



ANNEX A.7

Technical note 8

PROCEDURES TO IMPROVE
SHIP INTEGRATION
AND
SHIP REPORTING

VERSION 1.2
09-02-2012

Change history		
Version	Change record	name
Version 1.0	20-05-2010	VGU
Version 1.1 Rev.1	26-04-2011 Updates with new version ship DB; new definition Integrated; new status Waiting 1st position; Re-integration, Restart, DNID upload done by CGs	VGU
Version 1.2 Rev.2	08-02-2012 "DNID downloading protocol failed" replaced by "DNID upload failed"; "Re-integrate Ship" replaced by "Continue integration"; "GPS issue" and "Shipborne equipment not responding" added to the causes of non-integration. Various updates.	VGU, YTE

INTRODUCTION

This document aims to describe the procedures to follow for particular problems with ship integration as well as for ships which are not reporting according to their expected frequency.

The procedures describe the roles of:

- the EMSA Maritime Support Services (MSS),
- the contractor for the ASP,
- EU LRIT CDC participating Contracting Governments (CGs).

EMSA invites Contracting Governments to implement these procedures within their LRIT operational activities in order to achieve a better integration and reporting performance.

IMPORTANT NOTES

- These procedures provide technical **recommendations** to help CGs dealing with integration and reporting issues. If, for a given ship and issue, a procedure is repeated without success, it may be necessary to consult a radio-technician. Note that for shipborne equipment (also called “terminals” in this document) showing repeated reporting issues for a long time, their replacement should be contemplated. Dedicated LRIT equipment proved to have much less reporting issues;
- After the successful integration of the shipborne equipment (first report was received by the EU LRIT CDC), monitoring the ship reporting table is the responsibility of the Flag State (or Contracting Government, CG). The User Web Interface (UWI) provides real-time information to CGs for detecting ships not complying with the planned reporting rate. The CG should regularly (daily) check the information provided by the UWI and take appropriate action, as guided by these procedures, whenever a ship is not reporting properly. Maritime Support Services and the ASP assist and advise CGs in order to carry out their work;
- To use this document, go to the Index page 6. If it is:
 - an integration issue: depending on the cause of non-integration, use one of the procedures I-1, I-2 or I-3;
 - a reporting issue: depending on the reporting status of the ship, use one of the procedures A-1 to E-1.

- This set of procedures will replace and revoke Technical Note 8 v1.1 dated 26-04-2011;
- See definitions and abbreviations in Annex 1.



To clearly identify the e-mails you send to MSS when related to a specific ship, please remember that the subject of the e-mail should be, in this order:

IMO number – Radio ID (IMN, ISN, IMEI) – ship name – flag – object of the ticket

This convention is already used by MSS and the ASP and has proved to be efficient; it should be used as much as possible.

Please see annex 2 to recognize the Radio Identifier (Radio ID). You can find the Radio ID in the tables ***Ship integration*** or ***Ship reporting***, in the menu ***Ship management*** of the EU LRIT CDC, or in the LRIT Ship Database.

For the flag, in order to reduce the size of the subject, if possible use the 3-letter ISO code of your country; this code is already used in the UWI (List of ships, Manage users...)

Also, the object of the ticket must be precise: please avoid general wording like: invalid reporting, or not reporting.

The issue can be:

- Stopped for dry-dock
- Ship stopped reporting
- Over-reporting (SSAS)
- GPS issue
- ...

If you receive an e-mail from MSS, simply reply to it: then the subject is already correctly entered in the email.

Troubleshooting of ship integration and ship reporting issues

I - SHIP INTEGRATION: PROCEDURE FOR ASP AND CG	7
Initialization of the integration process	7
Procedure I-1: Status in the ship integration table is: Not integrated, need for an update in the LRIT ship DB	12
Procedure I-2: Status in the ship integration table is: Not integrated, need to perform checks on board the ship	13
Procedure I-3: Status in the ship integration table is: Not integrated, need to check with the Communication Service Provider	14
II - SHIP REPORTING: PROCEDURES FOR ASP, MSS AND CG	15
Prerequisite	15
A - Status: Not Reporting	16
Procedure A-1: Not reporting: ship never reported (no positions available in the UWI).....	16
Procedure A-2: Not reporting: ship was under-reporting and totally stopped sending position reports (old positions are available in the UWI)	17
B - Status: Stopped.....	19
Procedure B-1: Stopped: ship was over-reporting and then the terminal was stopped by the ASP	19
Procedure B-2: Stopped: ship was reporting normally, and then the reporting of the terminal had to be stopped by the CG because the ship was going to undergo repairs in dry dock, LRIT terminal had to be switched off, etc.	20
C - Status: Over-reporting	21
Procedure C-1: Over-reporting: detection.....	21
Procedure C-2: Over-reporting for SSAS-LRIT Terminals.....	22
D - Status: Under-reporting.....	23
Procedure D-1: Under-reporting	23
Procedure D-2 (Inmarsat C only): Under-reporting due to a new terminal or change of flag.....	24
E - Specific reporting issues to be solved on a case by case basis, depending on information given by ASP.....	25
Procedure E-1 (Inmarsat C only): Under-reporting or Not reporting, with MEM code = 70 (terminal sending position reports in stored mode)	25
ANNEX 1: DEFINITIONS / ACRONYMS THAT APPLY FOR THIS PROCEDURE.....	26
ANNEX 2: HOW TO FILL IN THE FIELDS IN THE EU LRIT SHIP DATABASE	34
1- Creation of a ship.....	34
2- Update of a ship.....	38

I - SHIP INTEGRATION: PROCEDURE FOR ASP AND CG

Initialization of the integration process

The explanations below can usefully be read together with the flowchart in figure 1.

1 – The ship should be registered within the LRIT Ship Database (DB). It is very important that CGs pay attention to the quality of data registered in this database and provide any additional data that can help in the integration process. Please refer to Annex 2 to have complete information on how to fill in the fields in the LRIT Ship DB.

Once a ship is registered in the LRIT Ship DB, the relevant National authority should regularly check the Ship integration status in the UWI.

2 – After the ship's data have been entered in the LRIT Ship DB, the information is automatically passed to the EU LRIT CDC each day at the cut-off time which is normally set at 21:00 hours UTC. You can see this information on the top right of the LRIT Ship DB:

Daily Cut-off Time: **21:00 UTC** and the integration process starts automatically.

If the data provided for a particular ship are correct, and if the terminal is correctly switched on (powered on) and logged on (connected to the satellite system), the normal duration of the integration process is usually about 24h after the data has been received in the EU LRIT CDC.




