MARITIME SAFETY COMMITTEE
86th session
Agenda item 6

MSC 86/INF.16
26 May 2009
ENGLISH ONLY

LRIT-RELATED MATTERS

Accessing the LRIT Data Distribution Plan
and
Developmental and integration testing phases and
arrangements and procedures on testing LRIT Data Centres

Note by the Secretariat

<table>
<tr><td colspan="2" align="center">**SUMMARY**</td></tr>
<tr><td>***Executive summary:***</td><td>This document sets out in the annexes guidance which has been prepared and published by the Secretariat in relation to the implementation of the LRIT system</td></tr>
<tr><td>***Strategic direction:***</td><td>-</td></tr>
<tr><td>***High-level action:***</td><td>No related provision</td></tr>
<tr><td>***Planned output:***</td><td>No related provision</td></tr>
<tr><td>***Action to be taken:***</td><td>Paragraph 4</td></tr>
<tr><td>***Related document:***</td><td>MSC 86/6</td></tr>
</table>

1   With a view to assisting Contracting Governments to enter the relevant information in the testing and production environment of the LRIT Data Distribution Plan and the developmental and integration testing of LRIT Data Centres, the Secretariat has prepared and published:

.1   LRIT Data Distribution Plan – Accessing and entering information – Guidance notes for Contracting Government; and

.2   Developmental and integration testing – Guidance notes for LRIT Data Centres.

2   The aforesaid guidance has been revised on a number of occasions so as to address various difficulties and problems which have been encountered and the intention is to continue to do so as the circumstance warrant. Their latest versions are set out in annexes 1 and 2.

3   The guidance has been made available as individual free standing documents on the IMO website.

Action requested of the Committee

4   The Committee is invited to note the above information and, if desirable, to provide any related instructions to the Secretariat.

***

ANNEX 1

LRIT DATA DISTRIBUTION PLAN

ACCESSING AND ENTERING INFORMATION

GUIDANCE NOTES FOR CONTRACTING GOVERNMENTS

1   General

1.1   This note provides guidance to Contracting Governments wishing to enter in the LRIT Data Distribution Plan (DDP) the information which are required to communicate to the Organization in accordance with the provisions of paragraph 11.2 of the Revised performance standards and functional requirements for the long-range identification and tracking of ships (Revised performance standards) adopted by resolution MSC.263(84).

2   Communication of information to the Organization

2.1   Contracting Governments are required to communicate to the Organization in writing the information specified in regulation[1] V/19-1.8.2 and paragraphs 5.2, 8.1 or 8.2, 8.3.2, 11.2 and 16.1.1 of the Revised performance standards. In this regard, paragraphs 8.1.1 to 8.1.6 of, and appendix 1, to the annex to MSC.1/Circ.1298 provide the necessary guidance for communication of the required information.

2.2   The information specified in paragraphs 11.2.2.1, 11.2.2.2 and 11.2.2.3 of the Revised performance standards should be provided either in a printed or in an electronic form and should be forwarded together with the rest of the information which needs to be communicated to the Organization. The Secretariat is unable to process any incomplete communication of information or participate or conduct any tests which involve an LRIT Data Centre established by or providing services to a Contracting Government which has not provided all the information required.

2.3   Contracting Governments will be considered, for the purposes of annex 1 to MSC.1/Circ.1299, as having communicated to the Organization the information specified in paragraphs 11.2.2.1, 11.2.2.2 and 11.2.2.3 of the Revised performance standards as long as they have provided the related information to the Organization in a printed or electronic form (see paragraph 2.2) or have entered the information in the **Testing** and/or **Production environment** of the DDP.

3   Entries in the LRIT Data Distribution Plan

3.1   General

3.1.1   The Secretariat, on the basis of the information communicated to the Organization and provided **all** the information specified in the model letter set out in appendix 1 to the annex to MSC.1/Circ.1298 have been submitted, will enter into the **Testing** and **Production environments** of the LRIT Data Distribution Plan (DDP) the information provided by each Contracting Government in relation to:

---

[1]   *Regulation* means, unless expressly provided otherwise, a regulation of the annex to the International Convention for the Safety of Life at Sea, 1974, as amended.

.1 the designated national and alternate national point(s) of contact for LRIT-related matters;

.2 the recognized Application Service Provider (ASP); and

.3 the LRIT Data Centre which is being established or is to be used.

3.1.2   Following the aforesaid entries in the **Testing** and **Production environments** of the DDP, the related LRIT identities will be created by the Secretariat and the Contracting Government concerned will be considered as having met the requirements of paragraphs 11.2.1 (in part); 11.2.5 to 11.2.8; 11.2.10 and 11.2.11 of the Revised performance standards.

3.2   Usernames and passwords

3.2.1   A single shared username and password will be allocated to each of the Contracting Governments, non-metropolitan territory or special administrative region (subject to the decisions of the Contracting Government which has extended the application of the 1974 SOLAS Convention to the territory or region in question) for accessing the **Testing environment** of the DDP. This information will be sent by e-mail to the national and alternate national point(s) of contact for LRIT-related matters designated by each Contracting Government together with guidance on how to access the **Testing environment** of the DDP.

3.2.2   An individual username and password will be allocated to each designated national and alternate national point(s) of contact for LRIT-related matters for accessing the **Production environment** of the DDP. This information will be sent on an individual basis by a separate official letter to the designated national and alternate national point(s) of contact in accordance with the information provided by each Contracting Government. However, if any one of the designated persons has already an existing IMO Web Account, as described in Circular letter No.2892, the Secretariat will assign the relevant permissions for accessing the **Production environment** of the DDP in his/her existing IMO Web Account.

3.2.3   Annex 1 provides guidance for login into the **Testing** and **Production environments** of the DDP.

3.3   Geographical areas

3.3.1   The national and/or alternate national point(s) of contact should use the shared username and password allotted to them (refer to paragraph 3.2.1) for entering the information required in paragraph 11.2.2 of the Revised performance standards in the **Testing environment** of the DDP.

3.3.2   The national and/or alternate national point(s) of contact should use the individual username and password allotted to them (refer to paragraph 3.2.2) for entering the information required in paragraph 11.2.2 of the Revised performance standards in the **Production environment** of the DDP.

3.3.3   The geographical coordinates of points should be entered either manually or by uploading the relevant files in GML format as specified in the Technical specifications for the LRIT Data Distribution Plan. As far as the polygons of the geographical areas which should be included in the DDP, the Contracting Government should ensure that these fully comply with the provisions of regulation V/19-1; paragraph 11.2.2 of the Revised performance standards; and those set out in

the Technical specifications of the LRIT Data Distribution Plan, in particular the constraints specified in section 5 thereto. For convenience the aforesaid constraints are reproduced in annex 2.

3.3.4   In order to prevent malfunctions into the **Testing** and **Production environments** of the LRIT system, Contracting Governments are advised, before entering the information in the **Testing** and/or **Production environments** of the DDP, to ask the LRIT Data Centre which are establishing or will be using to ascertain whether the polygons of the geographical areas which would be included by the Contracting Government in the DDP comply with the criteria referred to in paragraph 3.3.3.

3.3.5   Following the entries of the details of the polygons in the **Testing** and **Production environments** of the DDP, the Contracting Government concerned will be considered as having met the requirements of paragraphs 11.2.2.1, 11.2.2.2 and 11.2.2.3 of the Revised performance standards.

3.4   SAR services

3.4.1   Contracting Governments should update the information they communicated to the Organization in response to COMSAR/Circ.27 on Data format for new SAR.2 and SAR.3 circulars concerning information on current availability of SAR services or, in case they have not provided such information to do so.

3.4.2   On the basis of the information communicated to the Organization pursuant to COMSAR/Circ.27 the Secretariat will allocate the relevant LRIT identities for the SAR services of the Contracting Government concerned and will enter them in the **Testing** and **Production environments** of the DDP.

3.4.3   Unless a Contracting Government advises the Organization in writing otherwise the Secretariat will consider that the Contracting Government concerned requires **all** its SAR services to be able to request and receive LRIT information.

3.4.4   Contracting Governments communicating to the Organization information pursuant to COMSAR/Circ.27 will be considered as having met the requirements of paragraphs 11.2.1 (in part) and 11.2.9 of the Revised performance standards.

3.5   Ports, port facilities and places under jurisdiction

3.5.1   The information related with ports, port facilities and places is shared between different modules of the Global Integrated Shipping Information System (GISIS). Any changes in the information provided will affect all GISIS modules using this information. For this reason, all communications of information to the Organization related with ports, port facilities or places should be provided in accordance with the procedures established in paragraphs 8.1.3 and 8.1.4 of the annex to MSC.1/Circ.1298.

3.6   Ports

3.6.1   The Technical specifications for communications within the LRIT system and the Technical specifications for the LRIT Data Distribution Plan note the UN/LOCODE database, as

maintained by UN ECE[2], as the source of international ports on which the present GISIS system, and hence the DDP, is based, which includes the name, geographical position and unique global LOCODE for each port.

3.6.2   In addition to the ports defined in UN/LOCODE, GISIS presently contains ports requested to be inserted into GISIS by Contracting Governments for information submitted for the Maritime Security module of GISIS and by Parties to MARPOL 73/78 as amendment for the Port Reception Facilities module of GISIS.

3.6.3   In response to queries from Contracting Governments regarding discrepancies in their port data within UN/LOCODE, and also as reflected within GISIS, the following approach should be adopted to ensure that consistent and accurate information relating to ports of each Contracting Government is reflected within the DDP and all other GISIS modules:

.1   Each Contracting Government shall ensure that all information related with its ports within the UN/LOCODE database is up-to-date. If this is not the case, the Contracting Government concerned should first submit the necessary requests for amendments to the UN ECE (in accordance with procedures they have established for this purpose) in order to accurately reflect information on their ports. Contracting Governments should ensure that the list of ports submitted for inclusion within UN/LOCODE includes any ports which, in the past, the Contracting Government may have notified the Organization[3]. In accordance with the procedures established by UN ECE for the assignment of new LOCODEs, a newly assigned code must be confirmed as "Noted" or "Accepted" by the UN ECE before it can be considered an official LOCODE for use within GISIS.

.2   After the UN/LOCODE database has been updated as necessary, Contracting Governments should communicate to the Organization, in a printed and electronic format and in accordance with the procedures specified in paragraph 3.5.1, the current information on all of its ports, including LOCODEs assigned by UN ECE to any new port entries.

