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# PRINCIPLES AND GUIDELINES RELATING TO THE REVIEW AND AUDIT OF THE PERFORMANCE OF LRIT DATA CENTRES AND OF THE INTERNATIONAL LRIT DATA EXCHANGE

- The Maritime Safety Committee, at its eighty-sixth session, approved the Principles and guidelines relating to the review and audit of the performance of LRIT Data Centres and the International LRIT Data Exchange (Principles and guidelines), as set out in document MSC 86/26, annex 6, and amended by MSC 88 (MSC 88/6/1, annex 5 refers).
- The Committee, at its ninetieth session (16 to 25 May 2012), bearing in mind the relevant decision of MSC 89 to task the COMSAR Sub-Committee to deal with LRIT-related issues, reviewed the Principles and guidelines and approved further amendments, as set out in the annex.
- The Principles and guidelines provide the criteria, procedures and arrangements for the establishment, review and audit of the provision of long-range identification and tracking information to SOLAS Contracting Governments pursuant to the provisions of regulation V/19-1 and the Revised performance standards and functional requirements for the long-range identification and tracking of ships, adopted by resolution MSC.263(84), as amended by resolution MSC.330(90).
- 4 The Committee agreed to keep the Principles and guidelines under review and to amend it as and when the circumstances so warrant.
- 5 SOLAS Contracting Governments are invited to bring the present circular to the attention of those engaged in the operation of LRIT Data Centres and the International LRIT Data Exchange.
- SOLAS Contracting Governments and the LRIT Coordinator are also invited to bring to the attention of the Committee, at the earliest opportunity, the results of the experience gained from the use of the Principles and guidelines for consideration of any appropriate action to be taken.

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#### **ANNEX**

# PRINCIPLES AND GUIDELINES RELATING TO THE REVIEW AND AUDIT OF THE PERFORMANCE OF LRIT DATA CENTRES AND OF THE INTERNATIONAL LRIT DATA EXCHANGE<sup>1</sup>

#### General

1 The Maritime Safety Committee, pursuant to the provisions of SOLAS regulation<sup>2</sup> V/19-1.14 and subject to the relevant provisions of section 14 of the Revised performance standards<sup>3</sup>, has determined the following in relation to the review and audit of the performance of LRIT Data Centres and of the International LRIT Data Exchange.

### Audit client4

The audit client is all Contracting Governments to the 1974 SOLAS Convention (Contracting Governments) acting through the Committee.

#### **Auditor**

3 The auditor is the LRIT Coordinator.

# Auditee(s)

4 The auditees are all LRIT Data Centres (DCs) and the International LRIT Data Exchange (IDE).

### **Audit programme**

5 The audit programme is a third-party audit conducted by the LRIT Coordinator annually.

# Audit programme objectives

- The objectives of the review and audit of the performance of DCs and of the IDE are:
  - .1 to verify that the LRIT system operates in accordance with the provisions of SOLAS regulation V/19-1 and of the Revised performance standards, taking into account the related provisions of the Technical specification for the LRIT system and any relevant decisions of the Committee;

Terms not otherwise defined in this document should have the same meaning as the meaning attributed to them in chapters I and V of the International Convention for the Safety of Life at Sea, 1974, as amended; Revised performance standards and functional requirements for the Long-range identification and tracking of ships adopted by resolution MSC.263(84), as amended.

Regulation means a regulation of the annex to the International Convention for the Safety of Life at Sea, 1974, as amended

Revised performance standards means the Revised performance standards and functional requirements for the Long-range identification and tracking of ships adopted by resolution MSC.263(84), as amended by resolution MSC.330(90).

All audit-related terms used in this document have the same meaning as in ISO 19011:2002 on Guidelines for quality and/or environmental management systems auditing.

- .2 to verify that Contracting Governments and Search and rescue services receive only the LRIT information they have requested and are entitled to receive;
- .3 to verify that DCs operate in accordance with the provisions of SOLAS regulation V/19-1 and of the Revised performance standards, taking into account the related provisions of the Technical specification for the LRIT system and any relevant decisions of the Committee;
- .4 to verify that the IDE operates in accordance with the provisions of SOLAS regulation V/19-1 and of the Revised performance standards, taking into account the related provisions of the Technical specification for the LRIT system and any relevant decisions of the Committee;
- .5 to identify any need for initiating corrective and/or preventative actions in the LRIT system; and
- .6 to identify opportunities for improving the efficiency, effectiveness and security of the LRIT system.