During the integration process, the Status in the Ship integration table is **Integration in progress**:

Ship Integration									
<input type="checkbox"/>	Ship name	IMO	MMSI	Date of entry	Status	Cause of failure	Comment	Radio ID	Radio installati...
<input type="checkbox"/>	THEODOROS I.V	9103831	239597000	17/06/2009 13:...	Integration In Progress			DST0054B80E4	inmarsatD
<input type="checkbox"/>	SC BALTIC	7393793	219007714	17/06/2009 13:...	Integration In Progress				inmarsatC
<input type="checkbox"/>

3 – Then, after the terminal is activated by the ASP, the status changes to **Waiting first position**;

4 – If the integration process concluded satisfactorily (i.e. a position report was received by the EU CDC), the integration status is set to **Integrated**.

5 – Nevertheless, if the first attempt to upload the DNID failed (Inmarsat C terminal), a second attempt is performed 72 hours later. If the second attempt is successful, then the integration can take up to 5 days ($\Sigma=24\text{h}$ integration process: first attempt + 72h before the second attempt + 24h integration process: second attempt). If the second attempt also fails, the **Ship integration** table will report a **Not integrated** status and provide the **Cause of failure**.

Ship Integration								
<input type="checkbox"/>	Ship name	IMO	Date of entry	Status	Cause of failure ▼	Comment	Radio ID	
<input type="checkbox"/>	AYANE	9395991	13/10/2010 23:15:43	Not Integrated	Invalid radio ID in LRIT ship DB		424879111	
<input type="checkbox"/>	RUBY-T	9457878	13/04/2011 23:16:33	Not Integrated	Invalid radio ID in LRIT ship DB		424879611	
<input type="checkbox"/>	AMELIA CACACE	9472713	17/06/2009 13:21:11	Not Integrated	DNID upload failed		424918211	

Depending on the cause described in the **Cause of failure** column, relevant procedure below (amongst I-1, I-2 or I-3) should be selected and the relevant actions need to be done. The table 1 below lists these causes, and if there is a need to press the button **Continue integration** in the UWI.

After a ship has had a status **Not integrated**, the integration process can be launched again and continued:

- automatically, through an update of the LRIT Ship DB by the CG (second column of table 1 below). The process is the same as point 2 above. The procedure I-1 below should be used (see also Annex 2 Section 2: Update of a ship. In the box: LRIT Radio Equipment, the field "Change of terminal" must be set to **YES**).
- manually: the request to continue the integration has to be done through the button **Continue integration** by the CG, after the CG has had the terminal checked (third column of the table 1 below). Manual integration can take up to 3 days, especially if the request was made before the weekend. One of the procedures I-2 or I-3 below should be used.

Cause of non-integration (cause of failure)	Resume integration automatic (in Ship DB: "Change of terminal" = YES)	Resume integration manual (button Continue integration)	Comments	Follow procedure:
Shipborne equipment deactivated (Inmarsat C only)	X		The terminal has been deactivated in ESAS (generally before a change of flag)	I-1
Invalid radio ID in LRIT ship DB	X		A wrong radio identifier was entered in the LRIT ship DB, or radio ID no longer exists	I-1
Shipborne equipment activated after the CTR date of issue (Inmarsat C only)	X		The issue date of the CTR entered in the LRIT Ship DB is too old. A CTR can be issued only after the activation of the terminal in ESAS	I-1
Shipborne equipment superseded (Inmarsat C only)	X		The terminal has been replaced (serial number changed), but the same radio identifier is used	I-1
DNID upload failed (Inmarsat C only)		X	DNID could not be uploaded in the terminal by the CSP	I-2
Shipborne equipment logged out (Inmarsat C only)		X	The terminal is logged out from Inmarsat network	I-2
Shipborne equipment not responding		X	The terminal and / or its installation have a problem	I-2
GPS issue		X	The GPS giving position and time to the terminal has a problem: the date is in the future or in the past	I-2
Shipborne equipment is barred (Inmarsat C only)		X	Barred by the Communication Service Provider, often because of unpaid bills.	I-3

Table 1: Causes of non-integration

Note:

The button **Continue integration** is available in the UWI in the **Ship Management** menu, bottom left of the **Ship Integration** table.

Only the LRIT NCA and any role including “Flag Full” have the necessary access rights to see this button in the table **Ship Integration**; users who do not have these roles cannot see this button, and should request that their LRIT NCA perform the Continue integration action in the procedures below, or request the LRIT NCA to give them access to this button by assigning a role containing “Flag Full”.