.3   If a Contracting Government decide not to submit its list of ports for the DDP or any amendments thereto, the list of ports as currently held within the GISIS system will continue to be used as the list of ports for that Contracting Government for all GISIS modules (including the DDP).

3.6.4   The following items of information should be provided for each port, unless it is marked as optional:

.1   official representation of the port name;

.2   port name without diacritical marks (optional);

.3   the latitude and longitude coordinates of the port;

---

[2]   The UN/LOCODE website is at http://www.unece.org/locode.
[3]   The current list of ports is available by accessing the DDP module. Alternatively, it should be provided by the Organization in XML format upon request.

.4   LOCODE, as assigned by UN ECE;

.5   the subdivision code for the port, as assigned by UN ECE (optional);

.6   a secondary or alternate name for this port (optional);

.7   if the information referred in subparagraph .5 is given, the secondary or alternative name without diacritical marks (optional); and

.8   date of acceptance by UN ECE for inclusion in UN/LOCODE.

3.6.5   It is the responsibility of Contracting Governments to take into consideration any consequential effects of amendments or deletions to their port information on any other information previously communicated to the Organization relating to those ports within GISIS. For example, if a Contracting Government requests the deletion of a particular port, then any information previously submitted within the Maritime Security, the Port Reception Facilities or the DDP modules of GISIS relating to that port will also be deleted.

3.6.6   In the case of requests for amendment of a port's details or for deletion of a port, the Secretariat will implement the requested amendment or deletion within GISIS without further confirmation of any consequential effects.

3.7   Electronic format for the communication of information relating to ports

3.7.1   Information on ports within the territory or jurisdiction of a Contracting Government should be communicated to the Organization in an XML format to facilitate the electronic processing and importing of the information into GISIS.

3.7.1.1 Annex 3 provides the XML Schema against which the XML to be submitted by Contracting Governments must be validated.

3.7.2   Contracting Governments should submit a separate XML file for ports within their non-metropolitan territories, if any. Each file should contain all ports for that Contracting Government or non-metropolitan territory as at the time of submission.

3.7.3   The following subparagraphs describe the information items required to be provided within the XML for each submission:

.1   "*name*" attribute of the root element should be the name of the Contracting Government or non-metropolitan territory whose ports are being enumerated in the file.

.2   "*isoCode*" attribute of the root element should be the ISO 3166-1 Alpha 3 code of the Contracting Government or non-metropolitan territory named as above. If a territory code does not have an ISO-assigned code, the code to use should be requested from the Secretariat.

.3   "*date*" attribute of the root element should be the date of generation of the XML file for communication to the Organization.

.4 "*numberOfPorts*" attribute of the root element should be the total number of ports for the Contracting Government or non-metropolitan territory, enumerated within the XML file.

.5 The root element should contain one or more child *<Port>* elements, one per port. The child elements of *<Port>* contain the information detailed in paragraph 3.6.4.

3.7.4 Annex 4 provides a sample XML file that may be used by a Contracting Government when submitting information on its ports to the Organization.

3.8 Port facilities

3.8.1 Contracting Governments should update the information they have communicated to the Organization pursuant to the provisions of regulation XI-2/13 in accordance with the procedures established for the Maritime Security module of GISIS and in case they have not provided such information to do so.

3.9 Places under jurisdiction

3.9.1 Contracting Governments contemplating to request, pursuant to the provisions of regulation V/19-1.8.1.2, the provision of LRIT information transmitted by ships to a place under their jurisdiction (i.e. to a place other than a port facility as defined in regulation XI-2/1.1.9) should note that neither GISIS nor the **Testing** nor the **Production environment** of the DDP include at this stage such places. The Contracting Governments concerned should contact the Secretariat with a view to discussing the information required and the arrangements for including such places into the DDP.

4 Access to the DDP

4.1 Recognized Application Service Providers

4.1.1 The provisions of the Technical specifications for the LRIT Data Distribution Plan allow recognized Application Service Providers (ASPs) to have limited access to the DDP.

4.1.2 Contracting Governments wishing to allow their recognized ASP(s) to have access to the DDP should inform the Organization to this end and should communicate the name and the contact details of the person to whom access should be granted.

5 Process for amending existing entries in the DDP

5.1 Contracting Governments are able to enter and amend in the **Testing** and **Production environments** of the DDP the geographic coordinate points of the polygons of the geographical areas they need to specify pursuant to the provisions of paragraph 11.2.2 of the Revised performance standards.

5.2 Contracting Governments are also able to activate in the **Testing** and **Production environments** the functionality of the DDP in relation to communication of information to the Organization pursuant to the provisions of regulation V/19-1.9.2.

5.3   Contracting Governments should communicate to the Organization changes affecting the entries in the **Testing** and **Production environments** of the DDP in connection with:

.1   the designated national and alternate national point(s) of contact for LRIT-related matters;

.2   the recognized Application Service Provider (ASP); and

.3   the LRIT Data Centre which is being established or is to be used,

in writing following the guidance provided in paragraphs 8.1.1 to 8.1.6 of, and appendix 1, to the annex to MSC.1/Circ.1298.   The model letter provided in appendix 1 should be modified as necessary to fit the related purpose.

5.4   Contracting Governments should communicate to the Organization changes affecting the entries in the **Testing** and **Production environments** of the DDP in connection with SAR services in accordance with the provisions of paragraphs 3.4.1 to 3.4.4; and ports, port facilities and places under their jurisdiction in accordance with the provisions of paragraphs 3.5.1 to 3.9.1.

5.5   On the basis of the information communicated by Contracting Governments in accordance with the provisions of paragraphs 5.3 and 5.4, the Secretariat will make the necessary changes in the related entries in the **Testing** and **Production environments** of the DDP.
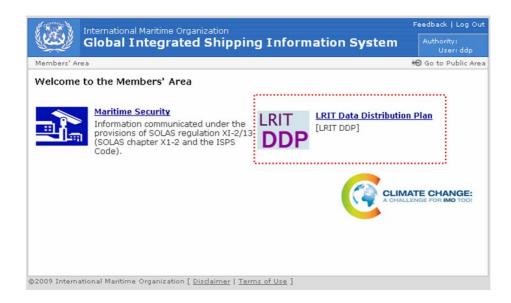
Annex 1

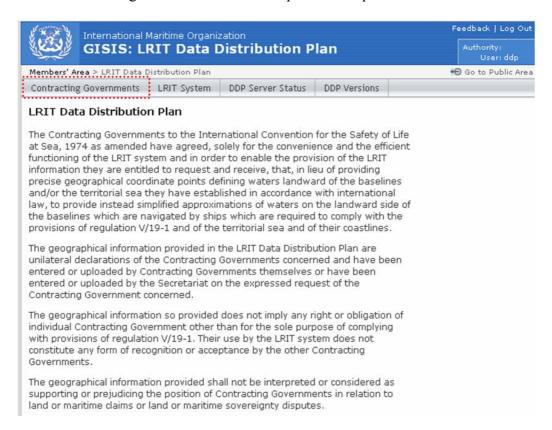**LRIT DATA DISTRIBUTION PLAN**

GUIDANCE FOR LOGIN

1   Open a web browser and type the web address stated in the e-mail or letter through which you have received your user name and password. If a Security Alerts appears, press "accept" or "yes" when asked whether you wish to proceed.

2   Complete the required information and press "Log in".

3   Select the "LRIT Data Distribution Plan" link.

4   Select "Contracting Government" and complete the required information.

Annex 2

***Extracted from MSC.1/Circ.1259/Rev.1 on Technical specification for the LRIT system
The extract provided below should be read together with all salient provisions of the
Technical specifications for the LRIT Data Distribution Plan***

CONSTRAINTS ON POLYGONS OF GEOGRAPHICAL AREAS

5   Constraints on polygons of geographical areas

5.1   The following constraints, in addition to others specified in this section, should be adhered to when defining geographical areas within the DDP for a particular Contracting Government:

> .1   *InternalWaters* polygons:
>
>> .1   The geographical coordinate points of all vertices should be in degrees and decimal degrees to 2 decimal places;
>>
>> .2   The average separation between adjacent vertices should not be less than 6 nautical miles. For Contracting Governments which are also Small Island Developing States[1], the average separation between adjacent vertices could be reduced to less than 6 nautical miles, however it should not be reduced to less than 2 nautical miles;
>>
>> .3   The total number of vertices for all polygons should not be more than 10,000 vertices; and
>>
>> .4   The total number of polygons should not be more than 1,000 polygons.
>
> .2   *TerritorialSeas* polygons:
>
>> .1   The geographical coordinate points of all vertices should be in degrees and decimal degrees to 2 decimal places;
>>
>> .2   The average separation between adjacent vertices should not be less than 6 nautical miles. For Contracting Governments which are also Small Island Developing States[2], the average separation between adjacent vertices could be reduced to less than 6 nautical miles, however it should not be reduced to less than 2 nautical miles;

---

1   The Small Islands Developing States are listed by the United Nations at the following web address http://www.un.org/special-rep/ohrlls/sid/list.htm.
2   The Small Islands Developing States are listed by the United Nations at the following web address http://www.un.org/special-rep/ohrlls/sid/list.htm.

.3 The total number of vertices for all polygons should not be more than 10,000 vertices; and

.4 The total number of polygons should not be more than 1,000 polygons.

.3 *SeawardAreaOf1000NM* polygons;

.1 The geographical coordinate points of all vertices should be in degrees and decimal degrees to two decimal places;

.2 The minimum separation between adjacent vertices should not be less than 6 nautical miles (1% error rate) or the overall minimum average (mean) distance between vertices should not be less than 40 nautical miles;

.3 The total number of vertices for all polygons should not be more than 1,000 vertices; and

.4 The total number of polygons should not be more than 10 polygons.

.4 *CustomCoastalAreas* polygon:

.1 The geographical coordinate points of all vertices should be in degrees and decimal degrees to two decimal places;

.2 The average separation between adjacent vertices should not be less than 600 m;

.3 The total number of vertices for each polygon should not be more than 100 vertices;

.4 The total number of polygons should not be more than 100 polygons; and

.5 All polygons should be entirely within the area covered by the *SeawardAreaOf1000NM* and *InternalWaters* polygons.

5.2 In case any one of the geographical areas to be represented by the polygons referred to in paragraph 5.1 straddles the meridian of 180 degrees longitude, the geographical area in question should be represented by two polygons having a common boundary along the 180 degrees longitude.

5.3 All polygons within each set of *InternalWaters, TerritorialSeas, SeawardAreaOf1000NM* and *CustomCoastalAreas* should be *disjoint* (i.e. no overlap between polygons within each set).