#### **Audit criteria**

- 7.1 The main criteria are SOLAS regulation V/19-1 and the Revised performance standards.
- 7.2 The supplementary criteria are the Technical specification for the LRIT system<sup>5</sup>; guidance, guidelines and recommendations approved or adopted by the Committee in relation to the LRIT system; and instructions of the Committee to the LRIT Coordinator in connection with the review and audit of the performance of the auditees.
- 7.3 The documents setting out the main and supplementary criteria are listed in appendix 1 which provides an index of all documents relating to the long-range identification and tracking of ships as on 28 May 2011.
- 7.4 After each session of the Committee and when amendments to any of the technical documentation for the LRIT system<sup>6</sup> are agreed, the Secretariat should update the information provided in appendix 1 accordingly and should forward the revised copy of appendix 1 to the LRIT Coordinator and to all auditees by using the contact details provided in the LRIT Data Distribution Plan.

### **Audit scope**

- 8.1 The scope of the audit is limited to matters relating to the operation of the DCs and of the IDE to the extent such matters can be reasonably and with confidence verified through the audit evidence.
- 8.2 Matters relating to the implementation of the provisions of SOLAS regulation V/19-1 and of the Revised performance standards by Contracting Governments are outside the scope of the audit and fall within the scope of the Framework and Procedures for the Voluntary IMO Member State Audit Scheme adopted by resolution A.974(24).

<sup>&</sup>lt;sup>5</sup> Refer to MSC.1/Circ.1259/Rev.5 on LRIT technical documentation (part I).

Refer to MSC.1/Circ.1259/Rev.5 and MSC.1/Circ.1294/Rev.3.

- 8.3 Specifically all matters which would require the provision to the LRIT Coordinator of list(s) of ships which at any particular time are required to transmit LRIT information in accordance with the provisions of SOLAS regulation V/19-1.4.1 are outside the scope of the audit. For example, questions such as whether all such ships have in fact been integrated and are transmitting LRIT information or whether or how the provisions of SOLAS regulation V/19-1.7 are implemented.
- 8.4 Unless the Committee decides otherwise the LRIT Coordinator is not required to audit the fee structure of DCs or of the IDE.

# Responsibilities

- 9.1 The LRIT Coordinator and the auditee should be well aware of the importance of the task they are about to perform and should act with care and professionalism when discharging their responsibilities related to the review and audit.
- 9.2 In this context, the LRIT Coordinator should:
  - .1 conduct a fair, consistent, professional, independent and evidence-based audit;
  - .2 discharge its responsibilities in relation to the audit in a timely manner;
  - .3 cooperate and provide assistance to the auditee on any matters related to audit;
  - .4 establish communication with the auditee and provide the auditee with necessary information related to the audit;
  - .5 make audit findings available to the auditee and seek contributions of the auditee within an established time frame:
  - .6 prepare a complete, accurate, concise and clear record of the audit and make copies available to the auditee;
  - .7 submit a comprehensive report of the audit to the Secretary-General of IMO; and
  - .8 submit a summary report of the audit to the COMSAR Sub-Committee for consideration.
- 9.3 On its part, the auditee will be expected to:
  - .1 cooperate with the LRIT Coordinator and to discharge its responsibilities in relation to the audit in a timely manner;
  - .2 conclude a contractual agreement with the LRIT Coordinator with respect to the legal, operational and financial commitments of the audit;
  - .3 settle its financial obligations vis-à-vis the LRIT Coordinator in accordance with the arrangements it has made with the LRIT Coordinator;
  - .4 cooperate and make available to the LRIT Coordinator the information and audit evidence required to enable the satisfactory completion of an audit of its performance;

- .5 determine and propose corrective actions to address any significant audit findings; and
- .6 keep the LRIT Coordinator informed of the status of their finding note(s).