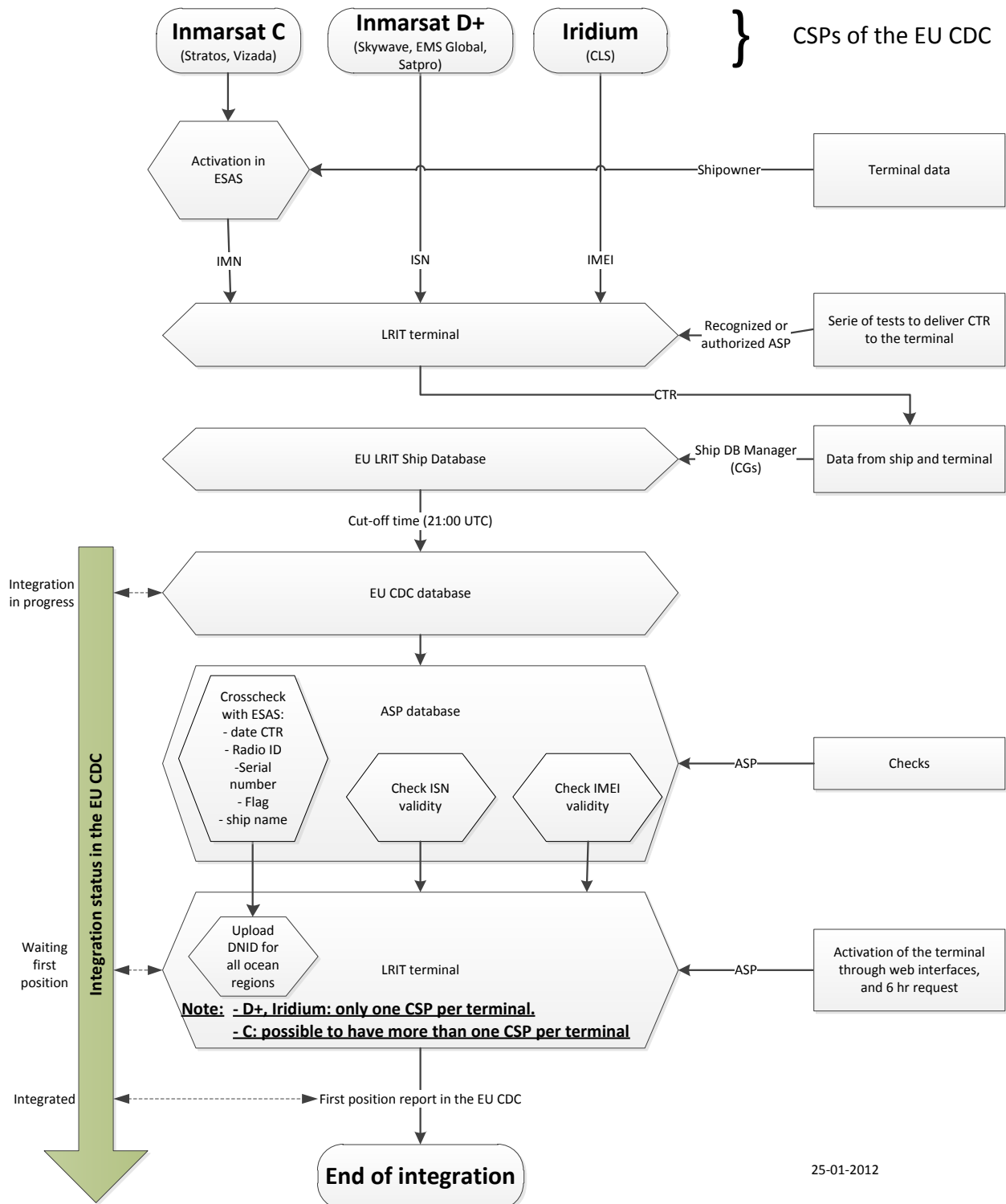


Figure 1: Ship integration chronology

Procedure I-1: Status in the ship integration table is: Not integrated, need for an update in the LRIT ship DB

Cause of non-integration (table Ship Integration, column Cause of failure)	Step	Action to be done	By whom		
			ASP	CG: administration	CG: technical team
<ul style="list-style-type: none"> - Shipborne equipment deactivated (Inmarsat C only) - Invalid Radio ID in LRIT Ship DB - Shipborne equipment activated after the CTR date of issue (Inmarsat C only) - Shipborne equipment superseded (Inmarsat C only) 	1	Obtain the updated Conformance Test Report (CTR) from the testing ASP or the Shipowner and update the CTR information in the LRIT Ship DB by inserting the correct Radio ID, CTR date of issue, and serial number. See also Annex 2 Section 2: Update of a ship. In the box: LRIT Radio Equipment, the field "Change of terminal" must be set to YES.		X	
	2	Updated information is transmitted automatically from LRIT Ship DB to the EU LRIT CDC (this could take about 24 hours) and integration is resumed. The status in the Ship Integration table should change from "Not integrated" to "Integration in progress".	X		
	3	Check the UWI after a maximum of 6 days in order to see if the ship has changed its status to "Integrated". If not, check the reason in the "Cause of failure" column and go to the right procedure in this section (I-1, I-2 or I-3).		X	

Procedure I-2: Status in the ship integration table is: Not integrated, need to perform checks on board the ship

Cause of non-integration (table Ship Integration, column Cause of failure)	Step	Action to be done	By whom		
			ASP	CG: administration	CG: technical team
<ul style="list-style-type: none"> - DNID upload failed (Inmarsat C only) - Shipborne equipment logged out (Inmarsat C only) - Shipborne equipment not responding - GPS issue 	1	<ul style="list-style-type: none"> - Check if the terminal is switched on - Do a log-out and log-in (needed only for Inmarsat C terminals) - For “GPS issue”: check the GPS which is giving date and position to the terminal 			X
	2	Ask to continue integration through the button Continue integration : status will pass to “Integration in progress”. NOTE: the ship should be in open sea to have a better satellite communication and facilitate the integration.		X	
	3	Integrate the terminal	X		
	4	Check the UWI after a maximum of 6 days in order to see if the ship has changed its status to “Integrated”. If not, check the reason in the “Cause of failure” column and go to the right table in this section.		X	X

Note:

The button **Continue integration** is available in the UWI in the **Ship Management** menu, bottom left of the **Ship Integration** table.

Procedure I-3: Status in the ship integration table is: Not integrated, need to check with the Communication Service Provider

Cause of non-integration (table Ship Integration, column Cause of failure)	Step	Action to be done	By whom		
			ASP	CG: administration	CG: technical team
Shipborne equipment is barred	1	Check with the Communication Service Provider of the shipowner why the equipment may have been barred.		X	
	2	Ask to continue integration through the button Continue integration : status will pass to "Integration in progress". NOTE: the ship should be in open sea to have a better satellite communication and facilitate the integration.		X	
	3	Integrate the terminal	X		
	4	Check the UWI after a maximum of 6 days in order to see if the ship has changed its status to "Integrated". If not, check the reason in the "Cause of failure" column and go to the right table in this section.		X	

Note:

The button **Continue integration** is available in the UWI in the **Ship Management** menu, bottom left of the **Ship Integration** table.

II - SHIP REPORTING: PROCEDURES FOR ASP, MSS AND CG

Prerequisite

- 1 - The ship is integrated.
- 2 - The LRIT Ship DB manager or LRIT NCA should regularly check the UWI and the **Ship Reporting** table for ships with a reporting status: Not reporting, Under-reporting, Over-reporting or Stopped.

