIC OF THE CONGO	REPUBLIC OF KOREA
DENMARK	RUSSIAN FEDERATION
EGYPT	SAUDI ARABIA
FINLAND	SINGAPORE
FRANCE	SPAIN
GERMANY	SWEDEN
GREECE	TUNISIA
ICELAND	TURKEY
IRAN (ISLAMIC REPUBLIC OF)	UNITED KINGDOM
IRELAND	UNITED STATES
ISRAEL	UKRAINE
ITALY	URUGUAY
JAPAN	VENEZUELA

by observers from the following intergovernmental organizations:

EUROPEAN COMMISSION (EC)
INTERNATIONAL MOBILE SATELLITE ORGANIZATION (IMSO)

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and by observers from the following non-governmental organizations:

INTERNATIONAL CHAMBER OF SHIPPING (ICS)
INTERNATIONAL CONFEDERATION OF FREE TRADE UNIONS (ICFTU)
INTERNATIONAL ASSOCIATION OF MARINE AIDS TO NAVIGATION AND
LIGHTHOUSE AUTHORITIES (IALA)
INTERNATIONAL RADIO MARITIME COMMITTEE (CIRM)
INTERNATIONAL SAILING FEDERATION (ISAF)
THE INTERNATIONAL MARINE CONTRACTORS ASSOCIATION (IMCA)
WORLD NUCLEAR TRANSPORT INSTITUTE (WNTI)

Terms of reference

3 The Working Group on Measures to enhance maritime security, taking into account decisions of, and comments and proposals made in Plenary, should:

Long-range identification and tracking of ships

- .1 continue the development of the draft of the proposed new regulation of SOLAS chapter XI-2 on LRIT, taking into account the decisions and instructions of MSC 78 and MSC 79 and bearing in mind that the ultimate objective is to extend, at the appropriate time, the purpose and scope of LRIT to include safety and environmental protection applications. In this respect, the Working Group should, *inter alia*, ensure that the LRIT system is capable of:
 - .1 having three classes of users, each one of them entitled to receive different LRIT data;
 - .2 being switched off on board in cases where the Administration considers that the receipt of information by another Contracting Government may compromise the safety or security of the ship or of the Administration; and
 - .3 preventing a named coastal State from receiving LRIT information, where requested by the Administration, even if the coastal State is otherwise entitled to receive that information; and
- .2 develop conditions which the Committee may impose on a LRIT data service provider when considering its approval; and
- .3 develop a robust intergovernmental oversight scheme for the approved LRIT data service providers through which the adherence of LRIT data service providers to the conditions imposed on them, at the stage of their approval, can be verified in a manner to the satisfaction of all SOLAS Contracting Governments;
- .4 consider the proposals of Brazil (COMSAR 9/12/3) and advise the Sub-Committee on the recommended actions;
- .5 consider the proposals of the Republic of Korea (COMSAR 9/12/5) and advise the Sub-Committee on the recommended actions;
- .6 consider the proposal of Cyprus *et al* (COMSAR 9/12/7) and advise the Sub-Committee on the recommended actions;

- .7 consider the proposals of the United States (COMSAR 9/12/8) and advise the Sub-Committee on the recommended actions;

Related documents: COMSAR 9/12/3 (Brazil), COMSAR 9/12/5 (Republic of Korea), COMSAR 9/12/7 (Cyprus *et al*), COMSAR 9/12/8 (United States), COMSAR 9/INF.4 (Norway), COMSAR 9/INF.6 (IALA) and COMSAR 9/INF.8 (United States).

Priority of ship security alerts

- .8 consider the priority of ship security alerts with a view of advising Sub-Committee on the required actions;

Related documents: SOLAS regulation XI-2/6, resolutions MSC.136(76) and MSC.147(77), MSC 79/5/6 (Italy) and COMSAR 9/12/6 (Italy).

Development of a test message protocol for testing ship security alert systems

- .9 develop a test message protocol for testing ship security alert systems;

Related documents: SOLAS regulation XI-2/6, ISPS Code, resolutions MSC.136(76) and MSC.147(77), COMSAR 9/12/4 (Republic of Korea).

Proposed amendments to resolution A.706(17) on World-Wide Navigational Warning Service

- .10 consider the proposal for amending resolution A.706(17) for the purpose of including therein security-related provisions with a view of advising the Sub-Committee on the recommended actions;

Related documents: Resolutions A.705(17) and A.706(17) and COMSAR 9/12/2 (France).

Revision of MSC/Circ.623/Rev.3 on Guidance to ship owners and ship operators, shipmasters and crews on preventing and suppressing acts of piracy and armed robbery against ships

- .11 review, in the context of MSC/Circ.1073, paragraphs 25 to 31 on Radio watchkeeping and responses of MSC/Circ.623/Rev.3 with a view of advising the Sub-Committee of the recommended action; and

Related documents: MSC/Circ.623/Rev.3 and MSC/Circ.1073.

Reporting

- .12 submit by Thursday, 10 February 2005, its report for the consideration of the Sub-Committee.

Priority of ship security alerts

4 The Working Group considered the proposals of Italy (documents MSC 79/5/6 and COMSAR 12/9/6) on the priority of ship security alerts, taking account of the discussions in Plenary and the guidance on SSAS given by the Committee (MSC/Circs.1072, 1073,

and 1109/Rev.1). The Working Group concluded that as the message priority system applied to satellite communications, and given the diversity of SSAS systems, there was no need to develop a message priority system for ship security alerts.

