



MARITIME SAFETY COMMITTEE
83rd session
Agenda item 6

MSC 83/6/11
31 July 2007
Original: ENGLISH

LRIT-RELATED MATTERS

Performance review and audit of the LRIT system

Submitted by IMSO

SUMMARY

Executive summary: This document provides the results of the evaluation undertaken by IMSO of the proposal submitted by the Marshall Islands in document MSC 83/6/6, which puts forward a proposal by an LRIT Consortium consisting of Pole Star Space Applications Limited, GateHouse A/S and Wallem Innovative Solutions

Action to be taken: Paragraph 19

Related documents: MSC/ISWG/LRIT 2/3/2; MSC 83/6/2, MSC 83/6/7 and MSC 83/6/13

Introduction

1 The Committee, at its eighty-second session, “decided to appoint IMSO as the LRIT Co-ordinator and invited IMSO to take whatever action it could in order to ensure the timely implementation of the LRIT system” (MSC 82/24, paragraph 8.49).

2 The duties of the LRIT Co-ordinator are set out in section 14 of Performance standards and functional requirements for the long-range identification and tracking of ships (the Performance standards) adopted by resolution MSC.210(81), which includes the following provisions:

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

- .2 *issuing requests for the submission of proposals for the establishment and operation of the International LRIT Data Centre and International LRIT Data Exchange;*
- .3 *evaluating the management, operational, technical and financial aspects of the proposals received taking into account the present Performance standard and any other related decisions of the Committee and submitting its recommendations in this respect for consideration by the Committee; and ...”*

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3 On 14 May 2007 IMSO therefore issued a Request for Proposals (RFP) for the Establishment, Operation and Maintenance of the International Data Exchange (IDE) and/or International Data Centre (IDC).

4 Subsequently, the MSC/ISWG/LRIT 2 concurred with a proposal by IMSO (MSC/ISWG/LRIT 2/3/2) that:

“... IMSO should evaluate the proposals received in response to the request it had issued for the submission of proposals for the establishment of the IDC and the IDE on the basis of their compliance with the applicable requirements of regulation V/19-1, the Performance Standards, resolution MSC.21(81) and any additional information provided in response to other issues it has stipulated in the aforesaid request. In this respect the Group agreed that the evaluation process should not take into account the technical specifications developed by the Ad Hoc Engineering Group as these had not been considered or approved by the Committee and those set out in the annex to MSC.1/Circ.1219 on Interim LRIT technical specifications and other matters merely represented work in progress.

The Group also accepted that, as IMSO had drawn attention in the request it had issued for the submission of proposals to a number of other non-technical issues which the MSC 83 might wish to take into account when reviewing any proposals, it should bring to the attention of the MSC 83 at the end of the “compliance matrix” any information on these, or other relevant issues, voluntarily included in any proposals on which it would report.” (MSC 83/6/2, paragraphs 65 and 67)

5 This document provides the results of the evaluation undertaken by IMSO of the proposal submitted by the Marshall Islands in document MSC 83/6/6, which puts forward a proposal by an LRIT Consortium (the Consortium) consisting of Pole Star Space Applications Limited, GateHouse A/S and Wallem Innovative Solutions. The compliance matrix is set out at annexes 1 and 2.

Evaluation

6 The MSC/ISWG/LRIT 2 noted certain aspects and financial considerations included in the Consortium proposal (MSC 83/6/2, paragraph 28). This evaluation report has not duplicated that summary and readers are encouraged to refer to MSC 83/6/2 itself.

Management Aspects

7 The management aspects of the proposal are covered generally in sections 2, 3 and 5 of the annex to MSC 83/6/6 and appear to be satisfactory. Provision has been made for strict management control through the proposed structures of either a Joint Venture or traditional commercial service contracts. Day-to-day management will be co-ordinated by the nominated Project Manager, supported by a dedicated Technical Manager and other key staff, working through a programmed series of formal management meetings.

Operational Aspects

8 The operational aspects of the proposal are covered generally in sections 7 and 10 of the annex to MSC 83/6/6 and appear to be satisfactory. These sections of the proposal deal with the physical facilities needed for successful implementation of the technical requirements, as well as the provision of the User Support Operations Centre.

Technical Aspects

9 The technical aspects of the proposal are covered generally in sections 5.3, 6, 7, 8, 9 and 11 of the annex to MSC 83/6/6 and appear to be satisfactory. The proposal details the existing sub-systems owned by members of the Consortium that may be re-used or adapted to provide an operationally compliant LRIT start-up service that is capable of being implemented within the very short time-scale required by the road map (resolution MSC.211(81)) and funded from within the resources proposed by the Consortium.