<input type="checkbox"/>	Ship name	IMO	Last requested...	Request status	Request date	Reporting status	Status date	Comment	Date of last position		
<input type="checkbox"/>	BW CAPTAIN	8910902	6 hrs	Executed	11/07/2010 15:35:01	Normal	08/03/2011 12:12:18		15/03/2011 14:32:00		
<input type="checkbox"/>	OCEAN FIGH...	7825473	6 hrs	Executed	25/06/2009 09:05:07	Under	15/03/2011 01:51:08	61%	15/03/2011 13:38:00		
<input type="checkbox"/>	OCEAN FLO...	7392957	6 hrs	Executed	01/12/2010 13:14:06	Not reporting	06/02/2011 07:12:14	Former status:...	03/02/2011 03:02:00		
<input type="checkbox"/>	OCEAN KING	8302088	6 hrs	Executed	25/06/2009 09:05:07	Normal	24/10/2010 20:28:32		15/03/2011 13:46:00		
<input type="checkbox"/>	OCEAN MAIN...	7414262	6 hrs	Not reachable	15/10/2010 08:05:56	Not reporting	15/10/2010 08:05:56	On Demand R...	16/01/2010 06:08:00		
<input type="checkbox"/>	STADT REND...	9282168	6 hrs	Executed	16/03/2010 15:50:13	Normal	16/03/2010 15:50:13		15/03/2011 12:18:00		
<input type="checkbox"/>	SPAARNEDIJK	9285457	6 hrs	Not reachable	11/02/2011 07:22:55	Not reporting	11/02/2011 07:22:55	On Demand R...	07/02/2011 09:44:00		
<input type="checkbox"/>	CSCL AMERICA	9285990	6 hrs	Executed	30/04/2010 22:18:26	Normal	08/03/2011 13:10:06		15/03/2011 12:15:52		
<input type="checkbox"/>	KONRAD SC...	9292125	6 hrs	Not reachable	14/12/2009 14:09:22	Not reporting	14/12/2009 14:09:22		28/06/2009 21:20:00		
<input type="checkbox"/>	CSAV ROTTE...	9292137	6 hrs	Executed	15/03/2010 17:12:51	Normal	26/05/2010 16:07:58		15/03/2011 15:26:00		

Depending on the status, the associated actions should be taken and these are indicated in the procedures below.

Note:

Stop means the button “Stop”, available in the UWI in the **Ship Management** menu, bottom left of the **Ship Reporting** table.

Restart means the button “Restart”, available in the UWI in the **Ship Management** menu, bottom left of the **Ship Reporting** table.

DNID upload means the button “DNID upload” in the UWI in the **Ship Management** menu, bottom left of the **Ship Integration** table. The DNID is uploaded **ONLY** in the current ocean region the ship is sailing in, and not in all the ocean regions.

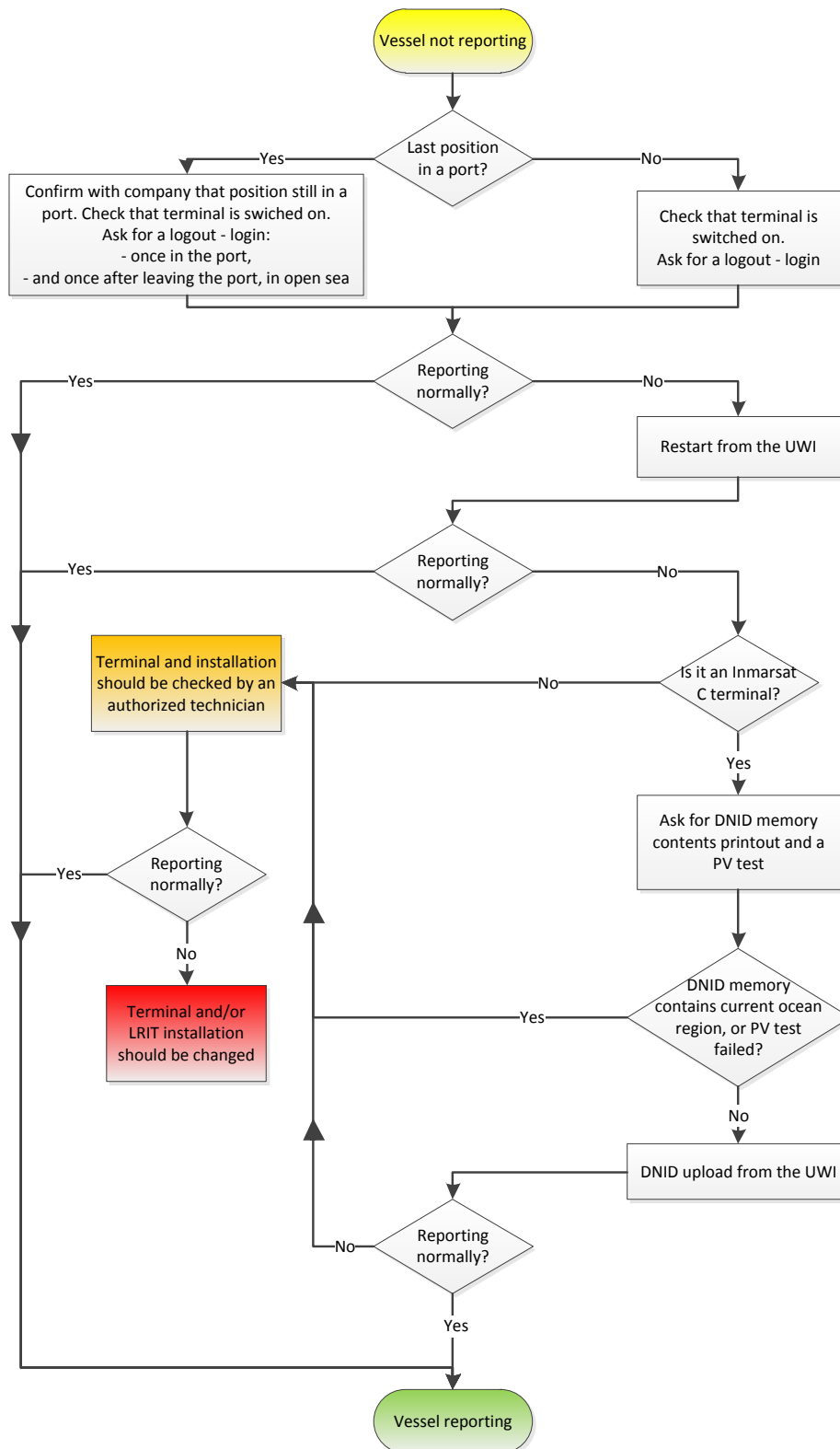
Only the LRIT NCA and any role including “Flag Full” have the necessary access rights to see these buttons in the Ship management menu; users who do not have these roles cannot see these buttons, and should request that their LRIT NCA to perform the Stop and Restart actions in the procedures below, or request the LRIT NCA to give them access to these buttons by assigning a role containing “Flag Full”.

A - Status: Not Reporting**Procedure A-1: Not reporting: ship never reported (no positions available in the UWI)**

Step	Action to be done	By whom			
		ASP	MSS	CG: administration	CG: technical team
1	The ship is not integrated. See Part I, and apply procedures I-1, I-2 or I-3, depending on the issue.			X	X

Procedure A-2: Not reporting: ship was under-reporting and totally stopped sending position reports (old positions are available in the UWI)

The flowchart below explains the different actions to be performed for a terminal which is not reporting.