5 As an alternative to a message priority system for ship security alerts, the delegation of Italy proposed, and the Working Group agreed, that:

1. Ship Security Alert System (SSAS) communication service providers should deliver Ship Security Alert (SSA) messages without delay so as to permit the relevant Competent Authorities to take appropriate action.
2. An SSA should be transmitted to more than one recipient, as recognized by the Administration, in order to enhance the resilience of the Ship Security Alert System.
3. The Administration should ensure that its designated proper recipients of SSA are capable of processing the information received with the highest priority. This may require the recipients to have a twenty-four hour, seven day a week system of operation in place.

Development of a test message protocol for testing ship security alert systems

6 The Working Group considered the proposals of the Republic of Korea (COMSAR 9/12/4) with regard to the development of a test message protocol for testing ship security alert systems (SSASs). The Working Group agreed that although there was a need for SSAS to be subject to testing, given the multiplicity of SSAS, it would be impractical to develop a test protocol to cover all systems. It was further noted that many systems already in use had test systems in place.

7 The Working Group concluded that test procedures should not be prescriptive. Rather it was agreed that test procedures for SSAS were a matter for individual Administrations.

Proposed amendments to resolution A.706(17) on World-Wide Navigational Warning Service

8 The Working Group, in considering the proposals of France (COMSAR 9/12/2) on the proposal for amending resolution A.706(17) for the purpose of including security-related provisions therein, noted the discussion in Plenary that resolution A.706(17) in annex 2 specified the procedure to be followed for amending annex 1 to the resolution.

9 The IMO Procedure for amending the World-Wide Navigational Warning Service provided that:

“1 Proposed amendments to the world-wide navigational warning service should be submitted to the Maritime Safety Committee for evaluation.

2 Amendment to the service should normally come into force at intervals of approximately two years or at such longer periods as determined by the Maritime Safety Committee at the time of adoption. Amendments adopted by the Maritime Safety Committee will be notified to all concerned, will provide at least 12 months notification and will come into force on 1 January of the following year.

3 *The agreement of the International Hydrographic Organization and the active participation of other bodies should be sought according to the nature of the proposed amendments.*

4 *When proposals for amendments have been examined in substance, the Maritime Safety Committee will entrust the Sub-Committee on Radiocommunications with the ensuing editorial tasks.*

5 *The NAVAREA schedule of broadcast times and frequencies, not being an integral part of the service and being subject to frequent changes, will not be subject to the amendment procedures.”*

10 The Working Group noted that Plenary had been advised that resolution A.706(17) had been adopted in association, and closely related to, resolution A.705(17) on Promulgation of Maritime Safety Information. Paragraph 7 of the Recommendation on Promulgation of Maritime Safety Information, which is annexed to resolution A.705(17), prescribed a procedure for amending the resolution which was similar to that stipulated for resolution A.706(17). Thus, if resolution A.706(17) is to be amended with a view of including security-related provisions therein, it was probable that the Committee would need to look at the need of revising, at the same time, resolution A.705(17) to include security-related provisions therein.

11 The Working Group did not pursue the matter further.

Revision of MSC/Circ.623/Rev.3 on Guidance to ship owners and ship operators, shipmasters and crews on preventing and suppressing acts of piracy and armed robbery against ships

12 In reviewing paragraphs 25 to 31 of MSC/Circ.623/Rev.3 in the context of MSC/Circ.1073, noting the discussion in Plenary and noting that no Parties had made submissions in this regard as requested by MSC 78, the Working Group concluded that there was no need to amend MSC/Circ.623/Rev.3.

GENERAL DISCUSSION ON LRIT

13 In opening the general discussion on the long-range identification and tracking (LRIT) of ships, the Working Group considered the summary of discussions of COMSAR 8, MSC 78 and MSC 79 and the proposals of Brazil (COMSAR 9/12/3), the Republic of Korea (COMSAR 9/12/5), Cyprus, Luxembourg, the Netherlands, Spain and Sweden (COMSAR 9/12/7), the United States (COMSAR 9/12/8) and IALA (COMSAR 9/INF.6).

14 The Working Group decided to review the draft regulation on LRIT (annex 14 to COMSAR 8/18) and the need to develop performance standards on LRIT as directed by MSC 78, however, it was noted that no specific submissions had been received to date, although performance standards were referred to in the proposals of the United States (COMSAR 9/12/8).

15 The Working Group considered the proposals of Brazil (COMSAR 9/12/3) which, *inter alia*, proposed that the LRIT system should be decentralized in its execution by making use of a co-ordinating and planning intergovernmental central body and of the existing ship reporting systems for search and rescue purposes, as prescribed in chapter 5 of the 1979 SAR Convention. In particular, Brazil suggested that a central body should be responsible for technical oversight, the security information, and the various ship reporting systems for the identification and tracking of ships within specific areas. Before leaving port, the ship should provide the central body with its voyage plan. Upon departure, the ship should give its position to the reporting

system responsible for that area, and as the ship changed area, it should be required to inform both reporting systems. This information should be required on a daily basis and transmitted once only to the destination area. Whenever a SOLAS Contracting Government needed information regarding a ship, the SOLAS Contracting Government would request that information from the central body, which should verify the validity of the request. The central body should then advise the ship reporting system in charge of tracking a ship at the time to do the “polling” and pass the information to the requesting State. Information among data systems would only be exchanged upon request of the ship, the Company, the flag State or in case of a search and rescue incident. Brazil stated that the proposal was intended as an alternative to the suggestions submitted so far and centred on the effort for sharing safety and security resources, decentralizing the execution of existing search and rescue dedicated ship reporting systems.