5.3.1 This constraint should be understood as not preventing adjacent polygons to have a common boundary defined by the same geographical coordinate points, provided the geographical area represented by the two polygons do not overlap.

5.4 All polygons should be technically valid, simple polygons (i.e. a simple polygon is closed polygonal chain of line segments that do not cross each other). For any single polygon to be a technically valid simple polygon, the following should be true:

.1   The polygon should be continuous and closed (i.e. the first and last vertices should be identical), and should not contain any interior rings;

.2   The polygon should have at least four total vertices and three distinct vertices (i.e. the first and last vertices are identical);

.3   The sides of the polygon should not intersect. In other words, the polygon should not be self-intersecting; and

.4   The polygon should not contain duplicate vertices with the exception of the first and last vertices being identical.

Annex 3

XML SCHEMA FOR PORTS SUBMISSIONS

XML Schema against which the XML to be submitted by Contracting Governments must be validated. The schema may also be obtained in its native XSD format by request to LRIT@imo.org.

```xml
<?xml version="1.0" encoding="UTF-8"?>
<xs:schema xmlns:xs="http://www.w3.org/2001/XMLSchema"
targetNamespace="http://gisis.imo.org/XML/ports/2008"
xmlns="http://gisis.imo.org/XML/ports/2008" elementFormDefault="qualified">
  <xs:simpleType name="iso3166-1Alpha3CodeType">
    <xs:restriction base="xs:string">
      <xs:pattern value="[A-Z]{3}"/>
    </xs:restriction>
  </xs:simpleType>
  <xs:simpleType name="locodeType">
    <xs:restriction base="xs:string">
      <xs:pattern value="[A-Z]{2}([A-Z2-9]){3}"/>
    </xs:restriction>
  </xs:simpleType>
  <xs:simpleType name="locodeSubdivisionType">
    <xs:restriction base="xs:string">
      <xs:pattern value="[A-Z0-9]{1,3}"/>
    </xs:restriction>
  </xs:simpleType>
  <xs:simpleType name="locodeCoordinatesType">
    <xs:restriction base="xs:string">
      <xs:pattern value="[0-9]{2}[0-9]{2}[NS] [0-9]{3}[0-9]{2}[EW]"/>
    </xs:restriction>
  </xs:simpleType>
  <xs:simpleType name="nameType">
    <xs:restriction base="xs:string">
      <xs:pattern value="[a-zA-Z0-
9ÀÁÂÃÄÅÆÇÈÉÊËÌÍÎÏÑÒÓÔÕÖØÙÚÛÜÝàáâãäåæçèéêëìíîïñòóôõöøùúûüýÿ/\., ]{1,255}"/>
    </xs:restriction>
  </xs:simpleType>
  <xs:simpleType name="nameWithoutDiacriticsType">
    <xs:restriction base="xs:string">
      <xs:pattern value="[a-zA-Z0-9/\., ]{1,255}"/>
    </xs:restriction>
  </xs:simpleType>
  <xs:complexType name="portType">
    <xs:annotation>
      <xs:documentation>The ddpValidated attribute is only for use by XML generated by the
Secretariat. "true" indicates that the port meets the criteria for inclusion within the LRIT DDP
XML.</xs:documentation>
    </xs:annotation>
    <xs:sequence>
```

```
        <xs:element name="Name" type="nameType"/>
        <xs:element name="NameWithoutDiacritics" type="nameWithoutDiacriticsType"
minOccurs="0"/>
        <xs:element name="AlternateName" type="nameType" minOccurs="0"/>
        <xs:element name="AlternateNameWithoutDiacritics"
type="nameWithoutDiacriticsType" minOccurs="0"/>
        <xs:element name="LOCODE" type="locodeType"/>
        <xs:element name="LOCODESubdivision" type="locodeSubdivisionType"
minOccurs="0"/>
        <xs:element name="LOCODECoordinates" type="locodeCoordinatesType"/>
        <xs:element name="LOCODEDate" type="xs:date" minOccurs="0"/>
     </xs:sequence>
     <xs:attribute use="optional" name="ddpValidated" type="xs:boolean"/>
   </xs:complexType>

   <xs:element name="ContractingGovernmentOrTerritory">
     <xs:complexType>
       <xs:annotation>
         <xs:documentation>The numberOfDDPValidatedPorts attribute is only for use by
XML generated by the Secretariat.  It indicates the total number of ports which have the
ddpValidated attribute set to "true".</xs:documentation>
       </xs:annotation>
       <xs:sequence>
         <xs:element name="Port" type="portType" maxOccurs="unbounded"/>
       </xs:sequence>
       <xs:attribute name="name" type="xs:string" use="required"/>
       <xs:attribute name="isoCode" type="iso3166-1Alpha3CodeType" use="required"/>
       <xs:attribute name="numberOfPorts" type="xs:int" use="required"/>
       <xs:attribute name="numberOfDDPValidatedPorts" type="xs:int" use="optional"/>
       <xs:attribute name="documentDate" type="xs:dateTime" use="required"/>
     </xs:complexType>
   </xs:element>
</xs:schema>
```

Annex 4

SAMPLE XML FOR PORTS SUBMISSIONS

(The sample is provided solely for the purpose of illustrating the format of the file to be submitted by Contracting Governments, and is not intended to reflect actual information)

```xml
<?xml version="1.0" encoding="UTF-8"?>
<ContractingGovernmentOrTerritory
    xmlns="http://gisis.imo.org/XML/ports/2008"
    xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance"
    xsi:schemaLocation="http://gisis.imo.org/XML/ports/2008 Ports.xsd"
    name="Marshall Islands"
    isoCode="MHL"
    documentDate="2008-11-11T12:13:14Z"
    numberOfPorts="3"
>
    <Port>
        <Name>Kwajalein</Name>
        <AlternateName>Gómez Palacio</AlternateName>
        <AlternateNameWithoutDiacritics>Gomez Palacio</AlternateNameWithoutDiacritics>
        <LOCODE>MHKWA</LOCODE>
        <LOCODESubdivision>KW</LOCODESubdivision>
        <LOCODECoordinates>1122N 02233E</LOCODECoordinates>
        <LOCODEDate>2006-05-04</LOCODEDate>
    </Port>
    <Port>
        <Name>Majuro</Name>
        <LOCODE>MHMAJ</LOCODE>
        <LOCODECoordinates>2233N 03344E</LOCODECoordinates>
    </Port>
    <Port>
        <Name>Taroa</Name>
        <LOCODE>MHTAR</LOCODE>
        <LOCODECoordinates>4455N 05544E</LOCODECoordinates>
        <LOCODEDate>2006-05-04</LOCODEDate>
    </Port>
</ContractingGovernmentOrTerritory>
```

***

ANNEX 2

DEVELOPMENTAL AND INTEGRATION TESTING

GUIDANCE NOTES FOR LRIT DATA CENTRES

1 General

1.1 This note provides guidance to LRIT Data Centres (DCs) to be tested on joining the **testing environment** of the LRIT system and moving on afterwards, on satisfactory completion of developmental testing, to the **production environment** of the LRIT system and should be read together with the Protocols and arrangements for the prototype, development and integration and modification testing phases of the LRIT system (Version 2) (the Protocols) which are set out in the annex to MSC.1/Circ.1294.

1.2 Contracting Government(s) establishing DCs wishing to undergo developmental testing should notify to this end to the Organization and communicate[6], as soon as possible and without delay, the information specified in regulation V/19-1.8.2 and paragraphs 5.2, 8.1 or 8.2, 8.3.2, 11.2 and 16.1.1 of the Revised performance standards and functional requirements for the long-range identification and tracking of ships (Revised performance standards) adopted by resolution MSC.263(84) and, a list with the names and contact details of the authorized testing Application Service Provider[7] (ASP) together with any associated conditions of authorization.

1.3 Related information is also provided in the LRIT Data Distribution Plan - Accessing and entering information - Guidance notes for Contracting Governments (DDP-GN-01).

2 Pre-developmental testing process

2.1 A single shared username and password will be allocated to each Contracting Government (and non-metropolitan territory or special administrative region, subject to consultations with the Contracting Government concerned) for accessing the **testing environment** of the LRIT Data Distribution Plan (DDP). This information will be sent also, by e-mail, to the person in charge of the DC established by the Contracting Government or providing services to the Contracting Government, as the case maybe, together with guidance[8] on how to access the **testing environment** of the DDP.

2.2 An individual username and password will be allocated to the person in charge of the DC and the recognized ASP (in case the Contracting Government concerned advises the Organization that it wishes the see the recognized ASP being granted access) working with the DC for use within the **production environment** of the DDP, in accordance with the level of access specified for each type of user in the Technical specification for the LRIT Data

---

[6] Paragraphs 8.1.1 to 8.1.8 and Appendix 1 of MSC.1/Circ.1298 provide salient guidance on communication of information to the Organization.
[7] Refer to MSC.1/Circ.1296 on Guidance on the survey and certification of compliance of ships with the requirement to transmit LRIT information.
[8] Refer to LRIT Data Distribution Plan – Accessing and entering information – Guidance notes for Contracting Governments (DDP-GN-01).

Distribution Plan[9]. This information will be sent on an individual basis by a separate official letter to the person in charge of the DC and the recognized ASP, as the case may be, in accordance with the information provided by each Contracting Government. However, if any one of the designated persons has already an existing IMO Web Account, as described in Circular letter No.2892, the Secretariat will assign the relevant permissions for accessing the **production environment** of the DDP in his/her existing IMO Web Account.

2.3   In order to commence developmental testing and in accordance with the provisions of section 3.3.2 of the Protocols, DCs to be tested should:

.1   ensure that the Contracting Government(s) establishing the DC and the Contracting Government(s) to which the DC is providing service have advised to this end the Organization. In this respect, the Secretariat is prepared to provide, upon request and taking into account the peculiarities involved, advice and guidance in relation to the contents of such communications in case the DC to be tested is to provide services to more than one Contracting Government;

.2   ensure that the Contracting Government(s) establishing the DC and the Contracting Government(s) to which the DC is providing services have included in at least in the **testing environment** of the DDP the information required in connection with the geographical areas;

.3   ascertain that the polygons of the geographical areas which have been included by the Contracting Government(s) in the **testing environment** of the DDP comply with the constraints provided in section 5 of the Technical specifications of the LRIT Data Distribution Plan;

.4   implement and test the aforesaid polygons and confirm to the Organization that they have done so and that these have not caused any errors or malfunctions;

.5   implement the released version of the XML schemas[10]; and

.6   undertake and satisfactorily complete the Pre-tests specified in appendix 2 of the annex to the Protocols and forward the completed pre-test documentation to the Organization.