#### **Audit evidence**

- 10.1 The LRIT Coordinator should establish the details of the audit evidence it requires to be submitted for the review and audit of the performance of DCs and of the IDE.
- 10.2 The audit evidence should, at least, consist of:
  - .1 replies to questionnaire(s) developed by the LRIT Coordinator taking into account the audit objectives, criteria and scope;
  - .2 samples of LRIT information and samples of LRIT messages, including related samples of journals, where such ones are required;
  - .3 statistics compiled by DCs and the IDE, as appropriate;
  - .4 records of communications between the LRIT Coordinator and DCs and/or the IDE;
  - .5 data and information contained in the production environment of the LRIT Data Distribution Plan; and
  - .6 data and information that may be obtained from Search and rescue services.
- 10.3 The LRIT Coordinator should put in place the necessary arrangements to ensure that all audit evidence is protected from unauthorized access or disclosure as from the time such evidence is received by the LRIT Coordinator.
- 10.4 The LRIT Coordinator is not normally required to submit for the consideration of the Committee any of the audit evidence.
- 10.5 The LRIT Coordinator should destroy all audit evidence relating to the review and audit of the performance of a DC or of the IDE immediately after the Committee has reviewed and accepted its related report, or after the resolution of any pending or outstanding issues or after the closing of any outstanding non-conformities, whichever is later. The method for the destruction of the audit evidence remains at the discretion of the LRIT Coordinator.
- 10.6 All DCs are required to provide to the LRIT Coordinator at least one sample of LRIT information and LRIT messages which covers 30 consecutive calendar days (the 30-day sample) during the period which is to be covered by the audit. The LRIT Coordinator should determine, in consultation with the DC concerned, the first and last date to be covered by the samples. The DC and the LRIT Coordinator should endeavour to reach a mutual understanding on the dates to be covered by the sample in cases of any difference of opinion. If such consultations do not yield an agreed approach, then the decisions of the LRIT Coordinator shall prevail.
- 10.7 Taking into account the number of DCs subject to audit and review in a given calendar year, it is recognized that the IDE may be required to provide to the LRIT Coordinator the journal(s) of all transactions for the whole calendar year. The LRIT Coordinator and the IDE should consider and agree practical arrangements for the provision of the IDE Journals to the

LRIT Coordinator for the purpose of review and audit of the performance of DC and of the IDE. The LRIT Coordinator should provide relevant information to the Committee, as appropriate.

- 10.8 The LRIT Coordinator may, if it finds it fit and appropriate, require the submission of further audit evidence as the circumstances may warrant.
- 10.9 The LRIT Coordinator should establish and make known to all DCs and to the IDE the method(s) and format(s) to be used for providing the audit evidence and in particular the samples. The LRIT Coordinator should provide information to this end to the Committee.
- 10.10 Notwithstanding the related provisions of the Revised performance standards, the LRIT Coordinator should seek the provision of audit evidence from Search and rescue services if it finds it fit and appropriate.

## Audit plan and procedures

11 The LRIT Coordinator should develop the audit plans and procedures and should provide details of these to all DCs and the IDE. The LRIT Coordinator should provide information to this end to the Committee.

## Audit findings and corrective actions

- 12.1 The LRIT Coordinator should evaluate the audit evidence against the audit criteria and generate audit findings. Audit findings can indicate either conformity or non-conformity with the audit criteria. Additionally, some audit findings can identify opportunities for improvements.
- 12.2 The LRIT Coordinator should determine and grade all non-conformities as either major non-conformities or non-conformities. Opportunities for improvements may be indicated as observations by the LRIT Coordinator.
- 12.3 The DC concerned or the IDE should, in consultation with the LRIT Coordinator, determine and propose the corrective action(s) and the period within which the non-conformities should be dealt with and closed. DCs and the IDE should always keep the LRIT Coordinator informed of the status of their finding note(s). The completion and effectiveness of corrective actions should be verified by the LRIT Coordinator, normally at the next audit.
- 12.4 The LRIT Coordinator should, if it finds it fit and appropriate, require the submission of further audit evidence or samples with a view to ascertaining that the agreed corrective action(s) have been implemented and the non-conformity has been dealt with and/or that any further non-conformities have not occurred. If the LRIT Coordinator does not see a compelling need to request submission of further audit evidence, the verification of the corrective actions should be undertaken at the next audit of the DC concerned or of the IDE.
- 12.5 In case any identified non-conformity affects the continuity of the LRIT system, the LRIT Coordinator should inform, as soon as is practically possible, the members of the Operational governance body, as defined in MSC.1/Circ.1376/Rev.1, and should provide to them relevant details in order to enable them to determine the actions to be taken in accordance to the instructions of the Committee.