16 The observer from ICS recalled that previous deliberations in the COMSAR Sub-Committee and the MSC had been in favour of automatic systems that did not require the ships to make manual inputs and that the Brazilian proposals would require manual inputs which would be labour intensive and which represented “a failure to step forward into an automated age”.

17 The observer from ICFTU raised concerns on the control of the information and noted that there had been prosecutions based upon falsely input information, raising concerns that mistakes could lead to further prosecutions and arguing in favour of automated systems.

18 The delegation of Australia raised the issue of the complexity of having a single international controlling body and proposed that it may be better to look at a decentralized system.

19 In considering the proposals of the Republic of Korea (COMSAR 9/12/5), the Working Group noted that the Republic of Korea had established, as a part of its General Information Centre on Maritime Safety and Security project, the Korean Vessel Monitoring System (KVMS). The KVMS collects from ships under the flag of the Republic of Korea, a variety of information transmitted by the ship’s Inmarsat-C Ship Earth Stations. The Republic of Korea suggested that the existence and the benefits of national ship reporting or vessel monitoring systems needs to be recognized and the development of LRIT should not adversely affect such systems. In addition, they suggested that arrangements needed to be made to allow the transfer of data between any national ship reporting or vessel monitoring system and the LRIT system and for covering the associated costs.

20 Noting that there had been considerable support in Plenary for the proposals of the Republic of Korea, the Working Group concluded that whereas there were no objections to the use of national vessel monitoring systems (NVMS) for LRIT *per se*, the information gathered by NVMS should be transferable in a transparent, seamless and timely way.

21 The Working Group considered the proposals of Cyprus, Luxembourg, the Netherlands, Spain and Sweden (COMSAR 9/12/7) to fully integrate the LRIT principles into the IMO safety of navigation policy while maintaining, in addition, the security aspects of this item. In their view while maintaining the LRIT as an important and integral element of maritime security, the definition of the international scheme for LRIT should take into account the previous developments concerning exchange of information in the maritime safety field. Cyprus *et al* suggested that the implementation of LRIT should also be beneficial to maritime search and rescue and should therefore be part of the global radiocommunication requirements for enhancing the global SAR coverage. They proposed to introduce the main principles of LRIT into SOLAS chapter V to cover safety, pollution prevention and security as this would be in line with the

decisions of the 2002 SOLAS Conference relating to AIS, which was intended both for safety and security purposes, and which was now fully covered by SOLAS chapter V. Finally, they suggested that in parallel, SOLAS chapter IV should also be amended to reflect such requirements.

22 The Working Group recalled that there had been extensive discussion on the issue in Plenary, and that numerous delegations had supported the proposals to include both safety and environmental concern in addition to security, expressing the view that the technical specifications needed to be agreed before the carriage requirements could be finalized, and that widening the scope of LRIT would not delay the implementation of LRIT. Some delegations had expressed the view that the scope of LRIT should be extended to address safety and environmental protection issues, but only after the security issues were addressed. However, it had been noted that there was no overall opposition to the proposals of the document.

23 The Working Group considered the proposals of the United States (COMSAR 9/12/8) addressing the functional requirements, communications, infrastructure, oversight and funding issues of LRIT. In the document, the United States offered to develop and fund initial LRIT data service provider functions and to host the LRIT system based on the design of Amver until the Organization can develop more permanent arrangements, as a means of “jump starting” the process.

24 The delegation of the United States advised that the annex to COMSAR 9/12/8 proposed some functional requirements for LRIT infrastructure, based on four key elements: shipboard; ship-shore link; communications provider; and LRIT data centre.

25 The delegation of Canada stated that Canada required their ships to use Amver and supported the proposals of Brazil, outlined above, in that other reporting systems could also fulfil similar roles.

26 During the subsequent discussions there was general agreement that an automatic reporting system was imperative and that it was necessary to establish the functional requirements and/or performance standards for the system and then look at possible service providers.

FUNCTIONAL REQUIREMENTS FOR LRIT – INITIAL DISCUSSIONS

27 In the initial discussions to consider the functional requirements for LRIT, the Working Group considered that it may be possible to develop an international LRIT system with multiple providers, as opposed to a single provider. In considering whether to have a single co-ordinating body, or some form of a co-ordinating committee to collect LRIT information, it was agreed that some form of oversight system was required.

28 The issue of the confidentiality of the information was also discussed. It was agreed that it was essential that the information be controlled as it could be both security related and commercially sensitive. The issue of the ownership of the information and who had responsibility for its protection was also raised as an issue for discussion.

29 In further discussing the co-ordinating body for LRIT the question was raised as to whether this should be a data centre providing information or whether it would act as a means to link Contracting Governments with Tracking Services. If the co-ordinating body was not collecting the data, it would be dependent upon others to provide the information. It was noted that many flag States did not have the capability to provide LRIT data. It was suggested that an

international body could have an oversight or operational control role, rather than actually operate the centre. It may also have to consider payments, cash flows, bad debt provisions and other funding issues.