2.4   When a Contracting Government(s) advise(s) the Organization that its/their DC is ready to commence developmental testing, the Secretariat will, *inter alia*, forward a word format version of appendix 2 of the annex to the Protocols and of the Pre-developmental testing report set out in annex 1 which will be tailor-made so as to be identifiable as for use only by the DC to be tested.

---

[9]   Refer to Table I-3 of annex 4 on Technical specifications for the LRIT Data Distribution Plan of the annex to MSC.1/Circ.1259/Rev.1 on Revised interim technical specification for the LRIT system.

[10]   The released version of the XML schemas may be obtained from the Secretariat in their native forms upon request. Such request should be sent to the Secretariat (LRIT@imo.org) by the person in charge of the operation of the DC concerned. The released version of the XML schemas is also available for download on the testing environment of the DDP.

2.4.1   In order to ensure a systematic approach and avoid unnecessary communications or correspondence as result of errors, after carrying out all the actions specified in paragraphs 2.3.2 to 2.3.6, DCs to be tested should complete and submit the Pre-developmental testing report which they will receive from the Secretariat.

2.4.2   The Pre-developmental testing report should be signed by the person the Contracting Government(s) concerned have advised the Organization as being in charge of the operation of the DC to be tested. In case it is signed by any other person it will not be processed and will need to be resubmitted.

2.4.3   The Pre-developmental testing report to be submitted does not need to be accompanied by appendix 2 to the annex of the Protocols completed so as to show that the required pre-tests had been carried out and/or any related records or logs attesting to this end. However, those concerned are expected to complete as necessary appendix 2 using the form provided by the Secretariat. The aforesaid should be kept together with any other supporting documentation and should be immediately forwarded to the Organization when requested. The Secretariat does not expect that the aforesaid documents need to be kept beyond the last day of the session of the Committee, when it considers and accepts the first report of the LRIT Coordinator on the review of the performance of the DC in question.

2.5   In accordance with the decisions of the Maritime Safety Committee (the Committee) and as provided in the Protocols, the Secretariat is obliged, before processing any Pre-developmental testing report, to check whether the Contracting Government(s), establishing or using the DC to be tested, have included in the DDP the geographical coordinate points for the geographical areas they are obliged, in accordance with the provisions of regulation V/19-1.8.2 and paragraph 11.2.2 of the Revised performance standards, to communicate information to the Organization.

2.5.1   Subject to the provisions of paragraphs 2.5.2 to 2.6, the aforesaid instruction of the Committee will be executed in two stages and separately in relation to the developmental and integration testing phases.

2.5.1.1 For the purposes of the developmental testing phase, the Secretariat will be checking whether the required information has been included in the testing environment of the DDP and will not be investigating whether the information has been also included in the production environment of the DDP.

2.5.1.2 For the purposes of the integration testing phase, the Secretariat will be checking whether the required information has been included in the production environment of the DDP and will not be investigating whether the information is identical to that which was included in the testing environment of the DDP.

2.5.2   As the provisions of paragraph 11.2.2.4 of the Revised performance standards relate to the provisions of regulation V/19-1.8.1.3, which establishes the right of a Contracting Government to request and receive LRIT information within a certain area off its coast, the Secretariat has decided (and will inform the Committee) not to apply strictly the aforesaid instructions of the Committee (i.e. Contracting Governments would not be required to include customs areas in the DDP). Thus, a "No" entry can be recorded against item 1.4 of the Pre-developmental testing report.

2.5.2.1   However, if the entry against item 1.4 of the Pre-developmental testing report is "Yes" and no related entries have been made in the **testing environment** of the DDP, the Pre-developmental testing report will not be processed and will be deemed as containing false statements. In such a case, either the Contracting Government(s) concerned will need to enter the aforesaid information in the **testing environment** of the DDP or a corrected Pre-developmental testing report will need to be submitted.

2.5.3   Notwithstanding the aforesaid, Contracting Governments contemplating to use custom geographical areas (within the 1,000 nautical miles sea area) are advised to include such areas in the **testing environment** of the DDP so as to allow the performance of the appropriate tests.

2.6   Contracting Governments which are landlocked States are not required to communicate to the Organization any information in accordance with the provisions of regulation V/19-1.8.2 and paragraph 11.2.2 of the Revised performance standards.

2.7   Subject to the provisions of paragraph 2.6, DCs providing services to more than a single Contracting Government are expected, before entering "Yes" against item 1.1, 1.2 and 1.3 of the Pre-developmental testing report, to ascertain that all Contracting Governments to which the DC will be providing services have included the corresponding information in the **testing environment** of the DDP.

2.7.1   If the entry against either item 1.1 or item 1.2 or item 1.3 of the Pre-developmental testing report is "Yes" and no related entries have been made in the **testing environment** of the DDP for anyone of the Contracting Governments to which the DC will be providing services, the Pre-developmental testing report will not be processed and will be deemed as containing false statements. In such a case, the Contracting Government(s) concerned will need to enter the relevant information in the **testing environment** of the DDP and the Pre-developmental testing report will need to be resubmitted after the entries have been made.

2.8   As soon as it has be ascertained that the submitted the Pre-developmental testing report is in order and all required information has been entered in the **testing environment** of the DDP, the Secretariat will provide the International LRIT Data Exchange (IDE), the DCs which will be assisting the testing of the DC to be tested and the LRIT Coordinator with copies of the Pre-developmental testing report and will copy the related communication to the DC to be tested.

2.9   The Secretariat would then request the IDE and the 1st and 2nd assisting DCs to advise the Organization, no later than three working days after receiving the Pre-developmental testing report, whether they are comfortable with the results of the pre-developmental testing process and ready to proceed with the developmental testing of the DC to be tested.

2.10   As soon as a positive response is received from the IDE and the 1st and 2nd assisting DCs, the Secretariat will advise the DC to be tested, the IDE, the 1st and 2nd assisting DCs and the LRIT Coordinator that the testing of the DC to be tested can commence.

2.11   The Protocols stipulate that the Secretariat, in consultation with the DC to be tested, the IDE and the 1st and 2nd assisting DCs should determine and advise the date and times on which the developmental testing would commence and advice those concerned of the date by which the tests should be preferably completed.

2.11.1   However, subject to paragraph 2.11.1, the Secretariat has decided (and will inform the Committee) to leave the practical arrangements in relation to the commencement of the testing to be agreed amongst those concerned and invoke the provisions of the Protocols only if those concerned are unable to reach such agreement.

2.11.1.1 The flexibility allowed by paragraph 2.11.1 is conditional on the understanding that testing can commence at any time after either the Secretariat has advised that testing can commence or the DC to be tested has confirmed to the IDE, the 1st and 2nd assisting DCs and the Secretariat (in relation to the DDP server) that it has successfully installed the PKI certificate for the **testing environment** of the LRIT system, whichever of the two events occurs later.

2.11.2   The Secretariat, recognizing that the DC to be tested may encounter difficulties or problems during the testing process or the need to make for example changes or modifications in the software solution used before continuing the testing process, has also decided (and will inform the Committee) not to specify a date by which the testing process should be completed, on the understanding that those concerned would endeavour to satisfactorily complete all tests as soon as it practically possible.

3   PKI certificate for the testing environment of the LRIT system

3.1   The DC to be tested, as soon as it Pre-developmental testing report has been cleared and forwarded by the Secretariat to the IDE, the 1st and 2nd assisting DCs and the LRIT Coordinator, should request from the Secretariat the issue of a PKI certificate for the **testing environment** of the LRIT system. Annex 2 provides guidance on requesting the issue of a PKI certificate.

3.1.1   The request for the issue such a PKI certificate should originate from the designated national point of contact for LRIT-related matters of the Contracting Government establishing the DC or from the person in charge of the DC and should be sent to the Secretariat by e-mail (LRIT@imo.org). The e-mail should only request the issue of a PKI certificate and should not deal with any other matters.

3.2   DCs requesting the issue of more than one PKI certificate should explain in the request the reasons for doing so and justifying the need(s) in detail so as to enable the Secretariat to consider the actions to be taken and to report accordingly to the Committee.

3.3   In accordance with paragraph 3.3.3.1.1 of the Protocols, the DC to be tested is required to confirm to the IDE, the 1st and 2nd assisting DCs and the Secretariat (in relation to the DDP server) that it has successfully installed the PKI certificate.

4   Developmental testing phase

4.1   Subject to the provisions of sections 5 and 6, the DC to be tested should proceed in accordance with the procedures set out in paragraph 3.3.3.1.2 to 3.3.3.1.10 of the Protocols.

4.2   The Secretariat will forward, either with the advise that the testing of the DC to be tested can commence or under a separate cover, a word format version of appendix 2 of the annex to the Protocols (the Report of test results) and of the Summary report set out in appendix 5 of the annex to the Protocols (the Summary report) which will be tailor-made so as to be identifiable as for use only by the DC to be tested, together with associated guidance notes for their completion.

4.3   On satisfactory completion of the test procedures and test cases, the DC being tested should forward to the Organization the completed Report of test results and the completed Summary report received from the Secretariat.

4.4   The Report of test results to be submitted does not need to be accompanied by any related records or logs attesting that the various tests have been carried out or providing related information.   However, the aforesaid should be kept together with any other supporting documentation and should be immediately forwarded to the Organization when requested.   The Secretariat does not expect that the aforesaid documents need to be kept beyond the last day of the session of the Committee, when it considers and accepts the first report of the LRIT Coordinator on the review of the performance of the DC in question.

5   Accelerated testing programme

5.1   DCs to be tested which are based on and implementing the same design and the same software and hardware solutions, used previously in at least two DCs which have been fully tested and are operating in the **production environment** of the LRIT system could be considered for testing under the accelerated testing programme.

5.2   In line with the provisions of paragraph 3.3.2.1.1 of the Protocols, Contracting Government(s) establishing a DC which qualifies for accelerated testing and wishing to undergo developmental testing should notify to this end the Organization.

5.2.1   The aforesaid notification should be accompanied by the statement set out in annex 3. A word format version of the statement tailor-made so as to be identifiable as for use only by the DC to be tested can be requested from the Secretariat.

5.3   Subject to the provisions of sections 2, 3 and 6 and of paragraphs 5.4 and 5.5, the Pre-developmental testing process specified in paragraph 3.3.2 of the Protocols, the Developmental testing process specified in paragraph 3.3.3 of the Protocols and the related provisions of the present guidance note should be observed.