#### **Audit date**

- 13.1 Audit date should be considered as the date on which the LRIT Coordinator will begin the audit analysis and by which the LRIT Coordinator must therefore have received the required audit evidence.
- 13.2 In this context, the LRIT Coordinator should, in consultation with the auditee, determine and confirm the audit date prior to audit. The auditee and the LRIT Coordinator should make every attempt to resolve any diverging opinions concerning the audit date. However, if an agreement cannot be reached, then the decisions of the LRIT Coordinator shall prevail.

# **Audit language**

All correspondence, records, communications, audit evidence and audit plans and procedures should be in the English language.

# Reporting

- 15.1 For each of DCs and for the IDE, the LRIT Coordinator should submit:
  - .1 to the Secretary-General a detailed audit report which should provide a complete, accurate, concise and clear record of the audit and should include or refer to the following: the audit objectives, the audit scope, particularly identification of the unit or processes audited and the time period covered; a list of the auditee representative(s); the dates when the audit activities were conducted; the audit criteria; the audit findings; the audit conclusions; and any statement of a confidential nature; and
  - .2 to the Committee, through the COMSAR Sub-Committee, a summary audit report which should include or refer to the following: the audit findings, including information on non-conformities and their status; the audit conclusions; any uncertainties and/or obstacles encountered that could decrease the reliability of the audit conclusions; any areas not covered although within the scope of the audit; any unresolved diverging opinions between the LRIT Coordinator and the auditee; recommendations for improvement, if any; and agreed follow-up action plans, if any.
- 15.2 The LRIT Coordinator should, prior to submitting the detailed audit reports to the Secretary-General and the summary audit reports to the COMSAR Sub-Committee, forward these, no later than one month after the completion of the audit, to the auditee for its perusal and comments, if any.
- 15.3 Any comments of the auditee should be submitted to the LRIT Coordinator within 15 days after the date of which the report has been sent to the auditee and, unless the LRIT Coordinator and the auditee agree to include these in the summary audit report, these should be included in the detailed audit report.
- 15.4 The LRIT Coordinator and the auditee should endeavour to resolve any difference of opinion in relation to the contents of the detailed and the summary audit reports within five days after the date the auditee has submitted its comments. If the matter cannot be resolved, the comments of the auditee should be included in the summary audit report for consideration of the issue by the Committee.

- 15.5 The LRIT Coordinator should send copies of the detailed and the summary audit reports submitted to the auditee concerned. The detailed and the summary audit reports should be in the English language.
- 15.6 The LRIT Coordinator should submit the summary audit reports to the COMSAR Sub-Committee in accordance with the Guidelines on the organization and method of work of the MSC and MEPC and their subsidiary bodies (MSC-MEPC.1/Circ.4), taking into account, in particular, the normal deadline for submissions of bulky documents. The COMSAR Sub-Committee will consider the summary audit reports, on behalf of the Committee, and will report on any issues that might require further consideration or approval by the Committee.
- 15.7 The summary audit reports should not be translated in the three working languages and should be circulated as documents containing information in the English language only.
- 15.8 The Secretary-General should protect the detailed audit reports from unauthorized access or disclosure and should keep these for a period not exceeding five years as from the date of completion of the audit they referred to and afterwards should destroy these, provided there are no outstanding or pending issues.
- 15.9 The Secretary-General should make available to the Committee or the COMSAR Sub-Committee the detailed audit reports, if requested. In such cases, the detailed audit reports should not be translated in the three working languages of the Organization and should be made available as documents containing information in the English language only.