30 On the issue of billing, it has been agreed that Contracting Governments would have to pay for the services provided. Ships would be responsible for paying for any hardware.

31 In considering the question of whether all requests should go through the international data centre, it was agreed that flag States should be able to go directly to the LRIT service provider for information on ships flying their flag, without reference to the co-ordinating body.

32 The issue of reporting frequency and the need for a polling system was also discussed. The Working Group was in favour of a simple system with regular reports, automatically generated for security purposes. The figures in the draft regulation (paragraph 3.2 to annex 1 to this report) were taken as a reasonable guide for security purposes, however it was recognized that these may well be different for other applications of LRIT. It was recognized that not all satellite systems can do polling, and that there may be a difficulty in obtaining LRIT information in Polar regions.

DRAFT AMENDMENTS TO CHAPTER XI-2 OF THE CONVENTION

33 The Working Group reviewed the proposed preliminary draft amendments to Chapter XI-2 of the SOLAS Convention, given at annex 14 to COMSAR 8/18, taking into account the decisions of the Committee at its seventy-eighth and seventy-ninth sessions.

34 The Working Group discussed draft paragraph 3.3.1 in respect of the ability of the LRIT system to “prevent” transmission of false and inaccurate information. It was agreed that LRIT systems should be designed so as to prevent transmission of false or inaccurate information in normal operation, but the Working Group recognized that no design could defeat a skilled and determined effort to transmit false or inaccurate information. The Working Group decided to retain the word “prevent” as the best way to convey the intention of this paragraph. The Working Group did decide to delete the words “any form of [unauthorized] intervention leading to” from paragraph 3.3.1, since the transmission of false or inaccurate information is not wanted under any circumstances.

35 The Working Group decided to delete paragraph 3.4, since the prohibition on transmitting LRIT information to other ships is adequately addressed in paragraph 3.3.2, which prohibits transmission of LRIT information to recipients other than those recognized by the Organization.

36 The Working Group decided to put paragraph 3.4.3 (formerly paragraph 3.5.3) in square brackets, indicating that it should be considered for deletion. The Committee had instructed COMSAR 9 to ensure that the LRIT system is capable of preventing a named coastal State from receiving LRIT information, where requested by the Administration, even if the coastal State is otherwise entitled to receive that information. Accordingly, the Working Group added paragraph 5*bis* to the draft regulation as a function of the LRIT Co-ordinator and the Data Centre. With this provision in place, the Working Group generally agreed that attempting to prevent certain Contracting Governments from receiving LRIT information by switching off a ship’s LRIT system was not necessary, and was also not advisable, since it would also prevent the flag State from receiving LRIT information from its ships. There was also doubt that the onboard equipment could meet the requirement of the last sentence in the paragraph to provide a secure communication indicating that it had been switched off, after it had been switched off. The Working Group deleted a similar sentence from paragraph 3.4.2.

37 The Working Group decided to delete the second sentence of paragraph 3.5 (formerly 3.6) because it was not reasonable to expect that a malfunctioning device could reliably send a secure communication indicating that it was malfunctioning. It was agreed, however, that a malfunction should be indicated by the equipment on-board. All remaining square brackets were deleted.

38 The Working Group decided to delete former paragraph 3.11 requiring type approval of equipment by the Administration. In consideration of the numerous Tracking Services that could be used to provide LRIT information, development of type approval standards could be an enormous task, and in any case, the Tracking Services were likely to be in a better position to prescribe the shipboard equipment required to work reliably with their service.

39 The Working Group did not discuss the distance for which LRIT information should be provided to a coastal State by ships not intending to enter a port facility under the jurisdiction of a coastal State (paragraph 5.3).

40 The Working Group recognized the importance of limiting the use of LRIT information. But, paragraph 6.3 reserves the use of LRIT solely and exclusively for the purpose of enhancing security. Bearing in mind that the Committee has also authorized the use of LRIT information for the purpose of rescue of persons in distress at sea, the words “solely and exclusively” in this paragraph were placed in square brackets. The phrase “or for other purposes recognized by the Organization” was added in square brackets at the end of the paragraph. The final wording for this paragraph should be resolved when it is determined what other uses LRIT information could be used for, and when the LRIT system performance standard is completed provided that this does not delay the adoption, for security purposes, of the proposed regulation.

41 The Working Group revised paragraph 7 to clearly indicate that the Search and Rescue services of Contracting Governments could use LRIT information in relation to the rescue of persons in distress at sea, and not merely “seek” to use LRIT information.

42 The Working Group noted the decision taken that from the security point of view, the only information which need to be provided by a ship are the identity of the ship, its location (latitude and longitude) and the time and date of the position. Some members of the Working Group were of the opinion that it would be beneficial to include the ship’s destination and scheduled time of arrival. It was noted that under the present arrangement, the ship indicates its intention to enter a port to the port state through some means other than the LRIT system. When the port state requests information on the ship from the LRIT system, there is no way for the LRIT Tracking Service and/or LRIT Co-ordinator to confirm that the State is a port State in relation to the ship. Some members of the Working Group noted that the addition of destination and scheduled time of arrival to the LRIT system would require manual input, which would conflict with the requirement for a fully automated system. The Working Group agreed that this point needed to be addressed.