5.4   Subject to the provisions of section 6, in lieu of the test procedures and test cases specified in appendix 2 of the annex to the Protocols for the **testing environment**, DCs which qualify for accelerated testing should undergo and satisfactorily complete at least the test cases specified in annex 4, in case the DC to be tested is an NDC.   It should be noted that the accelerated testing programme only applies in relation to the test which are required to be carried out during the developmental testing phase.

5.5   Subject to the provisions of paragraph 4.4, DCs which qualify for accelerated testing should use, complete and forward to the Organization on satisfactory completion of the required tests, in lieu of the testing documentation set out in appendix 2 and the summary report set out in appendix 5 of the annex to the Protocols, the Report of test results and the Summary report for the accelerated testing programme which will be provided by the Secretariat and will be tailor-made so as to be identifiable as for use only by the DC to be tested.

6   Additional test cases and procedures

6.1   Subject to the provisions of section 5, all DCs are required to undergo and satisfactorily complete the test procedures and test cases specified in appendix 2 of the annex to the Protocols.

6.2   In addition, all DCs are required to undergo and satisfactorily complete, in the **testing environment**, additional test cases as set out in annex 5 when a:

.1   National (NDC) LRIT Data Centres:

.1   is to undergo testing for first time and is contemplating to start providing services to Contracting Government(s) other than that it is establishing the centre;

.2   operating in the production environment, is contemplating to start providing services to Contracting Government(s) other than that established the centre;

.3   operating in the production environment, is contemplating to become a RDC or a CDC; or

.4   operating in the production environment and already providing services to other Contracting Government(s), is contemplating to provide services to Contracting Government(s) which was/were not included in previous testing;

.2   Regional (RDC) or Cooperative (CDC) LRIT Data Centres:

.1   is to undergo testing for first time; or

.2   operating in the production environment, is contemplating to provide services to other Contracting Government(s) which was/were not included in previous testing.

6.3   An NDC contemplating to start providing services to Contracting Government(s) other than that it is establishing the centre and an RDC or CDC does not have to undergo all of the test procedures and cases set out in appendix 2 of the annex to the Protocols for each and every one of the Contracting Government(s) associated with the LRIT Data Centre (DC) (i.e. establishing, or using the services of, the DC), provided

.1   test cases DC-1.1, DC-1.4 and DC-4.1 are carried out and satisfactorily completed for all Contracting Governments associated with the DC (i.e. in order to check the functionality of receiving a valid position report from the IDE; ascertain that LRIT Data User (LDU) address is registered with the DC; and verify that the DC can receive a valid receipt message from the IDE for each LDU);

.2   test cases DC-2.1 and DC-15.1 are carried out and satisfactorily completed for at least two Contracting Governments (which should preferably be the ones presenting the more complexities in the testing process);

.3   additional further tests are carried out so as to test all possible foreseeable operational scenarios taking into account the peculiarities associated with the Contracting Government(s) which would be served by the DC; and

.4   a detailed test plan is submitted to the Organization before the commencement of any tests. The Organization should in turn provide the aforesaid information and a copy of the proposed test plan to the IDE, the DCs which would be identified to assist its testing and to the LRIT Coordinator.

6.4   Subject to the provisions of paragraph 4.4, DCs which are required to undergo and satisfactory complete the additional test cases as specified in paragraphs 6.2 and 6.3 and annex 5, should use, complete and forward to the Organization on satisfactory completion of all required tests, in lieu of the testing documentation set out in appendix 2 and the summary report set out in appendix 5 of the annex to the Protocols, the Report of test results and the Summary report for the developmental testing phase which will be provided by the Secretariat and will be tailor-made so as to be identifiable as for use only by the DC to be tested.

7   **PKI certificate for the production environment of the LRIT system**

7.1   The DC being tested, as soon as it is advised of the authorization of the LRIT Coordinator and after ensuring that the Contracting Government(s) establishing the DC and the Contracting Government(s) to which the DC is providing services, other than the ones which are landlocked States, have included in the **production environment** of the DDP the information required in paragraphs 11.2.2.1, 11.2.2.2 and 11.2.2.3 of the Revised performance standards in connection with the geographical areas, should request from the Secretariat, the issue of a PKI certificate for the **production environment** of the LRIT system. Annex 2 provides guidance on requesting the issue of a PKI certificate.

7.2   The Secretariat would not issue such a PKI certificate unless the authorization of the LRIT Coordinator has been received and the information required in paragraphs 11.2.2.1, 11.2.2.2 and 11.2.2.3 of the Revised performance standards has been entered within the **production environment** of the DDP by each of the Contracting Government which will be associated with the DC being tested.

7.3   The request for the issue such a PKI certificate should originate from the designated national point of contact for LRIT-related matters of the Contracting Government establishing the DC or from the person in charge of the DC and should be sent to the Secretariat by e-mail (LRIT@imo.org). The e-mail should only request the issue of a PKI certificate and should not deal with any other matters.

7.4   DCs requesting the issue of more than one PKI certificate should explain in the request the reasons for doing so and justifying the need(s) in detail so as to enable the Secretariat to consider the actions to be taken and to report accordingly to the Committee.

7.5   The DC to be tested is required should confirm to the IDE and the Secretariat that it has successfully installed the PKI certificate.

8   Integration testing phase

8.1   Following the issue to the DC being tested of the PKI certificate, the Secretariat will advise the IDE and the DCs operating in the production environment of the LRIT system that the DC in question has been authorized to become part of the **production environment** of the LRIT system. A copy of this communication will also be sent to the DC being tested and to the LRIT Coordinator.

8.2   The DC being tested should undergo and satisfactorily complete the test procedures and test cases specified in appendix 2 of the annex to the Protocols for the **production environment**.

8.2.1   The integration tests should be carried out after the time either the DC being tested has notified the IDE and the Secretariat that it has successfully installed the PKI certificate for the **production environment** or the Secretariat has advised the IDE and the DCs operating in the production environment of the LRIT system that the DC in question has been authorized to become part of the **production environment** of the LRIT system, whichever of the two occurs later.

8.3   Subject to the provisions of paragraph 4.4, the DC being tested should use, complete and forward to the Organization on satisfactory completion of the required tests, in lieu of the testing documentation set out in appendix 2 and the summary report set out in appendix 5 of the annex to the Protocols, the Report of test results and the Summary report for the **production environment** which will be provided by the Secretariat and will be tailor-made so as to be identifiable as for use only by the DC being tested.

8.4   All tests in the **production environment** of the LRIT system should be carried out and satisfactorily completed, no later than five working days after the issue of the PKI certificate for the production environment of the LRIT system.

8.5   If the DC being tested fails the integration testing or does not provide the integration testing documentation and the related summary report after the fifth working day of the issue of the PKI certificate for the **production environment** of the LRIT system, the Secretariat would revoke the PKI certificate for the **production environment** of the LRIT system and inform accordingly those operating in the **production environment,** those who participated in the developmental testing of the DC in question and the LRIT Coordinator. In this case, the DC would be treated as a DC which has not undergone any testing and should commence testing anew through the developmental and integration testing phase route.

9   Electronic communications in relation to testing issues

9.1   All electronic communications should originate from the e-mail addresses which the Contracting Governments concerned have notified the Organization as being of those they have designated either as national point(s) of contact for LRIT-related matters or as being in charge of the operation of the DC concerned.

9.2   Changes in such e-mail addresses should be communicated to the Organization in writing either by the Contracting Government concerned or by the designated national point of contact for LRIT-related matters in cases the Contracting Government concerned has advised the Organization in writing that such a person is so authorized.

10   Designation of substitutes for signing Pre-developmental testing reports or Summary reports

10.1   In case the person in charge of a DC finds it necessary to designate a substitute to sign on or submit on his/her behalf either a Pre-developmental testing report or a Summary report, the necessary arrangements should be made in writing with the Secretariat prior to such a report is being signed and/or submitted.

11   Admissibility of the results of tests

11.1   The results of any tests will be deemed admissible only if the tests in question have been carried out after the time specified in paragraph 2.11.1.1 with respect to developmental testing and after the time specified in paragraph 8.2.1 in relation to integration testing.

12   Commencement of operation of a DC in the production environment of the LRIT system

12.1   The Secretariat will inform the Committee that the DC being tested should be considered as being in production as from the date and time it satisfactorily completes the integration testing into the production of the LRIT system as recorded in the Summary report for the integration testing of the DC in question.

Annex 1

PRE-DEVELOPMENTAL TESTING REPORT[1,2]

*(to be completed and signed by the person in charge of the operation of the
LRIT Data Centre which is to be tested)*

Environment   Testing/Production[3]

Contracting Government[4]

Type of LRIT Data Centre   National/Regional/Cooperative[5]

Providing services also to[6]

LRIT ID (of DC)[7]

THIS IS TO CERTIFY that:

1   the Contracting Government(s) establishing the LRIT Data Centre (DC) and the Contracting Government(s) using the services of the DC, have included in at least the Testing environment of the DDP the information required in connection with the geographical areas:

1.1   of the waters[8] landward of the baselines for measuring the breadth of the territorial sea of the Contracting Government concerned in accordance with international law;   Yes/No[9]

1.2   of the territorial sea[10] of the Contracting Government concerned in accordance with international law;   Yes/No[11]

1.3   between the coast of the Contracting Government concerned and a distance of 1,000 nautical miles from its coast[12]; and   Yes/No[13]

1.4   within which the Contracting Government concerned is seeking the provision of LRIT information pursuant to the provisions of SOLAS regulation V/19-1.8.1.3, if other than that defined under item 1.3 above[14];   Yes/No[15]

---

[1]   An electronic version of this report may be obtained from the Secretariat upon request.
[2]   All entries other than signatures should be done electronically in word format.
[3]   Delete as appropriate.
[4]   In the space provided enter the name of the Contracting Government(s) establishing the LRIT Data Centre.
[5]   Delete as appropriate.
[6]   In the space provided enter the name(s) of the Contracting Government(s) (other than the Contracting Government(s) establishing the LRIT Data Centre) to which the LRIT Data Centre is providing services.
[7]   In the space provided enter the LRIT ID assigned to the DC.
[8]   Refer to paragraph 11.2.2.1 of the Revised performance standards and functional requirements for the Long-range identification and tracking of ships (the Revised performance standards) adopted by resolution MSC.263(84).
[9]   Delete as appropriate.
[10]   Refer to paragraph 11.2.2.2 of the Revised performance standards.
[11]   Delete as appropriate.
[12]   Refer to paragraph 11.2.2.3 of the Revised performance standards.
[13]   Delete as appropriate.
[14]   Refer to paragraph 11.2.2.4 of the Revised performance standards.
[15]   Delete as appropriate.