# Reporting on the review and audit of the performance of DCs and/or of the IDE

- 16.1 The LRIT Coordinator should report to each session of the COMSAR Sub-Committee on the review and audit of the performance of DCs and/or of the IDE which had been conducted and completed since the previous session of the Sub-Committee.
- 16.2 The anniversary date of the IDE is 15 October of each year.
- 16.3 The anniversary date of a DC is the date on which DCs:
  - .1 which participated in the prototype testing phase, become part of the production environment of the LRIT system; and
  - .2 which have undergone or are undergoing or are to undergo developmental and integration testing, have completed or are to complete the integration testing phase.
- 16.4 In addition, the anniversary date of an existing DC may change in the way specified below if the DC concerned undergoes additional testing for any of the following reasons:
  - .1 if a NDC is to start providing services to Contracting Government(s) other than that which established the centre Anniversary date remains unchanged;
  - .2 if a NDC is to become an RDC or a CDC Anniversary date becomes the date on which the new testing was completed;
  - .3 if a NDC that is already providing services to other Contracting Government(s), or a RDC or a CDC is to start providing services to Contracting Government(s) which was/were not included in previous testing Anniversary date remains unchanged; and

- .4 if a Contracting Government is to become part of the establishment of an existing RDC or CDC Anniversary date remains unchanged;
- 16.5 The review and audit of the performance of DCs and of the IDE should be carried out within three months before or after the anniversary date, provided the period between two consecutive audits does not exceed 15 months. A DC or the IDE may still be liable for review and audit of its performance even after it has ceased its operations provided that it had been operational in the production system at least six months since its first integration or anniversary date, whichever applies.
- 16.6 A DC may request the LRIT Coordinator to review and audit its performance on any date within three months before or after the anniversary date referred to in paragraph 16.3 or 16.4, provided the first audit is not held more than 15 months after the date referred to in paragraph 16.3. If the audit, upon request of the DC and subject to acceptance of the LRIT Coordinator, is carried out more than three months before the anniversary date, the new audit date should be considered thereafter as being the new anniversary date. The LRIT Coordinator should provide to the COMSAR Sub-Committee information to this end as appropriate.
- 16.7 If the first audit of a DC cannot be carried out within 15 months after the date referred to in paragraph 16.3 or 16.4, or if the period between two consecutive audits exceeds 15 months, the DC concerned should remain liable to complete that audit at the earliest opportunity. This liability should accumulate until all outstanding annual audits have been completed. The LRIT Coordinator should provide to the COMSAR Sub-Committee information to this end, as appropriate. The audit will additionally report on the reason(s) that led the DC to be audited after the maximum 15-month period, and will recommend that the DC concerned takes all necessary measures to avoid the need to conduct further audits in the future which exceed the maximum 15-month period.

#### **Technical issues**

Appendix 2 provides related information on a number of matters in connection with the review and audit of the performance of DCs and of the IDE of a technical nature.

# Audit programme review and monitoring

18 Contracting Governments acting through the Committee should monitor the implementation of the audit programme and, at appropriate intervals, should review it to assess whether its objectives have been met and identify opportunities for improvement or to initiate corrective or preventative actions.

# **APPENDIX 1**

# LIST OF DOCUMENTS RELATING TO THE LONG-RANGE IDENTIFICATION AND TRACKING OF SHIPS

(as of 28 May 2012)