43 The possibility of requiring the use of encrypted data was discussed. The Working Group noted that the communications are referred to as “secure” and “protected” in several places in the draft regulation and that this was as far as the regulation should go in this regard.

44 In addition, The Working Group made a number of editorial revisions, including the introduction of the acronym “LRIT” where “identification and tracking” information was referenced.

45 The revised draft revisions to Chapter XI-2 of the Convention are in annex 1.

Development of performance standards for the long-range identification and tracking system for ships

46 The Working Group noted that the draft amendments to Chapter XI-2 of the Convention included a reference to performance standards for the LRIT system. Since there were no proposed standards submitted to this session, the Working Group undertook to develop a preliminary draft resolution containing performance and operational standards for the LRIT system.

47 The Working Group began its discussions by reviewing different concepts for the operation and performance of the LRIT system. IMSO described a system which would rely on different LRIT service providers to collect data from ships. This data would be forwarded to an international LRIT database overseen by a co-ordinating organization such as IMSO. The co-ordinating organization would be responsible for distributing LRIT information to Contracting Governments as required. The co-ordinating organization would also handle the billing of LRIT information recipients, and the payment of the various service providers. The IMSO's plan would assure the robustness of the database by mirroring it in three locations worldwide. This would ensure that data would not be lost in the event that a single database location were put out of service. It would also provide for separate operating databases in different locations in case any one location were out of service for maintenance, or any other reason.

48 The United States described a system similar to the IMSO proposal, except that it stressed the advantages of automation to reduce the cost of collating and distributing information, and stressed the need for secure communications using a public key infrastructure. The proposal also included the possibility that Contracting Governments could go directly to LRIT Providers for data, without having to go through the international co-ordinator or database. This route for data distribution could take place in the event that the Contracting Government knew which ships it wanted LRIT information for, and the LRIT provider.

49 The Working Group encouraged IMSO and the United States to ensure that their proposals were brought to the attention of MSC 80 formally, as written documents, so that they could be properly taken into account.

50 The Working Group agreed that any LRIT system would require oversight and that this body would need to be answerable, in Plenary, to the Organization.

51 The delegation of the United States in drawing attention to the need to maximize the use of technology to reduce costs, reiterated the offer by the United States (COMSAR 9/12/8) to use an Amver-based system to provide interim LRIT services.

52 During the discussions, the Working Group agreed that any LRIT system would need to address how a port State could establish to that it was a port State in respect of any particular ship.

53 The delegation of Liberia expressed concern that more service providers may reduce security. It was noted that the use of public key encryption could address the security concerns in this regard.

54 The Working Group considered the issue of the signal priority for LRIT messages and concluded that there was no requirement for LRIT messages to have a priority higher than routine. However it was later noted that an existing provision in ITU regulation 33-4 confers safety priority for ship reporting communications.

55 With these proposals as background and drawing on submissions to this session and previous decisions of the Committee, the Working Group prepared the preliminary draft resolution on Performance standards and operation of the international Long-Range Identification and Tracking system for ships at annex 2. The preliminary draft resolution includes an overview of the system, a description of the functions of the LRIT Co-ordinator and the LRIT Tracking Services, the functional requirements of the LRIT Data Centre, the technical requirements for the shipboard terminal, and the functional requirements of the ship-to-shore telecommunications system. Bearing in mind that the LRIT system might eventually be used for purposes other than security, the preliminary draft resolution was drafted in a way that it could be referenced by an instrument such as MARPOL, and not just the SOLAS Convention. The Working Group's discussions are summarized in the following paragraphs.

56 The Working Group discussed the concept put forward by the United States that would allow Contracting Governments to receive LRIT information directly from LRIT Tracking Services, bypassing the international LRIT Co-ordinator. There was general agreement that Administrations should be able to do this for ships flying their flag. However, no agreement could be reached on whether any Contracting Government could do this for any ship for which they are entitled to obtain LRIT information. It was noted that while it would be a fairly simple matter for LRIT Tracking Services to provide this information to Administrations for their ships, it would require LRIT Tracking Services to duplicate or have direct access to some of the international database, to ensure that Contracting Governments were authorized to receive information they requested. The square brackets in paragraph 1.3 of the preliminary draft resolution reflect the need to take a decision on this issue.

57 The Working Group was unable to agree on whether or not the LRIT Data Centre should have the capability to archive LRIT information. Some delegations were in favour of having the capability of storing up to 40 days of LRIT information. Others stated that archiving of data should be done by the Contracting Governments, if they want an archive. Another suggestion was that Governments could contract with the LRIT Co-ordinator or Data Centre to maintain an archive for them. Paragraph 4.3 is in square brackets to indicate that a decision is needed on this point. In the context of wider discussions on the storage of LRIT information, the delegation of Australia noted that LRIT information in the public domain becomes intelligence and that national security services may wish to have an input into the handling of such material.

58 The Working Group was unable to agree on whether or not there should be a requirement for LRIT information latency, and if there should be, what the requirement should be. Some delegates thought that it was important that the data available should be near real-time. Others thought that a latency of up to one hour would be sufficient. Still others thought that no information or latency restriction was required due to the formulation used in the draft SOLAS regulation.