2 it has been ascertained that the polygons of the geographical areas which have been included by each of the Contracting Governments concerned in the Testing environment of the DDP fully comply with the constraints provided in section 5 of the Technical specifications of the LRIT Data Distribution Plan; Yes/No[16]

3 the aforesaid polygons have been implemented and tested and have been found not to cause any errors or malfunctions in the operation of the DC; Yes/No[17]

4 the released version[18] of the XML schemas has been implemented by the DC; and Yes/No[19]

5 the Pre-tests specified[20] in appendix 2 of the annex to the Protocols and arrangements for the prototype, development and integration and modification testing phases of the LRIT system (Version 2) which are set out in MSC.1/Circ.1294 on Long-range identification and tracking – Technical documentation (Part II) have been carried out and satisfactorily completed.

.... *(Signature[22] of the person)*	.... *Date[23]*
Name, title and contact details (telephone and facsimile numbers and e-mail address) of the person who signed above	

---

[16] Delete as appropriate.
[17] Delete as appropriate.
[18] Refer to annex 6 of the annex to MSC.1/Circ.1259/Rev.1.
[19] Delete as appropriate.
[20] Guidance Note: The following test procedures and test cases should be conducted: Test procedure DC-1.0, Test cases DC-1.1 and DC-1.4; Test procedure DC-2.0, Test cases DC-2.1, DC-2.2, DC-2.4, DC-2.5, DC-2.6, DC-2.7, DC-2.8 and DC-2.9; Test procedure DC-3.0, Test cases DC-3.1 and DC-3.2; Test procedure DC-6.0, Test case DC-6.1; Test procedure DC-7.0, Test case DC-7.1; Test procedure DC-8.0, Test case DC-8.1; Test procedure DC-9.0, Test case DC-9.1; Test procedure DC-10.0, Test cases DC-10.1; Test procedure DC-11.0, Test cases DC-11.1 and DC-11.2; Test procedure DC-12.0, Test case DC-12.1; Test procedure R/CDC-14.0, Test case R/CDC-14.1; Test procedure DC-15.0, Test cases DC-15.1, DC-15.2 and DC-15.3; and Test procedure DC-16.0, Test cases DC-16.1 and DC-16.2.
[21] Delete as appropriate.
[22] The part containing the signature should be scanned after it has been signed and sent to the Secretariat together with the electronically completed report.
[23] All dates should be numeric in the format DD/MM/YY.

Annex 2

PUBLIC-KEY INFRASTRUCTURE (PKI) CERTIFICATES

1   Introduction

1.1   A PKI arrangement employs cryptographic protocols to bind digital identities to specific users or system components, established during the process of issuance of the PKI certificate ("certificate"). Certificates issued by a common, trusted source can then be reliably used by possessors of those certificates to secure communications with each other.

1.2   Certificates are issued by the Secretariat on behalf of the Organization, in response to official and validated certificate requests, to the various authorized entities participating within the LRIT system, for the purpose of enabling the secure exchange of messages and/or data between them within the framework of the system.

1.3   The cryptographic keys generated as part of the certificate request (a part of which is embedded within the issued certificate) may technically function in several ways, separately or in combination, including: to verify the identity of an entity; to encrypt a message so that its contents are available only to the intended recipient; to guarantee that the contents of a message have not been modified in transit, and to sign a message for receivers to securely identify its source.

1.4   Before proceeding with any transaction involving the exchange of information between two parties, it is the responsibility of each party to mutually authenticate the identity of the other by diligently scrutinizing their presented certificate, in particular to ensure that it has been issued by a trusted source (for example, the IMO Certificate Authority established by the Secretariat) and that identifying information contained within the certificate (for example, the LRIT ID and 'Common Name' details) are as expected, and to confirm the validity of the certificate (for example, by checking its expiry date and the list of revoked certificates maintained by the issuing Certificate Authority).

1.5   Within the LRIT system, the main usage of certificates is for securing communications between DCs, the IDE and the DDP server, as described in the Technical specification for communications.

1.6   In general, each entity is issued a single certificate which may be used only for the purposes set out in this annex. Each certificate issued to entities within the LRIT system contains the unique LRIT ID assigned to that entity. Certificates issued to DCs, the IDE and the DDP server also contain the Internet Fully-qualified Domain Name of the component, as contained within their respective Web Service URI for LRIT communications.

2   Certificates for the IDE, DDP server and DCs

2.1   The request for the issue of PKI certificate(s) for the International LRIT Data Exchange (IDE) should originate from the person in charge of the IDE.

2.2   The request for the issue of PKI certificate(s) for the LRIT Data Distribution Plan (DDP) server should originate from the person in charge of the DDP server.

2.3   The request for the issue of certificate(s) for LRIT Data Centres (DCs) should originate from:

.1   the designated national point of contact for LRIT-related matters of the Contracting Government establishing the LRIT Data Centre; or

.2   the person in charge of the DC.

2.4   In case the request is sent by the person in charge of the DC, the Organization will consider that the request has been made with the authority and on behalf of the Contracting Government(s) establishing the DC.

2.5   In the case of an RDC and a CDC the request should originate from the national point of contact for LRIT-related matters designated by the Contracting Government (the lead Contracting Government) which the Contracting Governments establishing the DC have authorized to communicate related information to the Organization in accordance with the provisions of paragraph 8.2 of the Revised performance standards.

2.5.1   In case the post of the lead Contracting Government is held on an ad hoc or a rotational basis the relevant arrangements should be made known to the Organization or are known to the Organization as a result of the practices followed by the group of the Contracting Governments concerned during deliberations on LRIT-related matters with the framework of the Maritime Safety Committee.

2.6   The Organization is issuing to the IDE, the DDP server and DCs, certificates for the **testing** and **production environments** of the LRIT system for use only in relation to communications within the LRIT system. Another other use or attempted use of a certificate issued by the Organization immediately invalidates the certificate and the Secretariat in such cases will automatically proceed with its revocation.

2.7   If more than one certificate is required per DC or if there is a need for special processing of the request, the designated national point of contact for LRIT-related matters or the person in charge of the DC should write to this end to the Secretariat, explaining and justifying the need(s) in detail so as to enable the Secretariat to consider the actions to be taken and to report accordingly to the Maritime Safety Committee.

2.8   By default, the IMO PKI software accepts PKCS #10 text files, and signs them using the SHA-1 hash algorithm for FIPS-compliance. This file must be generated from the IDE, the DDP or DCs according to the guidelines given in paragraph 2.10, and be sent by email as a text file attachment.

2.8.1   The following text represents a fictitious example PKCS #10 certification request:

-----BEGIN CERTIFICATE REQUEST-----
MIIBnTCCAQYCAQAwXTELMAkGA1UEBhMCU0cxETAPBgNVBAoTCE0yQ3J5c
HRvMRIwEAYDVQQDEwlsb2NhbGhvc3QxJzAlBgkqhkiG9w0BCQEWGGFkbWluQ
HNlcnZlci5leGFtcGxlLmRvbTCBnzANBgkqhkiG9w0BAQEFAAOBjQAwgYkCgYEA
r1nYY1Qrll1ruB/FqlCRrr5nvupdIN+3wF7q915tvEQoc74bnu6b8IbbGRMhzdzmvQ4SzF
fVEAuMMuTHeybPq5th7YDrTNizKKxOBnqE2KYuX9X22A1Kh49soJJFg6kPb9MUgi
ZBiMlvtb7K3CHfgw5WagWnLl8Lb+ccvKZZl+8CAwEAAaAAMA0GCSqGSIb3DQE
BBAUAA4GBAHpoRp5YS55CZpy+wdigQEwjL/wSluvo+WjtpvP0YoBMJu4VMKeZi4

05R7o8oEwiPdlrrliKNknFmHKIaCKTLRcU59ScA6ADEIWUzqmUzP5Cs6jrSRo3NKf
g1bd09D1K9rsQkRc9Urv9mRBIsredGnYECNeRaK5R1yzpOowninXC
-----END CERTIFICATE REQUEST-----

2.9   The request for the issue of certificates for the **testing** and **production environments** of the LRIT system should comply accurately in all respects to the requirements set out below, in order to avoid the need to re-submit them with corrections.

2.10   In each case, certificate requests should be sent by email to LRIT@imo.org with the PKCS #10 file as an attachment. Each request should:

.1   be sent separately for each of the environments;

.2   state, within the text of the email, the complete Web Service URI of the DC for which the certificate is being requested, for example:

https://dc.govt.inf/web/service;

.3   have the PKCS #10 attachment encoded in base-64 format with the standard certificate fields populated with information adhering to the descriptions below:

Property	*Expected value*
Encryption level	**1024 bits**
Organization (O)	**Name** of the LRIT system component (e.g., *CG National LRIT Data Centre*)
Organizational Unit (OU)	Unique four digit numerical **LRIT ID** of the LRIT system component as assigned by the Secretariat (e.g., *3153*)
Common Name (CN)	**Fully-qualified Domain Name** (Internet DNS) of the LRIT system component (e.g., *dc.govt.inf*), which must exactly match the **hostname** part of the Web Service URI specified for the component.
Others/Miscellaneous	*e.g., City, Location, etc., may be populated as appropriate.*

The generated Distinguished Name for the certificate will, using sample values above, thus be of the form:

CN=dc. govt.inf, OU=3153, O=CG National LRIT Data Centre

2.11   The issued certificate, corresponding to each request, will be valid for use only within the environment for which it has been issued.

2.12   The Secretariat will issue and forward the issued certificate to the person designated as being in charge of the IDE, the DDP server or DC, respectively, for which the certificate has been requested.

2.12.1 In addition, for the purpose of facilitating secure web communications with the IDE, all issued certificates will be forwarded to the person(s) in charge of the IDE.

3   Renewal of issued certificates

3.1   Certificates issued as set out in section 2 above are valid from the date of issue and expire:

.1   in the case of certificates issued for the **testing environment**, at the end of the extended implementation period for the LRIT system, on 30 June 2009;

.2   in the case of certificates issued before 15 May 2009 for the **production environment**, at the end of the extended implementation period for the LRIT system, on 30 June 2009;

.3   in the case of certificates issued after 15 May 2009 for the **production environment**, on 31 December 2010.