Procedure A-2: Not reporting: ship was under-reporting and totally stopped sending position reports (old positions are available in the UWI)

To summarize the flow chart above, the actions to be done are summarized in the table below:

Step	Action to be done	By whom			
		ASP	MSS	CG: administration	CG: technical team
1	<ul style="list-style-type: none"> - Check if the terminal is switched on - Do a log-out and log-in (needed only for Inmarsat C terminals) - Wait 12 hours and check the UWI: Reporting status should be "Normal": end of procedure. If not then go to step 2 				X
2	<ul style="list-style-type: none"> - Click on Restart - Wait 12 hours and check the UWI: Reporting status should be "Normal": end of procedure. If not then go to step 3 for Inmarsat C terminal; for other terminals, go to step 6 			X	
3	<ul style="list-style-type: none"> - Ask the ship for DNID memory contents printout and a PV test - Check if the printout contains the ASP DNID and member number (see annex 1, definition of DNID) for the ocean region that the ship is sailing in - If not, and PV test is ok: then click on DNID upload, else go to step 6 			X	X
4	- Re-upload DNID and if successful Restart the terminal	X			
5	- Wait 24 hours and check the UWI: Reporting status should be "Normal": end of procedure. If not then go to step 6			X	X
6	<ul style="list-style-type: none"> - Terminal and installation should be checked by an authorized technician - Wait 12 hours and check the UWI: Reporting status should be "Normal": end of procedure. If not then go to step 1. 			X	X

If you run this procedure 2 or 3 times without success, then terminal and / or LRIT installation should be changed.

THIS PROCEDURE COVERS MOST OF THE NOT REPORTING CASES; AS SUCH, IT IS THE MOST IMPORTANT PROCEDURE AND SHOULD BE THE MOST USED

B - Status: Stopped**Procedure B-1: Stopped: ship was over-reporting and then the terminal was stopped by the ASP**

Note: The associated text that appears in the **Comment** column of the **Ship reporting** table is: "Stopped by ASP_user login"

Step	Action to be done	By whom			
		ASP	MSS	CG: administration	CG: technical team
1	Stop the terminal and inform MSS The associated text that appears in the Comment column of the Ship reporting table is: "Stopped by ASP_user login"	X			
2	Report to CG and ask them to perform certain actions requested by ASP (detail of actions on a case by case basis)		X		
3	Perform the actions requested by ASP: most of the time, check the installation, the software version used on the terminal and the configuration of the terminal. Verify with the reseller/manufacture/a radio technician that it is the correct one				X
4	- Click on Restart - Wait 12 hours and check the UWI: Reporting status should be "Normal": end of procedure. If not then go to step 5			X	
5	If the terminal still has a problem, the manufacturer/reseller/a radio technician must be contacted to have the terminal checked.				X

Procedure B-2: Stopped: ship was reporting normally, and then the reporting of the terminal had to be stopped by the CG because the ship was going to undergo repairs in dry dock, LRIT terminal had to be switched off, etc.

If a ship is not able to send LRIT positions normally because of repairs, being in dry dock, or because it has to sail in areas which necessitate switching off the radio equipment (e.g. some ports dealing with dangerous goods, rivers with low bridges that imply to fold masts...) the terminal should be stopped through the UWI. By doing so, the terminal will not appear with the status “under-reporting” or “not reporting” in the UWI.

Reminder: For repairs, dry dock: if the radio station of the ship is still powered, then the reporting period should simply be changed to 12h or 24h through the UWI (menu Requests / Make requests), and the terminal should not be stopped.

Note: The associated text that appears in the **Comment** column of the **Ship reporting** table is: “Stopped by CG_user login”, where CG represents the 2-letters ISO code of the Contracting Government.

Step	Action to be done	By whom			
		ASP	MSS	CG: administration	CG: technical team
1	The CG administration is informed by the shipowner/ship manager that a given ship is undergoing repairs in dry dock, etc. and is not able to send LRIT positions				X
2	Stop the terminal through the UWI The associated text that appears in the Comment column of the Ship reporting table is: “Stopped by CG_user login”, where CG represents the 2-letter ISO code of the Contracting Government			X	
3	The CG administration is informed by the shipowner/ship manager that a given ship has the LRIT terminal powered on again after the repairs				X
4	- Click on Restart - Wait 12 hours and check the UWI: Reporting status should be “Normal”: end of procedure.			X	

C - Status: Over-reporting

Be aware that over-reported positions are NOT displayed on the map of the UWI. Nevertheless, over-reported positions with a MEM code 11 are available through the Journals/Position report messages menu. Also, the status Over is reflected in the Ship reporting table.

Ship Reporting								
Ship name	IMO	Last requested...	Request status	Request date	Reporting status	Status date	Comment	Date of last position
MARTIN	8510295	1.hrs	Executed	20/01/2011 08:55:25	Over	23/12/2010 17:52:45	500%	16/03/2011 10:13:00

The **Comment** column in the **Ship reporting** table displays the percentage of over-reporting. 100% corresponds to a normal reporting rate: over-reporting is displayed as such when equal or above 125%.

Procedure C-1: Over-reporting: detection

Step	Action to be done	By whom			
		ASP	MSS	CG: administration	CG: technical team
1	<ul style="list-style-type: none"> - Automatically detects the over-reporting - Investigates the problem <p>If over-reporting is due to SSAS-LRIT terminal: Follow procedure C-2</p> <p>Otherwise: Follow procedure B-1</p>	X			

Procedure C-2: Over-reporting for SSAS-LRIT Terminals

Reminder: All incoming LRIT reports having a MEM code different from 11 are not processed by the ASP and therefore not sent to the EU LRIT CDC (Inmarsat C only).

These messages are stored by the ASP for a limited period of time (one month) in its binary format.

Step	Action to be done	By whom			
		ASP	MSS	CG: administration	CG: technical team
1	<ul style="list-style-type: none"> - Send a Restart to the terminal: the reporting status should pass to “Normal” - Inform MSS that a terminal is over-reporting due to SSAS activation (e.g. MEM code 93, or other codes) - Add the comment “SSAS/LRIT over-reporting issue” in the UWI 	X			
2	Inform the CG		X		
3	<ul style="list-style-type: none"> - Contact the Company Security Officer (CSO) of the ship’s company to inform him of the alert - Contact the shipowner to change the terminal configuration and if necessary upgrade the software of the terminal 			X	
4	Change the terminal configuration, upgrade if necessary				X
5	DNID should be deleted and reloaded: request the DNID to be uploaded again by the ASP through the button DNID upload			X	
6	<ul style="list-style-type: none"> - Re-upload DNID and if successful Restart the terminal - Delete the comment “SSAS/LRIT over-reporting issue” in the UWI 	X			
7	Wait 24 hours and check the UWI: Reporting status should be “Normal”: end of procedure.			X	

For a given ship, this procedure will be repeated once and then the terminal will be stopped. After this, procedure B-1 should be followed.