59 A number of issues were not completely resolved to the satisfaction of the Working Group during this session. The Working Group agreed to request the Sub-Committee to establish a Correspondence Group, under the leadership of the United States, to address the outstanding issues and to report back to the Sub-Committee at its tenth session, taking into account any further instructions of the Committee. A number of unresolved items were incorporated into the proposed terms of reference for Correspondence Group (annex 3 to this report).

Action requested of the Sub-Committee

60 The Sub-Committee is invited to consider the report of the Working Group and to:

- .1 note the discussion in connection with the priority of SSAS messages (paragraphs 4 and 5) and invite the Committee to consider issuing appropriate guidance to Contracting Governments, to the effect that:
 - .1 Ship Security Alert System (SSAS) communication service providers should deliver Ship Security Alert (SSA) messages without delay so as to permit the relevant Competent Authorities to take appropriate action;
 - .2 an SSA should be transmitted to more than one recipient, as recognized by the Administration, in order to enhance the resilience of the Ship Security Alert System; and
 - .3 the Administration should ensure that its designated proper recipients of SSA are capable of processing the information received with the highest priority. This may require the recipients to have a twenty-four hour, seven day a week system of operation in place;
- .2 concur with the view of the Working Group that test procedures for SSAS were a matter for individual Administrations (paragraphs 6 and 7);
- .3 note the Working Group's decision not to propose amendments to resolution A.706(17) on World-Wide Navigational Warning Service (paragraphs 8 to 11);
- .4 agree with the conclusion of the Working Group that there is no need to amend MSC/Circ.623/Rev.3 in the context of MSC/Circ.1073 (paragraph 12);
- .5 note the discussions in connection with long-range identification and tracking of ships (paragraphs 13 to 59);
- .6 note as a basis for further discussion and development the amendments to the revised proposed draft amendments to SOLAS, and forward it to the Committee, as a work in progress, for further consideration (paragraph 45 and annex 1);
- .7 note as a basis for further discussion and development the proposed performance standards for the long-range identification and tracking system for ships, and forward it to the Committee, as a work in progress, for further consideration (paragraph 55 and annex 2);
- .8 establish a Correspondence Group, under the co-ordination of the United States, to address the outstanding issues and to report back to the Sub-Committee at its tenth session, taking into account any further instructions of the Committee;
- .9 approve the proposed terms of reference for the Correspondence Group (paragraph 59 and annex 3);
- .10 extend the target date of the work programme item until [2006]; and
- .11 approve this report in general.

ANNEX 1

**PROPOSED PRELIMINARY DRAFT AMENDMENTS TO THE
INTERNATIONAL CONVENTION FOR THE SAFETY OF LIFE AT SEA, 1974**

CHAPTER XI-2

SPECIAL MEASURES TO ENHANCE MARITIME SECURITY

1 The following new regulation [XX] is added after existing regulation [XY]:

“Regulation [XX]

Long-range identification and tracking (LRIT) of ships

1 All ships, except those specified in paragraph 2, shall be fitted with ~~{means}~~ a **system** to automatically transmit information to enable, subject to the provisions of paragraph 5, the identification and tracking of the ship by Contracting Governments, as follows:

- .1 ships constructed on or after [DD MM YY];
- .2 ships constructed before [DD MM YY] and certified for operations in Sea Areas A1 and A2, as defined in regulation IV/2.1.12 and IV/2.1.13, not later than the first survey of the radio installation after [DD MM YY];
- .3 ships constructed before [DD MM YY], certified for operations in Sea Areas A1, A2 and A3, as defined in regulation IV/2.1.12, IV/2.1.13 and IV/2.1.14, and fitted with an Inmarsat ship earth station, as a part of compliance with the provisions of regulation IV/10, which is capable of automatically transmitting **LRIT** ~~identification and tracking~~ information, not later than [DD MM YY];
- .4 ships constructed before [DD MM YY] and certified for operations in Sea Areas A1, A2 and A3, as defined in regulation IV/2.1.12, IV/2.1.13 and IV/2.1.14, which are not fitted with an Inmarsat ship earth station, as a part of compliance with the provisions of regulation IV/10, not later than the first survey of the radio installation after [DD MM YY]; and
- .5 ships constructed before [DD MM YY] and certified for operations in Sea Areas A1, A2, A3 and A4, as defined in regulation 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 [DD MM YY]. However, these ships shall comply with the provisions of subparagraphs .3 and .4 whilst they operate within Sea Areas A1, A2 and A3 and they do not proceed to Sea Area A4.

2 Ships, irrespective of the date of construction, certified for operations exclusively in Sea Area A1, as defined in regulation IV/2.1.12, shall not be required to comply with the provisions of this regulation.