10 Technical implementation is proposed in two phases, each subdivided into two sub-phases. This provides a realistic possibility of co-ordinating the implementation in line with the availability of funds and other resources, without placing a significant burden on Contracting Governments or flag States.

Financial Aspects

11 The financial aspects of the proposal are covered generally in annex 3 of the annex to MSC 83/6/6 and appear to be realistic and affordable. It is important to note that these financial proposals can be scaled to take account of different actual numbers of ships participating in the International LRIT Data Centre. However, there will be a cost implication if the actual numbers differ significantly from what has been assumed in the proposal. The attention of the Committee is drawn particularly to the comment made in paragraph 13.12 of the proposal:

“For the system to be economically viable a critical mass of Contracting Governments are required to commit to the defined subscription level and usage to a level above 10M position reports per year.”

The Consortium is ready to provide further information to the Committee in this regard, when the actual scale of the commitments made by Contracting Governments is more clear.

12 Included in the aspects and financial considerations noted by MSC/ISWG/LRIT 2 is the observation that *“The IDC and IDE form an integrated system ... and there are no separate or distinct proposals for the IDC and the IDE.”* (MSC 83/6/2, paragraph 28.1). The MSC/ISWG/LRIT 2 expressed interest in receiving information about the financial implications if the IDE and the IDC were to be considered separately. IMSO has therefore requested the Consortium to provide such a financial projection and the Consortium will provide further information in this regard to the Committee at its eighty-third session.

Other Aspects

13 The RFP issued by IMSO on 14 May 2007 invited those making proposals to include voluntarily additional information, over and above that included in the core document that define the scope of the evaluation process (see paragraph 4 above). This information could, for example, relate to legal and other issues.

14 With regard to legal considerations, the proposal does not deal directly with the obligations of those countries that may host certain elements of the physical implementation to provide the Organization with suitable legal guarantees concerning the protection and inviolability of the data. IMSO has been informed that, in relation to this specific proposal, the Government of Singapore may provide information to the Committee in this regard.

15 The Consortium has taken the opportunity to provide a more detailed overview of the participating companies and their relevant capabilities in annex 4 of the annex to MSC 83/6/6.

Conclusions

16 On the basis of the information provided in MSC 83/6/6 and subsequent discussions, the Consortium has demonstrated, to the extent possible within the constraints established by decisions still to be taken by the Organization, the state of development of the technical specifications and the key dates provided in the road map (resolution MSC.211(81)), that its proposal complies with the established standards and requirements for the LRIT system.

17 The proposal also incorporates the need for further development of certain aspects of the LRIT system during the test and implementation phases in 2008.

18 IMSO has evaluated the proposal submitted by the Marshall Islands on behalf of the Consortium and has conducted further investigations with the point of contact for the Consortium. IMSO believes the Consortium has demonstrated compliance, or the ability and willingness to comply, with the operational, technical and functional requirements of the Performance Standards; and that the proposal offers a realistic financial model that can provide a sustainable evolving solution for LRIT. IMSO believes further that the proposal meets the essential criteria established by SOLAS regulation V/19-1, resolutions MSC.210(81) and MSC.211(81) and annex 2 to MSC 83/6/2, to the extent possible before further technical, operational and financial decisions have been taken by the Committee.

Action requested of the Committee

19 The Committee is invited to consider this evaluation report submitted by IMSO as the LRIT Co-ordinator, in particular the conclusions of the report, and decide accordingly.

ANNEX 1

IMSO LRIT Compliance Matrix

International LRIT Data Centre

	Source	Requirement	Evaluation	MSC 83/6/6
<i>SOLAS regulation V/19-1</i>				
1	Paragraph 1	nothing in this regulation or the provisions performance standards and functional requirements adopted by the Organization in relation to the long-range identification and tracking of ships shall prejudice the rights, jurisdiction or obligations of States under international law, in particular, the legal regimes of the high seas, the exclusive economic zone, the contiguous zone, the territorial seas or the straits used for international navigation and archipelagic sea lanes	Complies	1.2.1 / 6.1
2	Paragraph 2.1	capable of being applied to specified ships	Complies	1.2.1 / 6.1
3	Paragraph 5	messages include information specified	Complies	1.2.1 / 6.1
4	Paragraph 6	uses systems and equipment conforming to performance standards and functional requirements not inferior to those adopted by the Organization	Complies	1.2.1 / 6.1
5	Paragraph 6	capable of using shipboard equipment of a type approved by the Administration	Complies	1.2.1 / 6.1
6	Paragraph 8.1.1	capable of providing LRIT information to an Administration about ships entitled to fly its flag irrespective of where such ships may be located	Complies	1.2.1 / 6.1