It is important to understand that although the reporting status should pass again to “Normal” in step 1, it is necessary to perform a corrective action in relation to the shipborne equipment: otherwise, the next SSAS alert will provoke the same over-reporting effect.

D - Status: Under-reporting

The **Comment** column in the **Ship reporting** table displays the percentage of under-reporting. 100% corresponds to a normal reporting rate: under-reporting is displayed as such when equal or below 75%.

Procedure D-1: Under-reporting

Reminder: Under-reporting can be due to a large number of causes which are not easy to identify. These causes are for example: the terminal antenna on board the ship is hidden by a mast and then not in direct view of a satellite; the ship is sailing in the polar regions with a terminal which is not appropriate for this area (only the Iridium satellite constellation covers the poles); the ship is sailing in a deeply embanked river, etc.

This procedure may in future be updated should MSS receive enough information and therefore a map could be developed showing the shadow areas, in order to be easier to detect whether the problem is due to the shadow area or to the terminal.

Step	Action to be done	By whom			
		ASP	MSS	CG: administration	CG: technical team
1	Inform MSS where the vessel is sailing (zone or a port where there may be interferences in transmission...)			X	
2	Keep a database of these data (which could be used in future for possible map of shadow areas)		X		

Note:

- In step 1, please inform MSS only if under-reporting started in a specific area, and stopped when the vessel went out of this area. If the vessel is under-reporting in a voyage between Europe and America, clearly the cause of under-reporting is not a shadow area.

- Please remember that LRIT positions are confidential, and as such cannot be sent by e-mail; what is needed in step 1 is an area where reporting problems are encountered, e.g. the coordinates of a rectangle, not the exact location of the ship.

Procedure D-2 (Inmarsat C only): Under-reporting due to a new terminal or change of flag

Reminder: It is the responsibility of the CG to update the LRIT Ship DB accordingly in case of a new terminal on board or a change of flag. The procedure below is only valid for Inmarsat C terminals, when a new IMN has been delivered or a new terminal (then new Serial number) has been installed and if a periodic rate change has been requested. It is only in this case that the ASP would be able to detect that a change of flag took place and the Ship DB was not updated by a CG: so it is not possible to rely only on the ASP to detect all issues of this type. The only way to avoid this problem is for the CG to update the LRIT Ship DB as soon as possible.

Note: When there is a change of flag between 2 CGs of the EU LRIT CDC, the ship is firstly removed from the Ship integration table, and then added again under the new flag if the integration was performed successfully.

Step	Action to be done	By whom			
		ASP	MSS	CG: administration	CG: technical team
1	Inform MSS that the IMN or Serial number no longer exists / is not the same as it is in the Inmarsat database (new terminal, or change of flag)	X			
2	Ask the CG to update the shipborne equipment data in the Ship DB (see Annex 2 Section 2: Update of a ship. In the box: LRIT Radio Equipment, the field "Change of terminal" must be set to YES)		X		
3	<ul style="list-style-type: none"> - Update the shipborne equipment data in the Ship DB (see Annex 2 Section 2: Update of a ship. In the box: LRIT Radio Equipment, the field "Change of terminal" must be set to YES) - After a maximum of 6 days, check in the ship integration table whether: <ul style="list-style-type: none"> * case of a new terminal: the new terminal has been properly integrated and in the ship reporting table the reporting status has returned to "Normal" * case of a change of flag: the ship appears as Integrated under the new flag, and in the ship reporting table the reporting status has returned to "Normal" 			LRIT ship DB manager	
4	If not, and depending on the cause of failure, follow procedures I-1, I-2, I-3 and/or A-2			X	

E - Specific reporting issues to be solved on a case by case basis, depending on information given by ASP**Procedure E-1 (Inmarsat C only): Under-reporting or Not reporting, with MEM code = 70 (terminal sending position reports in stored mode)****Reminder:**

- All incoming LRIT reports having a MEM code different from 11 are not processed by the ASP (Inmarsat only) and do not reach the EU LRIT CDC. These messages are stored by the ASP for a limited period of time (one month) in their binary format.
- In the procedure below, to avoid a high number of investigations by the CG, the ASP will inform MSS only if more than 50 positions were stored and sent to the ASP..
- A terminal working in stored mode is not compliant with the LRIT Performance Standards (MSC 263(84) §4)

Step	Action to be done	By whom			
		ASP	MSS	CG: administration	CG: technical team
1	- Inform MSS that a terminal is over-reporting, with MEM code = 70 - Do not stop the terminal, but a specific surveillance/monitoring is applied	X			
2	Inform the CG that the ship is not LRIT compliant		X		
3	Contact the shipowner to change the terminal configuration and if necessary upgrade the software of the terminal			X	
4	Change the terminal configuration, upgrade if necessary				X
5	DNID should be deleted and reloaded: Request the ASP for the DNID to be uploaded again through the button DNID upload			X	
6	Re-upload DNID and if successful Restart the terminal	X			
7	Wait 24 hours and check the UWI: Reporting status should be "Normal": end of procedure.			X	

ANNEX 1: DEFINITIONS / ACRONYMS THAT APPLY FOR THIS PROCEDURE

- **ASP**

Application Service Provider: a recognized ASP contracted to provide service to the EU LRIT CDC. It does the interface between the CSPs and the EU LRIT CDC.

- **CG:**

- administration: LRIT NCA, LRIT ship DB manager, Operational Contact Point

- technical team: shipowner, crew member on board able to use the radio equipment (master...), radio surveyor/inspection, radio installator/reseller

- **CSP**

Communication Service Provider: company operating satellite telecommunication services. In the LRIT system, it makes the link between the ships and the ASP.

- **CTR:**

Conformance Test Report according to IMO circular MSC.1/Circ. 1307

- **DNID:**

Data Network Identification. With Inmarsat C, to enable its position reports to be identified, a terminal must include a unique identification with the report. This identification is uploaded normally once and for all in the terminal by the ASP: this action is called activation of a ship in the ASP. This identification consists in:

- a DNID (4 digits)

- a member number (1 to 255)

- a LES ID (3 digits, see table below: it identifies the Ocean Region and the Operator. E.g: LES ID = 121: AOR-E: Atlantic Ocean Region East, Operator: Vizada)

This group of 3 elements is usually named: DNID.