3 The ~~means~~[system] of transmitting information to enable the identification and tracking of a ship:

- .1 shall be capable of automatically transmitting the identity of the ship, its position (latitude and longitude) and the date and time position (hereafter referred to as LRIT information);
- .2 shall be capable of providing information that is, at a minimum, current within:
 - .1 [4] hours when the ship is [300] nautical miles or more from the ~~coast~~ of a Contracting Government; and
 - .2 [1] hour when the ship is less than [300] miles from the ~~coast~~ of a Contracting Government;
- .3 shall be so designed and constructed to prevent:
 - .1 ~~any form of [unauthorised] intervention leading to~~ the transmission of false or inaccurate information; and
 - .2 the transmission of any information to ~~recipients~~ a receiver other than those ~~[approved]~~ recognized by the Organization;
- ~~.4 shall not transmit the information to any other ships;~~
- .54 shall be capable of being switched off on board ~~or otherwise be capable of preventing access:~~
 - .1 where international agreements, rules or standards provide for the protection of navigational information;
 - .2 in cases where operation is considered by the master to compromise the safety or security of the ship. ~~The [means][system] shall have the capability of providing a secure communication to indicate this action.~~ The master shall send a communication to the Administration which shall inform the central data authority and LRIT tracking service; [and]
 - .3 in cases where the Administration considers that the receipt of information by another Contracting Government may compromise the safety or security of the ship or of the Administration. The system should have the capability of providing a secure communication to indicate this action;]
- [.65 shall be capable of indicating on-board the ship ~~that~~when it malfunctions[-] [The [means][system] shall have the capability of providing a secure communication to indicate that it malfunctions];-]
- .76 shall ensure that the information transmitted by the ship is protected, during transmission from the ship, from unauthorized access or disclosure;

- .87 shall ensure that the ship does not incur any cost when it is either requested to transmit or is transmitting information for LRIT identification and tracking purposes; ~~and~~
- .98 shall conform to performance standards not inferior to those adopted by the Organization; ~~and~~
- .109 shall be provided with energy from sources that comply with the provisions of regulation IV/13;
- ~~.11 shall be of a type approved by the Administration in accordance with the performance standards adopted by the Organization.~~

4 The communication system and infrastructure used for receiving from ships, storing and disseminating LRIT information, subject to the provisions of paragraph 5, ~~identification and tracking information~~ shall conform to performance standards not inferior to those adopted by the Organization and shall be ~~recognized~~ ~~approved~~ by the Organization.

5 Contracting Governments, subject to the provisions of paragraphs ~~5bis~~, 6 and 7, shall be able to receive LRIT ~~identification and tracking~~ information transmitted by ships as follows:

- .1 the Administration shall be able to receive LRIT ~~identification and tracking~~ information for all ships entitled to fly its flag irrespective where such ships may be located; ~~and~~
- .2 a Contracting Government shall be able to receive LRIT ~~identification and tracking~~ information from all ships, irrespective of the flag such ships are entitled to fly, which have indicated to that Contracting Government an intention to enter a port facility under the jurisdiction of the Contracting Government. Contracting Governments shall specify, and shall communicate to the Organization, either the distance from their coast or the period of time prior to the expected time of arrival of the ship in a port facility under their jurisdiction, during which they require the provision of LRIT ~~identification and tracking~~ information. The Organization shall circulate the communications received for the information of all Contracting Governments; ~~and~~
- .3 in addition to subparagraph .2, a Contracting Government shall be able to receive LRIT ~~identification and tracking~~ information from all ships, irrespective of the flag such ships are entitled to fly, navigating within a distance of [100][200][2,000] nautical miles of its coast.

5bis Administrations shall be able to prevent a named Contracting Government from receiving LRIT information on ships flying their flag even if the Contracting Government is otherwise entitled to receive that information.

- 6 Contracting Governments shall, at all times:
- .1 recognize and respect the commercial confidentiality and sensitivity of any ~~LRIT identification and tracking~~ information they may receive;
 - .2 protect the ~~LRIT identification and tracking~~ information they may receive from unauthorized access or disclosure;
 - .3 use the ~~LRIT identification and tracking~~ information they may receive [solely and exclusively] for the purpose of enhancing their security [or for other purposes recognized by the Organization];
 - .4 use the ~~LRIT identification and tracking~~ information they may receive solely and exclusively for peaceful purposes; and
 - .5 cover all communication cost associated with the provision to them of any ~~LRIT identification and tracking~~ information they have requested to receive and shall ensure that these information ~~are~~ provided to them at no cost, whatsoever, to the ship concerned.

7 ~~The Search and Rescue services of~~ Contracting Governments may seek to receive or may make use of ~~LRIT identification and tracking~~ information they may have received in relation to the rescue of persons in distress at sea.

8 ~~While~~ All reasonable steps shall be taken to ensure ~~to maintain~~ that the [means][system] of transmitting ~~LRIT identification and tracking~~ information is maintained in an efficient working order. However, malfunctions of the ~~LRIT [means][system] of transmitting identification and tracking~~ transmitting equipment shall not be considered as making the ship un-seaworthy or as a reason for delaying the ship in ports where appropriate repair facilities are not readily available, providing that suitable arrangements are made by the master to take into account the inoperative equipment [means][system] in the planning and executing a safe voyage to a port where repairs can take place.”

ANNEX 2

PERFORMANCE STANDARDS AND OPERATION OF THE INTERNATIONAL LONG RANGE IDENTIFICATION AND TRACKING SYSTEM FOR SHIPS

1 Overview [Concept] [Objective] [Scope]

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

1.2 LRIT services are furnished by tracking services recognized by the Organization (LRIT Tracking Services). A ship may use any recognized LRIT Tracking Service acceptable to the Administration.

1.3 LRIT information is supplied to Contracting Governments entitled to receive the information through the co-ordinator designated by the Organization (LRIT Co-ordinator). Administrations [Contracting Governments] may also obtain information [on ships flying their flag] directly from LRIT Tracking Services.