	Source	Requirement	Evaluation	MSC 83/6/6
7	Paragraph 8.1.2	capable of providing LRIT information to a Contracting Government about ships which have indicated their intention to enter a port facility or a place under the jurisdiction of that Contracting Government irrespective of where such ships may be located ... etc.	Complies – subject to successful implementation of the DDP	1.2.1 / 6.1
8	Paragraph 8.1.3	capable of providing information to a Contracting Government about ships entitled to fly the flag of other Contracting Governments ... navigating within a distance not exceeding 1,000 nautical miles of its coast ... etc.	Complies – subject to successful implementation of the DDP	1.2.1 / 6.1
9	Paragraph 8.1.4	capable of preventing the provision of such information to a Contracting Government about a ship located within the territorial sea of the Contracting Government whose flag the ship is entitled to fly	Complies – subject to successful implementation of the DDP	1.2.1 / 6.1
10	Paragraphs 8.2, 9.1 and 9.2	capable of supplying LRIT information in accordance with the stated decision of Contracting Governments	Complies – subject to successful implementation of the DDP	1.2.1 / 6.1
11	Paragraph 11.1	provides for Contracting Governments to bear all costs associated with any LRIT information they request and receive	Complies	1.2.1 / 6.1
12	Paragraph 12	capable of providing LRIT information in relation to the search and rescue of persons in distress at sea, free of any charges	Complies	1.2.1 / 6.1
13	Paragraph 14	provides facilities for review and audit of the provision of LRIT information	Complies – as required by the Performance Standards	1.2.1 / 6.1
<i>Performance Standards</i>				
14	Preamble	all Long-range identification and tracking (LRIT) Data Centres and the International LRIT Data Exchange conform to functional requirements not inferior to those specified in the Annex to the present resolution	Complies	1.2.1 / 6.1

	Source	Requirement	Evaluation	MSC 83/6/6
15	<i>Paragraph 7.1</i>	<i>All LRIT Data Centres should:</i>	<i>See below</i>	
16	Paragraph 7.1.1	establish and continuously maintain systems which ensure, at all times, that LRIT Data Users are only provided with the LRIT information they are entitled to receive as specified in regulation V/19-1;	has demonstrated functional compliance	1.2.1 / 6.1
17	Paragraph 7.1.2	collect LRIT information from ships instructed by their Administrations to transmit the LRIT information to the centre;	has demonstrated functional compliance	1.2.1 / 6.1
18	Paragraph 7.1.3	obtain, when requested to provide LRIT information transmitted by ships other than those which transmit the information to the centre, LRIT information from other LRIT Data Centres through the International LRIT Data Exchange;	to be developed during Phase 1 (see MSC 83/6/6, annex, paragraph 1.2.1)	1.2.1 / 6.1
19	Paragraph 7.1.4	make available, when requested to provide LRIT information transmitted by ships other than those which transmit the information to the centre, LRIT information transmitted to the centre to other LRIT Data Centres through the International LRIT Data Exchange;	to be developed during Phase 1 (see MSC 83/6/6, annex, paragraph 1.2.1)	1.2.1 / 6.1
20	Paragraph 7.1.5	execute requests received from LRIT Data Users for polling of LRIT information or for change(s) in the interval(s) of transmission of LRIT information by a ship or a group of ships transmitting the information to the centre;	has demonstrated functional compliance	1.2.1 / 6.1
21	Paragraph 7.1.6	relay, when required, requests received from LRIT Data Users through the International LRIT Data Exchange to the other LRIT Data Centres for polling of LRIT information or for change(s) in the interval(s) of transmission of LRIT information by a ship or a group of ships not transmitting the information to the centre;	to be developed during Phase 1 (see MSC 83/6/6, annex, paragraph 1.2.1)	1.2.1 / 6.1