3.2   Certificates due to expire on 30 June 2009 should be renewed, where applicable, by request to the Secretariat between the dates of **16 May 2009** and **10 June 2009**.

3.3   The process of requesting the renewal of a certificate and of its issuance shall be the same as for its original request, and should follow the procedures and guidelines set out in section 2.

3.4   Certificates issued with renewed expiry dates are valid from the date of issue, and may have an overlapping period of validity with the initial issued certificate. During this period, the certificate requester is able to use either the initial issued or the renewed certificate for its functions.

4   Re-issue of certificates

4.1   The IDE, the DDP server and DCs may request the re-issue of a certificate, along with the revocation of any current certificate(s) issued to it.

4.2   In this instance, the requesting entity should write to the Secretariat explaining and justifying its request in detail so as to enable the Secretariat to consider the actions to be taken and to report accordingly to the Maritime Safety Committee.

4.3   Any certificates re-issued in this manner should conform to the procedures and guidelines set out in sections 2 and 3 above.

5   Security of issued certificates

5.1   The IDE, the DDP server and DCs are obliged to inform the Organization forthwith when they have reasonable grounds to believe that a certificate issue to them has been or is being compromised or attempts are made to compromise it.

5.2   In such cases, or if it is informed through other means or has grounds to suspect the misuse or compromise of the security any issued certificate, the Secretariat may without delay revoke the certificate in order to prohibit any further use of it by any party for any purpose.

Annex 3

STATEMENT

*(to be completed and signed by the person in charge of the operation of
the LRIT Data Centre wishing to follow the accelerating testing process)*

Environment	Testing

1   Details of the LRIT Data Centre (DC) to be tested

Contracting Government[1]	
Type of LRIT Data Centre	National/~~Regional/Cooperative~~[2]
Providing services also to[3]	
LRIT ID (of DC)[4]	

2   Details of the Production DCs using the same software solution

2.1   1st LRIT Data Centre

Contracting Government[5]	
Type of LRIT Data Centre	National/Regional/Cooperative[6]
Providing services also to[7]	
LRIT ID (of DC)[8]	

---

[1]   In the space provided enter the name of the Contracting Government(s) establishing the LRIT Data Centre.

[2]   Delete as appropriate.

[3]   In the space provided enter the name(s) of the Contracting Government(s) (other than the Contracting Government(s) establishing the LRIT Data Centre) to which the LRIT Data Centre is providing services.

[4]   In the space provided enter the LRIT ID assigned to the DC.

[5]   In the space provided enter the name of the Contracting Government(s) that has established the first LRIT Data Centre.

[6]   Delete as appropriate.

[7]   In the space provided enter the name(s) of the Contracting Government(s) (other than the Contracting Government(s) that have established the first LRIT Data Centre) to which the LRIT Data Centre is providing services.

[8]   In the space provided enter the LRIT ID assigned to the first DC which uses the same software solution.

2.2   2nd LRIT Data Centre

Contracting Government[1]	
Type of LRIT Data Centre	National/Regional/Cooperative[2]
Providing services also to[3]	
LRIT ID (of DC)[4]	

3   Certification of software solution

I hereby certify that the software solution used for the LRIT Data Centre to be tested fully corresponds with the software solution used by the LRIT Data Centres specified in section 2.
   .... *(Signature[5] of the person)*   *Date[6]*
Name, title and contact details (telephone and facsimile numbers and e-mail address) of the person who signed above

---

Annex 4

ACCELERATED TESTING PROGRAMME

List of required test cases for the testing environment
(to be conducted by the DCs to be tested in case the DC is an NDC)

Test case	To be certified by
DC-1.1	IDE
DC-2.1 *(only for test cases specified in Table 2.2.2)*	1st-ast-DC
DC-2.2	1st-ast-DC and 2nd-ast-DC
DC-2.4	1st-ast-DC
DC-2.5	1st-ast-DC
DC-2.6	1st-ast-DC
DC-2.7	1st-ast-DC
DC-2.8	1st-ast-DC
DC-2.9	1st-ast-DC
DC-3.1	1st-ast-DC
DC-3.2	1st-ast-DC
DC-5.1	Internal Certification
DC-6.1	IDE
DC-7.1	IDE
DC-8.1	IDE
DC-9.1	IDE
DC-10.1	IDE
DC-11.1	DDP
DC-11.2	DDP
DC-12.1	DDP
DC-13.1	IDE
DC-13.2	IDE
DC-13.3	IDE
DC-14.1 *(only for Regional or Cooperative DCs)*	IDE
DC-15.1	1st-ast-DC
DC-15.2	1st-ast-DC
DC-15.3	1st-ast-DC
DC-16.1	1st-ast-DC
DC-16.2	1st-ast-DC

Annex 5

ADDITIONAL TEST CASES AND PROCEDURES
(to be carried out in the testing environment only)

**EXPLANATORY NOTES AND GUIDANCE
ON THE CONDUCT OF TESTING OF LRIT DATA CENTRES**

1   The intent of this document is to provide explanatory notes and guidance on the conduct testing of LRIT Data Centres in relation to the test cases stipulated in the Protocols and arrangements for the prototype, development, integration and modification testing phases of the LRIT system (the Protocols) when a:

    .1   National (NDC) LRIT Data Centres:

        .1   is to undergo testing for first time and is contemplating to start providing services to Contracting Government(s) other than that it is establishing the centre;

        .2   operating in the production environment, is contemplating to start providing services to Contracting Government(s) other than that established the centre;

        .3   operating in the production environment, is contemplating to become a RDC or a CDC; or

        .4   operating in the production environment and already providing services to other Contracting Government(s), is contemplating to provide services to Contracting Government(s) which was/were not included in previous testing;

    .2   Regional (RDC) or Cooperative (CDC) LRIT Data Centres:

        .1   is to undergo testing for first time; or

        .2   operating in the production environment, is contemplating to provide services to other Contracting Government(s) which was/were not included in previous testing.

2   The explanatory notes and guidance set out in this document should always be read together with the Protocols. Every reference to the Protocols constitutes at the same time a reference to the explanatory notes and guidance set out in this document.

3   The explanatory notes and guidance set out in this document should be observed and adhered to when conducting the test procedures and test cases specified in appendix 2 to the annex of the Protocols as specified in the table set out below. The test cases referred to in the aforesaid table are those specified in appendix 2 to the annex of the Protocols.

4   In the instances referred to in paragraph 1, when recording the results of a specific test as specified in appendix 2 of the annex to the Protocols against a test case specified in the table set out below, it is implied that the specific test case has been conducted subject to the provisions of the explanatory notes and guidance set out in this document.

5   In the instances referred to in paragraph 1, when completing any one of the parts of the Summary report provided in appendix 5 of the annex to the Protocols, it is implied that the test cases specified in the table set out below have been conducted subject to the provisions of the explanatory notes and guidance set out in this document.

6   When an NDC is contemplating to start providing services to Contracting Government(s) other than that it is establishing the centre and an RDC or CDC before commencement of any testing should ascertain that the polygons of the geographical areas included by each of the Contracting Governments concerned in the testing and production environments of the LRIT Data Distribution Plan fully complied with the constraints set out in section 5 of the Technical specification for the LRIT Data Distribution Plan.

7   An NDC contemplating to start providing services to Contracting Government(s) other than that it is establishing the centre and an RDC or CDC does not have to undergo all of the test procedures and cases set out in the Protocols for each and every one of the Contracting Government(s) associated with the LRIT Data Centre (DC) (i.e. establishing, or using the services of, the DC), provided

   .1   test cases DC-1.1, DC-1.4 and DC-4.1 are carried out and satisfactorily completed for all Contracting Governments associated with the DC (i.e. in order to check the functionality of receiving a valid position report from the IDE; ascertain that LRIT Data User (LDU) address is registered with the DC; and verify that the DC can receive a valid receipt message from the IDE for each LDU);

   .2   test cases DC-2.1 and DC-15.1 are carried out and satisfactorily completed for at least two Contracting Governments (which should preferably be the ones presenting the more complexities in the testing process);

   .3   additional further tests are carried out so as to test all possible foreseeable operational scenarios taking into account the peculiarities associated with the Contracting Government(s) which would be served by the DC; and

   .4   a detailed test plan is submitted to the Organization before the commencement of any tests. The Organization should in turn provide the aforesaid information and a copy of the proposed test plan to the IDE, the DCs which would be identified to assist its testing and to the LRIT Coordinator.
            A template for such a test plan is provided in the appendix to this annex as an aid to those DCs which need to develop such plan. It should be also used to document the actual tests which have been carried out in order to enable the DCs which are assisting the testing process and the IDE to certify the test results in accordance with the provisions of the Protocols.

Table

Explanatory notes and guidance

Test case	Guidance Expect results (in addition to those specified in appendix 2 of the annex to the Protocols)	The explanatory notes and guidance applies		
		NDC is contemplating to start providing services to other Contracting Government(s) and RDC or CDC is to undergo testing for the first time (Paragraphs 1.1.1 and 1.2.1)	NDC[1] is contemplating either to start providing services to other Contracting Government(s) or to become an RDC or a CDC (Paragraphs 1.1.2 and 1.1.3)	NDC[2] already providing services to other Contracting Government(s), and a RDC and CDC[3], are contemplating to provide services to a new[4] Contracting Government(s) which was/were not included in previous testing (Paragraphs 1.1.4 and 1.2.2)
DC-1.1 DC-1.4	The specified test should be conducted for each Contracting Government establishing or using the services of the DC if is entitled to receive the LRIT information. The position report is only received by the intended recipient.	Yes	Yes (only as far as the new Contracting Government(s) is/are concerned)	Yes (only as far as the new Contracting Government(s) is/are concerned)

---

[1]   Refers to an NDC operating in the production environment of the LRIT system.
[2]   Refers to an NDC operating in the production environment of the LRIT system.
[3]   Refers to an RDC or CDC operating in the production environment of the LRIT system.
[4]   The term new Contracting Government(s) in this column refers to Contracting Government(s) which was or were not included in the testing when the centre in question undergone prototype testing or developmental and integration testing.