Resolution MSC.202(81)	2006 SOLAS (chapter V) amendments
Resolution MSC.211(81)	Arrangements for the timely establishment of the Long-range identification and tracking system
Resolution MSC.242(83)	Use of long-range identification and tracking information for safety and marine environmental protection purposes
Resolution MSC.263(84)	Revised performance standards and functional requirements for the long-range identification and tracking (LRIT) of ships
Resolution MSC.264(84)	Establishment of the International LRIT Data Exchange on an interim basis
Resolution MSC.275(85)	Appointment of the LRIT Coordinator
Resolution MSC 276(85)	Operation of the international LRIT data exchange on an interim basis
Resolution MSC.297(87)	Establishment of the International LRIT Data Exchange
Resolution MSC.298(87)	Establishment of a distribution facility for the provision of LRIT information to security forces operating in waters of the Gulf of Aden and the western Indian Ocean to aid their work in the repression of piracy and armed robbery against ships (the distribution facility)
Resolution MSC.322(89)	Operation of the International LRIT Data Exchange
Resolution MSC.330(90)	Adoption of amendments to the Revised performance standards and functional requirements for the long-range identification and tracking of ships
Decalution MCC 224(00)	Adaption of accordance to the manufactor MOO 000(07)
Resolution MSC.331(90)	Adoption of amendments to resolution MSC.298(87) on Establishment of a distribution facility
MSC.1/Circ.1259/Rev.5	•
` ,	Establishment of a distribution facility
MSC.1/Circ.1259/Rev.5	Establishment of a distribution facility  LRIT technical documentation (part I)
MSC.1/Circ.1259/Rev.5 MSC.1/Circ.1294/Rev.3	Establishment of a distribution facility LRIT technical documentation (part I) LRIT technical documentation (part II) Guidance in relation to certain types of ships which are required to transmit LRIT information on exemptions and equivalents and on
MSC.1/Circ.1259/Rev.5 MSC.1/Circ.1294/Rev.3 MSC.1/Circ.1295	Establishment of a distribution facility LRIT technical documentation (part I) LRIT technical documentation (part II) Guidance in relation to certain types of ships which are required to transmit LRIT information on exemptions and equivalents and on certain operational matters
MSC.1/Circ.1259/Rev.5 MSC.1/Circ.1294/Rev.3 MSC.1/Circ.1295	Establishment of a distribution facility LRIT technical documentation (part I) LRIT technical documentation (part II) Guidance in relation to certain types of ships which are required to transmit LRIT information on exemptions and equivalents and on certain operational matters Guidance on the implementation of the LRIT system Guidance on the survey and certification of compliance of ships with
MSC.1/Circ.1259/Rev.5 MSC.1/Circ.1294/Rev.3 MSC.1/Circ.1295 MSC.1/Circ.1298 MSC.1/Circ.1307	Establishment of a distribution facility LRIT technical documentation (part I) LRIT technical documentation (part II) Guidance in relation to certain types of ships which are required to transmit LRIT information on exemptions and equivalents and on certain operational matters Guidance on the implementation of the LRIT system Guidance on the survey and certification of compliance of ships with the requirement to transmit LRIT information Guidance to Search and rescue services in relation to requesting
MSC.1/Circ.1259/Rev.5 MSC.1/Circ.1294/Rev.3 MSC.1/Circ.1295 MSC.1/Circ.1298 MSC.1/Circ.1307 MSC.1/Circ.1338	Establishment of a distribution facility LRIT technical documentation (part I) LRIT technical documentation (part II) Guidance in relation to certain types of ships which are required to transmit LRIT information on exemptions and equivalents and on certain operational matters Guidance on the implementation of the LRIT system Guidance on the survey and certification of compliance of ships with the requirement to transmit LRIT information Guidance to Search and rescue services in relation to requesting and receiving LRIT information
MSC.1/Circ.1259/Rev.5 MSC.1/Circ.1294/Rev.3 MSC.1/Circ.1295 MSC.1/Circ.1298 MSC.1/Circ.1307 MSC.1/Circ.1338 MSC.1/Circ.1376/Rev.1	Establishment of a distribution facility LRIT technical documentation (part I) LRIT technical documentation (part II) Guidance in relation to certain types of ships which are required to transmit LRIT information on exemptions and equivalents and on certain operational matters Guidance on the implementation of the LRIT system Guidance on the survey and certification of compliance of ships with the requirement to transmit LRIT information Guidance to Search and rescue services in relation to requesting and receiving LRIT information Continuity of service plan for the LRIT system List of application service providers authorized to conduct conformance tests and issue LRIT Conformance test reports on