	Source	Requirement	Evaluation	MSC 83/6/6
22	Paragraph 7.1.7	execute requests received through the International LRIT Data Exchange from other LRIT Data Centres for polling of LRIT information or for change(s) in the interval(s) of transmission of LRIT information by a ship or a group of ships transmitting the information to the centre;	to be developed during Phase 1 (see MSC 83/6/6, annex, paragraph 1.2.1)	1.2.1 / 6.1
23	Paragraph 7.1.8	upon request disseminate to LRIT Data Users the LRIT information they are entitled to receive in accordance with the agreed arrangements and notify the LRIT Data User and the Administration when a particular ship stops transmitting LRIT information;	to be developed during Phase 1 (see MSC 83/6/6, annex, paragraph 1.2.1)	1.2.1 / 6.1
24	Paragraph 7.1.9	archive LRIT information from ships which transmit the information to the centre, for at least one year and until such time as the Committee reviews and accepts the annual report of the audit of its performance by the LRIT Co-ordinator.	partial compliance demonstrated - to be developed during Phase 1 (see MSC 83/6/6, annex, paragraph 1.2.1)	1.2.1 / 6.1
25	Paragraph 7.1.9	the archived LRIT information should provide a complete record of the activities of the centre between two consecutive annual audits of its performance;	to be developed during Phase 1 (see MSC 83/6/6, annex, paragraph 1.2.1)	1.2.1 / 6.1
26	Paragraph 7.1.10	for LRIT information archived within the last 4 days, send the LRIT information within 30 min of receiving a request;	partial compliance demonstrated - to be developed during Phase 1 (see MSC 83/6/6, annex, paragraph 1.2.1)	1.2.1 / 6.1
27	Paragraph 7.1.11	for LRIT information archived between 4 and 30 days previously, send the LRIT information within 1 h of receiving a request;	partial compliance demonstrated - to be developed during Phase 1 (see MSC 83/6/6, annex, paragraph 1.2.1)	1.2.1 / 6.1
28	Paragraph 7.1.12	for LRIT information archived more than 30 days previously, send the LRIT information within 5 days of receiving a request;	partial compliance demonstrated - to be developed during Phase 1 (see MSC 83/6/6, annex, paragraph 1.2.1)	1.2.1 / 6.1

	Source	Requirement	Evaluation	MSC 83/6/6
29	Paragraph 7.1.13	ensure using appropriate hardware and software, that LRIT information is backed up at regular intervals, stored at suitable off-site location(s) and available as soon as possible in the event of disruption to ensure continuity of service;	has demonstrated functional compliance	1.2.1 / 6.1
30	Paragraph 7.1.14	maintain a record of the ships which transmit LRIT information to the centre including name of ship, IMO Ship identification number, call sign and Maritime Mobile Service Identity (MMSI);	has demonstrated functional compliance	1.2.1 / 6.1
31	Paragraph 7.1.15	use a standard protocol for communications with the International LRIT Data Exchange;	to be developed during Phase 1 (see MSC 83/6/6, annex, paragraph 1.2.1)	1.2.1 / 6.1
32	Paragraph 7.1.16	use a standard secure transmission method with the International LRIT Data Exchange;	to be developed during Phase 1 (see MSC 83/6/6, annex, paragraph 1.2.1)	1.2.1 / 6.1
33	Paragraph 7.1.17	use a secure authentication method with LRIT Data Users;	has demonstrated functional compliance	1.2.1 / 6.1
34	Paragraph 7.1.18	use a standard and expandable message format for communicating with the International LRIT Data Exchange;	to be developed during Phase 1 (see MSC 83/6/6, annex, paragraph 1.2.1)	1.2.1 / 6.1
35	Paragraph 7.1.19	use reliable connections (e.g. TCP) to ensure that the LRIT information is successfully received by the LRIT Data Centres; and	to be developed during Phase 1 (see MSC 83/6/6, annex, paragraph 1.2.1)	1.2.1 / 6.1
36	Paragraph 7.1.20	add the appropriate data identified in table 2 to each transmission of LRIT information collect by the centre.	to be developed during Phase 1 (see MSC 83/6/6, annex, paragraph 1.2.1)	1.2.1 / 6.1
37	Paragraph 7.2.1	All LRIT Data Centres should co-operate and make available to the LRIT Co-ordinator the information required to enable the satisfactory completion of an audit of their performance	future compliance confirmed	1.2.1 / 6.1