1.4 A ship reports its identity, its position (latitude and longitude) and the time and date of the position, to a recognized LRIT Tracking Service. These reports should be made through an automated system prescribed by the LRIT Tracking Service.

1.5 Ships are responsible for the installation of the prescribed equipment, but do not pay to provide LRIT information. Contracting Governments pay for LRIT information they request and receive.

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

2 Functions of the LRIT Co-ordinator

The LRIT Co-ordinator:

2.1 Operates or oversees one or more data centres (LRIT Data Centre) which enables Contracting Governments to obtain LRIT information they are entitled to receive.

2.2 Ensures that Contracting Governments receive only the LRIT information that they are entitled to receive.

2.3 Identifies the format and manner in which LRIT information is provided to Contracting Governments.

2.4 Prescribes the manner in which Contracting Governments pay for LRIT information.

2.5 Recommends recognition of new LRIT Tracking Services to the Organization, based on their abilities to carry out the duties of an LRIT Tracking Service.

2.6 Reviews the performance of LRIT Tracking Services, and reports annually to the Organization on the performance of the system, and the fee structure. The Co-ordinator also recommends withdrawal of recognition of any LRIT Tracking Service which is not performing the duties required of an LRIT Tracking Service.

3 Functions of the LRIT Tracking Services

LRIT Tracking Services:

- 3.1 Collect and provide LRIT information in the manner identified by the LRIT Co-ordinator.
- 3.2 Ensure that LRIT information is collected and provided in a secure manner, so that it is received only by recipients entitled to it.

4 Functional requirements of the LRIT Data Centre

The Data Centre:

- 4.1 Collects LRIT information continuously from all ships, via the LRIT Tracking Services.
- 4.2 Offers to contract with all Contracting Governments to provide access to LRIT information.
- 4.3 [The Data Centre should have the capability of maintaining data for at least [40] days.]
- 4.4 Maintains databases of:
 - .1 Contracting Governments entitled to receive LRIT information, and their point of contact.
 - .2 The areas within which coastal States are entitled to receive LRIT information.
 - .3 The list of ports for which port States are entitled to receive LRIT information, and either be a distance from the port or the period of time required to reach the port.
 - .4 Information supplied by Administrations naming Contracting Governments which are not entitled to receive LRIT information from ships flying the flag of these Administrations.
 - .5 LRIT information required by Administrations on ships flying the flag of the Administration.
 - .6 Ship's identification, Administration, and LRIT Tracking Service.
- 4.5 Maintains data connections between the LRIT Data Centre and each Contracting Government.
- 4.6 Provides to each Contracting Government upon demand and when entitled to the information, provides the location of:
 - .1 Each vessel of that flag State;
 - .2 Each vessel within a prescribed time or distance of its coastline; and
 - .3 Each vessel in transit that has indicated its intention to enter a port in that State.

5 Technical requirements for the shipboard terminal

The shipboard terminal:

5.1 Automatically transmits to the LRIT Tracking Service the ship's LRIT information being, at a minimum, current within:

- .1 [4] hours when the ship is [300] nautical miles or more from the coast of a Contracting Government; and
- .2 [1] hour when the ship is less than [300] miles from the coast of a Contracting Government.

5.2 Has a transmission method which ensures that the information transmitted by the ship is protected, during transmission from the ship, from unauthorized access or disclosure.

5.3 Interfaces directly to global navigation satellite system navigation equipment, or has internal positioning capability.

5.4 Should be tamperproof.

6 Functional requirements of the ship-to-shore communication system

The telecommunication system must be capable of reliably and securely conveying the signals from ship's terminals to the LRIT Tracking Service.

ANNEX 3**TERMS OF REFERENCE FOR THE COMSAR CORRESPONDENCE GROUP ON LRIT**

The Correspondence Group on Long-range Identification and Tracking of Ships, taking into account the instructions, decisions of, and comments and proposals made by COMSAR 8, MSC 78, MSC 79, COMSAR 9 and MSC 80, should consider and make recommendations on:

- .1 the need for multiple copies of the LRIT international database, widely distributed around the world in order to ensure that the database is robust and able to withstand equipment failure;
 - .2 the requirement for provision of data security including data encryption, authentication and physical security;
 - .3 whether a Contracting Government should be permitted to request LRIT information directly from an LRIT Tracking Service on any ship for which they are entitled to obtain LRIT information, or whether requests for information directly from LRIT Tracking Services should be limited to Administrations seeking information on ships flying their flag;
 - .4 whether the LRIT Data Centre or LRIT Tracking Services should have the capability to archive LRIT information, and if so, for how long;
 - .5 protocols for the destruction of archived LRIT material after a time period to be determined;
 - .6 whether or not there should be a limitation for LRIT information latency, and if there should be, what that limitation should be (Five minutes? One hour? Near real time?);
 - .7 which requirements related to LRIT should be included in the SOLAS provisions and which should be included in the performance standards for LRIT, so as to avoid conflicting or overlapping requirements;
 - .8 all system architectures that will meet LRIT performance requirements (potential service providers are encouraged to provide information in this regard); and
 - .9 the ability of Contracting Governments to vary the LRIT information reporting rate from ships.
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