#### **APPENDIX 2**

#### **TECHNICAL MATTERS**

- 1 The LRIT Coordinator is not expected to engage in any audit, verification or investigation as to the existence, accuracy or veracity of Notices of Arrival in connection with requests for the provision of LRIT information pursuant to the provisions of regulation V/19-1.8.1.2 and in this respect Notices of Arrival should be considered as being outside the scope of the review and audit.
- In order to verify compliance with the provisions of paragraph 13.1 of the Revised performance standards, *TimeStamp1* and *TimeStamp4* of the LRIT position report message should be used. The time duration established by the difference between *TimeStamp1* and *TimeStamp4* of the LRIT position report message should be less than 15 min. Furthermore, the latency between the transmitting DC sending the LRIT information to the end user should be considered as being negligible (i.e. of the order of seconds).
- In order to verify compliance with the provisions of paragraph 13.2 of the Revised performance standards on-demand LRIT information should be considered as a poll request and the *TimeStamp* parameter of the LRIT position request and the *TimeStamp4* of the LRIT position report should be used. The time duration established by the difference between *TimeStamp* parameter of the LRIT position request and *TimeStamp4* of the LRIT position report message should be less than 30 min. Furthermore, the latency between the transmitting DC sending the report to the end user should be considered as being negligible (i.e. of the order of seconds). Additionally, if for any reason it is found necessary to use alternative sources to verify such compliance, the LRIT Coordinator should use the Rx and Tx *TimeStamps* contained in the IDE's journal for the LRIT position request and LRIT position report messages.
- Each port, port facility or place under the jurisdiction of a Contracting Government should be considered as the centre of a circle and the distance indicated in the LRIT position request as corresponding with the radius of the circle. The difference on the calculation of the distances using different chart projections should be considered as being irrelevant, in terms of the precision required by the LRIT system as in most cases the ships are in motion when transmitting LRIT information.
- When the entitlement of Contracting Governments to LRIT information is verified, it should be taken into account that different DCs and the LRIT Coordinator may utilize different GIS implementations, which may occasionally yield slightly different interpretations of where a ship is located in relation to DDP-defined polygons. This may result in occasional, legitimate technical differences between the LRIT Coordinator and the audited DC when determining which Contracting Governments are entitled to a particular ship position.
- 5.1 If DCs and the LRIT Coordinator use industry-standard GIS software applications, or custom-coded solutions that implement well-established computational geometric algorithms, the occurrence should be rare. The LRIT Coordinator may determine, on a case-by-case basis, if the differences between its own entitlement determinations and those of the audited DC are sufficient to warrant detailed analysis.
- DCs should provide to the LRIT Coordinator all LRIT Messages with the exception of the file attachments associated with Message 10 (DDP Update) and Message 12 (Journal). All LRIT messages are required to have a unique *MessageId* parameter.

- TRIT position reports that have not been transmitted to any other DCs until the time of the information for the review and audit is provided should be classified as Message type 1 with Response type 2 when provided to the LRIT Coordinator. The parameters *TimeStamp5*, *DataUserRequestor* and the attribute *positionSent* of the LRIT position reports that have not been transmitted to any other DCs should be populated with values as follows:
  - .1 *TimeStamp5* = dummy value (i.e.1000-01-01T00:00:00Z)
  - .2 DataUserRequestor = 0003 (the LRIT ID of the LRIT Coordinator)
  - .3 positionSent = false
- The IDE should provide its journal with the exception of the file attachments associated with Message 10 (DDP Update) and Message 12 (Journal). The parameters Latitude, Longitude, *TimeStamp1* and *ShipborneEquipmentId* of the LRIT position reports should be populated with values as follows:
  - .1 Latitude = dummy value
  - .2 Longitude = dummy value
  - .3 *TimeStamp1* = dummy value (i.e.1000-01-01T00:00:00Z)
  - .4 ShipborneEquipmentId = dummy value
- 9 All information contained in the audit files should be in XML and in the English language encoded in UTF-8.
- 9.1 DCs should provide to the LRIT Coordinator, upon request, a file LRITMessageLog\_<LRIT ID of the DC>.xml<sup>7</sup>.
- 9.2 The IDE should provide the LRIT Coordinator, upon request, a file LRITMessageLog <LRIT ID of the IDE>.xml<sup>8</sup>.

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The XML schema to be used for the LRITMessageLog file is specified in section 2.3.10 (Processing Journal messages) of the Technical specifications for communications within the LRIT system.

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