	Source	Requirement	Evaluation	MSC 83/6/6
38	Paragraph 7.3	all LRIT Data Centres should provide to Search and rescue services (SAR services), LRIT information transmitted by all ships located within the geographic area specified by the SAR service requesting the information	to be developed during Phase 1 (see MSC 83/6/6, annex, paragraph 1.2.1)	1.2.1 / 6.1
39	Paragraph 9.4	an International LRIT Data Centre may, upon request, collect additional information from ships entitled to fly the flag of an Administration on the basis of specific arrangements concluded with the Administration concerned	may comply in future	1.2.1 / 6.1
40	Paragraph 12.1	provide for data security using methods such as authorization; authentication; confidentiality; and integrity	complies – to be further developed	1.2.1 / 6.1
41	Paragraph 13.1	provide for LRIT information to be available to an LRIT Data User within 15 min of the time it is transmitted by the ship	has demonstrated functional compliance	1.2.1 / 6.1
42	Paragraph 13.2	provide for on-demand LRIT information reports to be provided to an LRIT Data User within 30 min of the request	has demonstrated functional compliance	1.2.1 / 6.1
43	Paragraph 13.3	meet the quality of service criteria given in the regulation	has demonstrated functional compliance	1.2.1 / 6.1
44	Paragraph 14.3.3	co-operate in the testing of new and modified procedures or arrangements for communication between the IDE and other Data Centres	has demonstrated functional compliance	1.2.1 / 6.1
Technical Criteria (MSC 83/6/2, annex 2)				
45	Criterion 2	Accessible site	Complies	section 7
46	Criterion 3	Disaster recovery site/plan	Complies	section 7
47	Criterion 4	Physical security	Complies	section 7
48	Criterion 5	Communication links with ASP/CSP, IDE and DDP	Complies	section 7
49	Criterion 6	Access to reliable and adequate communications	Complies	section 7

	Source	Requirement	Evaluation	MSC 83/6/6
50	Criterion 7	Remote access provided for LRIT Co-ordinator	to be developed during Phase 1 (see MSC 83/6/6, annex, paragraph 1.2.1)	
51	Criterion 8	Multiple internet service providers accommodated	Will comply in future if proven to be necessary	section 7
52	Criterion 9	Type of ISP links	Complies	section 7
53	Criterion 9	Back-up ISP links (via microwave or ... ?)	Complies	section 7
54	Criterion 10	Redundant firewalls	to be demonstrated in Phase 1	
55	Criterion 11	No use of broadcast connections	Complies	section 7
56	Criterion 12	Adequate and scaleable data bandwidth	Complies	section 7
57	Criterion 13	Power supply physically protected	Complies	section 7
58	Criterion 13	Uninterruptible power supply (UPS)	Complies	section 7
59	Criterion 13	Emergency source of supply (emergency generator)	Complies	section 7
60	Criterion 14	Local back-up servers with seamless switch-over	Complies	section 7
61	Criterion 15	Remote back-up servers with near-to-seamless switch-over	capable but not provided for in proposal	
62	Criterion 16	Equipment redundancy	Complies	section 7
63	Criterion 17	Geographically separated	Complies	section 7
64	Criterion 18	availability and access to spare parts	Complies	section 7
65	Criterion 19	24/7 operation	Complies	section 7
66	Criterion 19	99.9% availability over the year	Complies	section 7
67	Criterion 19	95% availability over any day	Complies	section 7
	IMSO RFP	(Circular letter No.2794, annex)		
68	IMSO RFP	suitable maintenance arrangements	Complies	section 12

	Source	Requirement	Evaluation	MSC 83/6/6
69	Paragraph 6.2	proposal should include information on the cost basis on which it has been prepared, and the user costs, including the cost per message (with supporting data) that the bidder proposes to charge	Complies	section 12
70	- ditto -	show the income and expenditure expected	Complies	sections 12 and 13
71	- ditto -	include costs for staff, premises, equipment and any other relevant costs, and show how these will be recovered in user charges or from alternative sources	Complies	section 12
72	- ditto -	take into account the developing guidance given in the "Draft LRIT Costing and Billing Standard"	Complies as far as possible	section 12
73	Paragraph 7.1	LRIT data will be absolutely protected from interference, judicial or otherwise, or unauthorised access	Will comply – statements by relevant Governments to MSC 83	
74	Paragraph 7.2	agreement to cover such issues as the status of the international facility within the country, legal and immigration status of staff, freedom from taxation and other general headquarters issues	Subject to contractual arrangements with IMO	
75	- ditto -	host country or countries willing to sign agreement with either IMO or the LRIT Co-ordinator	Statements by relevant Governments to MSC 83	
76	Paragraph 7.3	willing to conclude a formal agreement with IMO for the provision of the LRIT facilities concerned	Yes	
77	- ditto -	willing to conclude an LRIT service contract with IMSO as the LRIT Co-ordinator	Yes	
78	Paragraph 8.2	willing to provide a facility that allows data centres to be barred from accessing the IDE	Subject to decision by MSC 83	