A terminal must have a DNID for each ocean region the ship is sailing on; if a ship is sailing on the 4 ocean regions covered by Inmarsat C, then it should have 4 different DNID's uploaded.

There is a unique DNID+member number for a given IMN (see annex 2) **and** serial number (meaning a change of terminal, and so of serial number, will necessitate a new DNID+member number, to be uploaded in the new terminal by the ASP .

It is possible to recognize a DNID used for LRIT with the **text** associated to that DNID: the text identifies the name of the operator of the ASP.

e.g. if a terminal displays :



DNID 1525. LES 121. Member 196. Text Novacom

Then this DNID can be considered as used for LRIT purposes by the ASP of the EU LRIT CDC.

In the table below, the red rectangles show the LES codes used by the current ASP (Novacom, CLS).

Inmarsat-C Land Earth Station Operators and Access Codes 1 August 2008

Land Earth Station Operator	Country	Ocean Region			
		AOR-E	AOR-W	IOR	POR
Beijing MCN	China			311	211
Bezeq	Israel	127		327	
Vizada	France	121	021	321	221
KDDI	Japan	103	003	303	203
Morsviazspudnik	Russia	117		317	217
OTE	Greece	120		305	
Embratel	Brazil	114			
Singapore Telecom	Singapore			328	210
Stratos Global (Borum LES)	Netherlands	112	012	312	212
Stratos Global (Borum-2 LES)	Netherlands	102	002	302	
Stratos Global (Auckland LES)	New Zealand				202
Telecom Italia	Italia	105		335	
Telekomunikacja Polska	Poland	116		316	
Vizada	Norway	104	004	304	204
Vizada	USA	101	001	301	201
VISHIPEL	Vietnam			330	
VSNL	India			306	

- **ESAS DB:**

Electronic Service Activation System Database = The Inmarsat C database. Apart from the ship's name, the flag, the IMO number and MMSI, it should include all the correct details of the terminals (make, model...), and their related IMN. The activation date of the shipborne equipment is in this database.

- **IMEI:**

International Mobile Equipment Identifier, 15 digit number for Iridium, see Annex 2

- **IMN:**

Inmarsat Mobile Number, 9 digit number for Inmarsat Standard C and Mini C, see Annex 2

- **Inmarsat C:**

In this document, refers to Inmarsat Standard C and Mini C Communication Service Providers (CSP)

- **ISN:**

Inmarsat Serial Number, 12 digit number for Inmarsat D+, see Annex 2

- **LES:**

Land Earth Station. This is a facility that routes calls from mobile stations (e.g. a ship terminal) via satellite to and from terrestrial telephone networks.

- **MEM:**

Macro-Encoded Messages. In order to include as much information as possible in a data report, macro-encoded messages (MEMs) can be used to represent general terms by assigning a pre-defined code. Example: MEM code 11 means a position report.

- **MID:**

Maritime Identification Digits: a MID is a unique three-digit code identifying a country.

- **MMSI:**

Maritime Mobile Service Identity. An MMSI is a unique nine-digit code set into a radio equipment and AIS transceiver to identify a vessel or coastal station. The first three digits represent the MID number, the following six digits uniquely identify the station itself.

- **MSS:**

Maritime Support Services at EMSA, available 24/7.

- **POC:**

Point of Contact for the anti-piracy project.

- **PV test:**

Performance Verification test. Automatic tests and checks in Inmarsat C terminals giving the “health status” of the terminal.

- **Radio ID:**

Called **Radio identifier** in the LRIT Ship database. It can be the IMN, ISN or IMEI, see Annex 2.

Unique identifier of a shipborne equipment, so a request is sent by the ASP to one, and only one, ship.

- **Statuses in the EU LRIT CDC:**

Integration statuses in *Ship management*, *Ship integration tables*:

- **Integration in progress:**

This status is used either:

- After the ship's data have been entered in the LRIT Ship DB and automatically passed to the EU LRIT CDC for integration;
- After the **Continue integration** button has been pressed. See Chapter I Ship integration for the integration process.

- **Waiting 1st position:**

The terminal was successfully activated at ASP level (meaning the DNID was properly uploaded in the terminal for Inmarsat C network), and the EU CDC is waiting for the first position to change the status to **Integrated**.

- **Integrated:**

The terminal is integrated in the EU LRIT CDC. See Chapter I Ship integration for the integration process.

- Not integrated:

The terminal failed to be integrated in the EU LRIT CDC. See Chapter I Ship integration to solve the issue.

- Upload DNID in progress:

Status of a terminal after a request to upload a DNID through the **DNID upload** button.

- Removal in progress:

Status of a terminal after it has been removed from the LRIT Ship DB, and not yet removed from the EU CDC. This status will appear in the table **Ship integration** until it has been effectively removed by the ASP. Then, the ship does not longer appear in this table. The removal can take up to 48 hours.

The integration statuses are always available in the **Ship history** table, even for ships removed from the EU CDC.

Reporting statuses in Ship management, Ship reporting table:

- Normal (reporting status “Normal” in the EU LRIT CDC)

The ship is reporting according to the reporting rate (15 mn to 24h) which has been requested or according to the mandatory reporting of every 6 hours.

- Over-reporting (reporting status “Over” in the EU LRIT CDC)

The ship is reporting more than expected and this is due to 1) either a problem in the change of reporting period which has not been executed by the terminal correctly 2) or due to a problem with the Hardware. Over-reporting occurs when more than 25% of expected position reports are received.

- Under-reporting (reporting status “Under” in the EU LRIT CDC)

This is caused due to 1) some position reports not being sent by the terminal or are lost before reaching the satellite or 2) the last reporting rate change has not been executed by the terminal correctly. Under-reporting occurs when more than 25 % of expected position reports are not received or there are more than 3 consecutive position reports which are missing.

- Stopped (reporting status “Stopped” in the EU LRIT CDC)

The terminal is no longer sending any position reports. The terminal may have this status when the ship is undergoing conversions in dry dock or in port; undergoing repairs; or is laid up for a long period of time. In this case, the master can request the Administration to reduce the frequency of the transmission of the LRIT information to one transmission every 24 hour period or may temporarily stop the transmission of such

information.¹ It could also be that the shipmaster determines there is a potential danger to his crew and in which case he may stop completely the transmission.²

This can also occur when the ship was over-reporting and therefore the ASP stopped the equipment as it was incurring excessive costs.