Test case	Guidance Expect results (in addition to those specified in appendix 2 of the annex to the Protocols)	NDC is contemplating to start providing services to other Contracting Government(s) and RDC or CDC is to undergo testing for the first time (Paragraphs 1.1.1 and 1.2.1)	NDC[1] is contemplating either to start providing services to other Contracting Government(s) or to become an RDC or a CDC (Paragraphs 1.1.2 and 1.1.3)	NDC[2] already providing services to other Contracting Government(s), and a RDC and CDC[3], are contemplating to provide services to a new[4] Contracting Government(s) which was/were not included in previous testing (Paragraphs 1.1.4 and 1.2.2)
DC-1.2 DC-1.3 DC-1.5 DC-1.6 DC-2.2 DC-2.3 DC-2.5 to DC-2.9 DC-4.2 DC-15.2 to DC-16.2	The specified test should be conducted once using different LRIT Data Users. No additional expected results.	Yes	No	No

Test case	Guidance Expect results (in addition to those specified in appendix 2 of the annex to the Protocols)	NDC is contemplating to start providing services to other Contracting Government(s) and RDC or CDC is to undergo testing for the first time (Paragraphs 1.1.1 and 1.2.1)	NDC[1] is contemplating either to start providing services to other Contracting Government(s) or to become an RDC or a CDC (Paragraphs 1.1.2 and 1.1.3)	NDC[2] already providing services to other Contracting Government(s), and a RDC and CDC[3], are contemplating to provide services to a new[4] Contracting Government(s) which was/were not included in previous testing (Paragraphs 1.1.4 and 1.2.2)
DC-2.1	The tests specified in tables 2.2.1 and 2.2.2 should be conducted twice using two ships chosen from two different Contracting Governments. No additional expected results.	Yes	Yes (to be conducted only once)	No
DC-2.4	The specified test should be conducted once selecting one of the LRIT Data Users. The test should be repeated using a test scenario where the request message contains a request for a ship that is registered to the DC but not associated with the LRIT ID of the Contracting Government specified in the Data User Provider parameter. No additional expected results.	Yes	Yes	No

Test case	Guidance Expect results (in addition to those specified in appendix 2 of the annex to the Protocols)	NDC is contemplating to start providing services to other Contracting Government(s) and RDC or CDC is to undergo testing for the first time (Paragraphs 1.1.1 and 1.2.1)	NDC[1] is contemplating either to start providing services to other Contracting Government(s) or to become an RDC or a CDC (Paragraphs 1.1.2 and 1.1.3)	NDC[2] already providing services to other Contracting Government(s), and a RDC and CDC[3], are contemplating to provide services to a new[4] Contracting Government(s) which was/were not included in previous testing (Paragraphs 1.1.4 and 1.2.2)
DC-3.1 DC-3.2	The SAR SURPIC area should contain at least one ship position from each Contracting Government establishing or using the services of the DC. No additional expected results.	Yes	Yes (only as far as the new Contracting Government(s) is/are concerned)	Yes (only as far as the new Contracting Government(s) is/are concerned)
DC-4.1	The specified test should be conducted for each Contracting Government establishing or using the services of the DC. No additional expected results.	Yes	Yes (only as far as the new Contracting Government(s) is/are concerned)	Yes (only as far as the new Contracting Government(s) is/are concerned)
DC-10.1	The specified test should be conducted once. The pricing file should include the list of prices of all Contracting Governments establishing or using the services of the DC. No additional expected results.	Yes	Yes	Yes

Test case	Guidance Expect results (in addition to those specified in appendix 2 of the annex to the Protocols)	NDC is contemplating to start providing services to other Contracting Government(s) and RDC or CDC is to undergo testing for the first time (Paragraphs 1.1.1 and 1.2.1)	NDC[1] is contemplating either to start providing services to other Contracting Government(s) or to become an RDC or a CDC (Paragraphs 1.1.2 and 1.1.3)	NDC[2] already providing services to other Contracting Government(s), and a RDC and CDC[3], are contemplating to provide services to a new[4] Contracting Government(s) which was/were not included in previous testing (Paragraphs 1.1.4 and 1.2.2)
R/CDC-14.1	The specified test should be conducted if the R/CDC is routing internally LRIT messages. The journal file should contain a minimum of ten (10) LRIT messages. No additional expected results.	Yes	Yes	No
DC-15.1	The specified test should be conducted twice using two ships chosen from two different Contracting Governments establishing or using the services of the DC. No additional expected results.	Yes	Yes (to be conducted only once)	No

DEVELOPMENTAL TESTING PHASE

TESTING PLAN

(to be completed by National LRIT Data Centres wishing to provide services to other Contracting Government(s) and by Regional or Cooperative LRIT Data Centre wishing to undergo testing for the first time)

Environment	Testing

1   Details of the LRIT Data Centre (DC) to be tested or tested

Contracting Government[1]	
Type of LRIT Data Centre	National/Regional/Cooperative[2]
Providing services also to[3]	
Contracting Governments covered by the testing[4]	
LRIT ID (of DC)[5]	

2   Details of the Contracting Governments to be used/used[6] for each test required

Test case	*Name of the Contracting Government(s) to be used or used for the specific test*	*Dates[7] and times[8] (UTC) between which the testing was conducted (the columns below to be completed during testing)*	
		Started on	*Ended on*
DC-1.1	*[enter the name and LRIT ID of each of the Contracting Governments establishing or using the centre to be used for or used for the test]*		
DC-1.4	*[enter the name and LRIT ID of each of the Contracting Governments establishing or using the centre to be used for or used for the test]*		

---

[1]   In the space provided enter the name of the Contracting Government(s) establishing the LRIT Data Centre.
[2]   Delete as appropriate.
[3]   In the space provided enter the name(s) of the Contracting Government(s) (other than the Contracting Government(s) establishing the LRIT Data Centre tested) to which the LRIT Data Centre is providing services.
[4]   In the space provided enter the name(s) of the Contracting Government(s) for which the LRIT Data Centre is or has been tested.
[5]   In the space provided enter the LRIT ID used by LRIT Data Centre during the testing.
[6]   Delete as appropriate.
[7]   All dates should be numeric in the format DD/MM/YY.
[8]   All times should be UTC in the format HH:MM.

| Test case | Name of the Contracting Government(s) to be used or used for the specific test | Dates[7] and times[8](UTC) between which the testing was conducted (the columns below to be completed during testing) | |
		Started on	Ended on
DC-1.2	*[enter the name and LRIT ID of <u>one</u> of the Contracting Governments to be used or used for the test]*		
DC-1.3	*[enter the name and LRIT ID of <u>one</u> of the Contracting Governments to be used or used for the test]*		
DC-1.5	*[enter the name and LRIT ID of <u>one</u> of the Contracting Governments to be used or used for the test]*		
DC-1.6	*[enter the name and LRIT ID of <u>one</u> of the Contracting Governments to be used or used for the test]*		
DC-2.1	*[enter the name and LRIT ID of <u>two</u> Contracting Governments, including into brackets the IMO ship identification number of the selected ship for each one of the Contracting Governments, to be used or used for the tests specified in Table 2.2.1 and 2.2.2 of the Protocols]*		
DC-2.2	*[enter the name and LRIT ID of <u>one</u> of the Contracting Governments to be used or used for the test]*		
DC-2.3	*[enter the name and LRIT ID of <u>one</u> of the Contracting Governments to be used or used for the test]*		
DC-2.4	*[enter the name and LRIT ID of the Contracting Government, including into brackets the IMO Ship identification number of a ship that is not associated with the LRIT Data Centre, to be used or used for the first test]*		
	[enter the name and LRIT ID of the Contracting Government, including into brackets the IMO Ship identification number of a ship that is associated with other Contracting Government establishing or using the services of the LRIT Data Centre, to be used or used for the second test]		

Test case	Name of the Contracting Government(s) to be used or used for the specific test	Dates[7] and times[8] (UTC) between which the testing was conducted (the columns below to be completed during testing)	
		Started on	Ended on
DC-2.5	*[enter the name and LRIT ID of <u>one</u> of the Contracting Governments to be used or used for the test]*		
DC-2.6	*[enter the name and LRIT ID of <u>one</u> of the Contracting Governments to be used or used for the test]*		
DC-2.7	*[enter the name and LRIT ID of <u>one</u> of the Contracting Governments to be used or used for the test]*		
DC-2.8	*[enter the name and LRIT ID of <u>one</u> of the Contracting Governments to be used or used for the test]*		
DC-2.9	*[enter the name and LRIT ID of <u>one</u> of the Contracting Governments to be used or used for the test]*		
DC-3.1	*[enter the name and LRIT ID of <u>each</u> of the Contracting Governments establishing or using the centre to be used for or used for the test]*		
DC-3.2	*[enter the name and LRIT ID of <u>each</u> of the Contracting Governments establishing or using the centre to be used for or used for the test]*		
DC-4.1	*[enter the name and LRIT ID of <u>each</u> of the Contracting Governments establishing or using the centre to be used for or used for the test]*		
DC-4.2	*[enter the name and LRIT ID of <u>one</u> of the Contracting Governments to be used or used for the test]*		
DC-10.1	*[enter the name and LRIT ID of <u>each</u> of the Contracting Governments establishing or using the centre to be used for or used for the test]*		
R/CDC-14.1	No additional details are required		

		Dates[7] and times[8](UTC) between which the testing was conducted (the columns below to be completed during testing)	
Test case	*Name of the Contracting Government(s) to be used or used for the specific test*	*Started on*	*Ended on*
DC-15.1	*[enter the name and LRIT ID of two Contracting Governments, including into brackets the IMO ship identification number of the selected ship for each one of the Contracting Governments, to be used or used for the test]*		
DC-15.2	*[enter the name and LRIT ID of one of the Contracting Governments to be used or used for the test]*		
DC-15.3	*[enter the name and LRIT ID of one of the Contracting Governments to be used or used for the test]*		
DC-16.1	*[enter the name and LRIT ID of one of the Contracting Governments to be used or used for the test]*		
DC-16.2	*[enter the name and LRIT ID of one of the Contracting Governments to be used or used for the test]*		

3   Comments[9] in relation to the test cases specified in section 2 (for use, when necessary, to provide additional details of the test or when a Contracting Government was not considered for a specific test) (please include additional rows as necessary)

Test case	*Name and LRIT ID of the Contracting Government(s)*	*Comment(s)*

---

9   Further comment boxes may be added as necessary.

4 Details of the person who submitting the plan/confirming that the above tests have been carried out[10]

<table>
<tr><td>

....
(Signature[11] of the person)   *Date[12]*
</td></tr>
<tr><td>

Name, title and contact details (telephone and facsimile numbers and e-mail address) of the person who signed above

</td></tr>
</table>

_____

---

[10] Delete as appropriate.

[11] The part containing the signature should be scanned after it has been signed and sent to the Secretariat together with the electronically completed report.

[12] All dates should be numeric in the format DD/MM/YY.