ANNEX 2

IMSO LRIT Compliance Matrix

International LRIT Data Exchange

	Source	Requirement	Evaluation
<i>SOLAS regulation V/19-1</i>			
1	Paragraph 1	nothing in this regulation or the provisions performance standards and functional requirements adopted by the Organization in relation to the long-range identification and tracking of ships shall prejudice the rights, jurisdiction or obligations of States under international law, in particular, the legal regimes of the high seas, the exclusive economic zone, the contiguous zone, the territorial seas or the straits used for international navigation and archipelagic sea lanes	Complies
<i>Performance Standards</i>			
2	Preamble	all Long-range identification and tracking (LRIT) Data Centres and the International LRIT Data Exchange conform to functional requirements not inferior to those specified in the Annex to the present resolution	See below
3	Paragraph 3.2	recognition should be given to international conventions, agreements, rules or standards that provide for the protection of navigational information	Complies
4	<i>Paragraph 10.3</i>	<i>The LRIT International Data Exchange should:</i>	<i>See below</i>
5	Paragraph 10.3.1	route LRIT information between LRIT Data Centres using the information provided in the LRIT Data Distribution Plan;	to be developed during Phase 1(a) (see MSC 83/6/6, annex, paragraph 1.2.1)

	Source	Requirement	Evaluation
6	Paragraph 10.3.2	be connected to all LRIT Data Centres;	to be developed during Phase 1(a) (see MSC 83/6/6, annex, paragraph 1.2.1)
7	Paragraph 10.3.3	use a store and forward-buffer to ensure LRIT information is received;	to be developed during Phase 1(a) (see MSC 83/6/6, annex, paragraph 1.2.1)
8	Paragraph 10.3.4	automatically maintain journal(s) containing message header information only which may be used for: invoicing functions and settlement of invoicing disputes; and audit purposes;	to be developed during Phase 1(a) (see MSC 83/6/6, annex, paragraph 1.2.1)
9	Paragraph 10.3.5	archive journal(s), for at least one year and until such time as the Committee reviews and accepts the LRIT Co-ordinator's annual report of the audit of its performance. However, the archived journal(s) should provide a complete record of the activities of the exchange between two consecutive annual audits of its performance;	to be developed during Phase 1(a) (see MSC 83/6/6, annex, paragraph 1.2.1)
10	Paragraph 10.3.5	the archived journal(s) should provide a complete record of the activities of the exchange between two consecutive annual audits of its performance;	to be developed during Phase 1(a) (see MSC 83/6/6, annex, paragraph 1.2.1)
11	Paragraph 10.3.6	prepare, as necessary, performance related statistical information based on the information contained in the journal(s);	to be developed during Phase 1(a) (see MSC 83/6/6, annex, paragraph 1.2.1)
12	Paragraph 10.3.7	use a standard protocol for communications with LRIT Data Centres;	to be developed during Phase 1(a) (see MSC 83/6/6, annex, paragraph 1.2.1)
13	Paragraph 10.3.8	use a standard secure access method with the LRIT Data Centres;	to be developed during Phase 1(a) (see MSC 83/6/6, annex, paragraph 1.2.1)
14	Paragraph 10.3.9	use a standard and expandable message format for communicating with the LRIT Data Centres;	to be developed during Phase 1(a) (see MSC 83/6/6, annex, paragraph 1.2.1)
15	Paragraph 10.3.10	use reliable connections (e.g. TCP) to ensure that the LRIT information is successfully received by the LRIT Data Centres;	to be developed during Phase 1(a) (see MSC 83/6/6, annex, paragraph 1.2.1)

	Source	Requirement	Evaluation
16	Paragraph 10.3.11	use agreed protocols to connect to LRIT Data Centres;	to be developed during Phase 1(a) (see MSC 83/6/6, annex, paragraph 1.2.1)
17	Paragraph 10.3.12	not archive LRIT information;	to be developed during Phase 1(a) (see MSC 83/6/6, annex, paragraph 1.2.1)
18	Paragraph 10.3.13	have continuous access to current LRIT Data Distribution Plan.	to be developed during Phase 1(a) (see MSC 83/6/6, annex, paragraph 1.2.1)