- Not reporting: (reporting status “Not reporting” in the EU LRIT CDC)

This status is shown if the ship was under-reporting and because no position reports were received during a period of time, the status was changed to “Not reporting”.

The reporting statuses are always available in the **Ship history** table, even for ships removed from the EU CDC.

- **UWI:**

The EU LRIT CDC User Web Interface.

- **UWI's buttons:**

In the bottom of the table **Ship Integration:**

- **Continue integration:** This command is to request the continuation of the integration of a terminal when the causes of non-integration described in procedures I-2 and I-3 have been resolved. It should not be used for the causes described in procedure I-1, since the resolution of these causes automatically resumes/continues the integration.

- **DNID Upload:** This command is to request a DNID upload in the current ocean region the ship is sailing in. It is used in the procedures A-2, C-2 and E-1. It is not possible to request the DNID upload for an ocean region where the ship is not currently sailing. Unlike in the ship integration process, there is only one attempt to upload the DNID.

In the bottom of the table **Ship Reporting:**

¹ Paragraph 4.4.1 of Resolution MSC 263(84) Revised Performance Standards and Functional Requirements for the Long Range Identification and Tracking of Ships

² ITU International Radio Communication Regulation

- **Restart**: This command resets the shipborne equipment to the last reporting rate requested by the Flag State (or in case the ship is in the SAM area: to the reporting rate set in this area) or to 6 hours per default.

Note:

The command **Restart** is different from the Request “Restart/Reset”, not linked with reporting issues. Its functionality is further detailed in the EU LRIT CDC User Manual.

- **Stop**: This command should be used by the CG when a ship enters a dry dock, or has to sail in areas which necessitate to switch off the radio equipments / when radio equipments will not be able to emit: some ports dealing with dangerous goods, rivers with low bridges implying to fold masts...

Note:

The commands **Continue integration**, **DNID Upload**, **Stop** and **Restart** are only accessible by the LRIT NCA, any role including “Flag Full”, the ASP and the EMSA EU LRIT CDC Administrator.

ANNEX 2: HOW TO FILL IN THE FIELDS IN THE EU LRIT SHIP DATABASE

Please take note of the following clarifications for the EU LRIT Ship Database when you are filling in the relevant ship information to ensure that erroneous information is not entered in the various fields which could make the integration process for your ships much more longer.

Neither the Administrator of the EU LRIT Ship DB nor the ASP can create/update/delete ship data in the EU LRIT Ship DB and therefore if you detect or if you are reported any mistake, the LRIT Ship Data Manager is the only person able to make changes in the EU LRIT Ship Database.

1- Creation of a ship

In the EU LRIT Ship Database, in the *Create Ship* window, you will find different boxes with fields to fill in. The blue fields are mandatory; you must fill them in, otherwise the creation of the ship is not possible.

Create Ship

?

Ship Identification:

IMO Number: 9796846 ☒ Verify IMO

MMSI Number: 228306900

Call Sign: FAMA

Ship Name: AR MENHIR

Flag State: France

LRIT Radio Equipment:

Communication system: INMARSAT C/ mini C

Terminal model: JRC - JUE-95SA

Serial number: 4JR095B56894

Radio identifier: 422801379

*LRIT Mandatory: Yes

* In accordance with SOLAS regulation V/19.1

Contact Person:

Name:

Address

Phone Number:

Alternative Phone:

Fax Number:

Email:

Comment:

Start of Service:

Date: 2012-01-25
yyyy-mm-dd

Transfer of Flag:

Previous Flag: None (new ship) ▼

Shipborne equipment Type approval:

Type approved by the Administration: No ▼

Type approval Reference number:

Certified by the Administration Conformance test report issued by the ASP:

Date of issue:
yyyy-mm-dd

Shipborne equipment should be of a Type approved by the Administration or Certified by the Administration completing a Conformance Test as stated by IMO MSC.1 Circ. 1307

Create

Cancel

I – Box: “LRIT Radio Equipment”

To fill in the “LRIT Radio Equipment” box, please use the following information:

A – Communication system

The **Communication system** field is the type of communication network:

▼

- INMARSAT C/ mini C
- INMARSAT D+/IsatM2M/Satpro
- IRIDIUM
- Other
- Unknown

Please avoid using the “Other” or “Unknown” values.

B – Terminal model

It is the list of terminals associated with the communication system chosen above.

C - Serial Number

Free text; it is the serial number of the terminal above, necessary to integrate Inmarsat C and Inmarsat mini C shipborne equipment. Most of the time, you can find the serial number of the shipborne equipment in the Conformance Test Report (CTR).

- For Inmarsat mini C, the serial number is composed by:

Maker	Composition	Examples
Furuno	Starts with “4FE” + 9 digits or letters	4FE08847CF41
JRC	Starts with “4JR” + 9 digits or letters	4JR093A46369
Thrane & Thrane	Starts with “4TT” + 9 digits or letters	4TT0910D6C06

- For Inmarsat D+ or Iridium, if the serial number is not present in the CTR, then copy in the **Serial number** field the radio identifier: ISN (Inmarsat D+) or IMEI (Iridium).

The serial number is the unique key to refer to a terminal; MMSI or radio ID may be used successively in various terminals.

D - Radio identifier

The field called **Radio identifier** (called also Radio ID) should be filled in according to the table below:

Communication system	Radio identifier	Composition	Example
Inmarsat C	IMN (Inmarsat Mobile Number, 9 digit number)	Starts with digit "4" + 3 digits MID country code + additional 5 digits	422535610
Inmarsat mini C	IMN (Inmarsat Mobile Number, 9 digit number)	Starts with digit "4" + 3 digits MID country code + additional 5 digits	424098410
Inmarsat D +	ISN (Inmarsat Serial Number, 12 digit number)	Skywave, Satpro: starts with "DCC" + additional 9 digits or letters Satamatic: starts with "DST" + additional 9 digits or letters	DCC00475275E DST00267B03E
Iridium	IMEI (International Mobile Equipment Identifier, 15 digit number)	Starts with digit "3" + additional 14 digits	300034012328940
Other	Radio Identifier		

Please note that you can find the **Radio identifier** (radio ID) of the shipborne equipment in the Conformance Test Report (CTR). Please do not insert the **Radio identifier** and the the serial number of the shipborne equipment in the same field. Use the 2 separate fields to do this.

II – Box: "Comment"

Free text; here you can provide any additional information you find useful.

III – Box: "Shipborne equipment type approval"

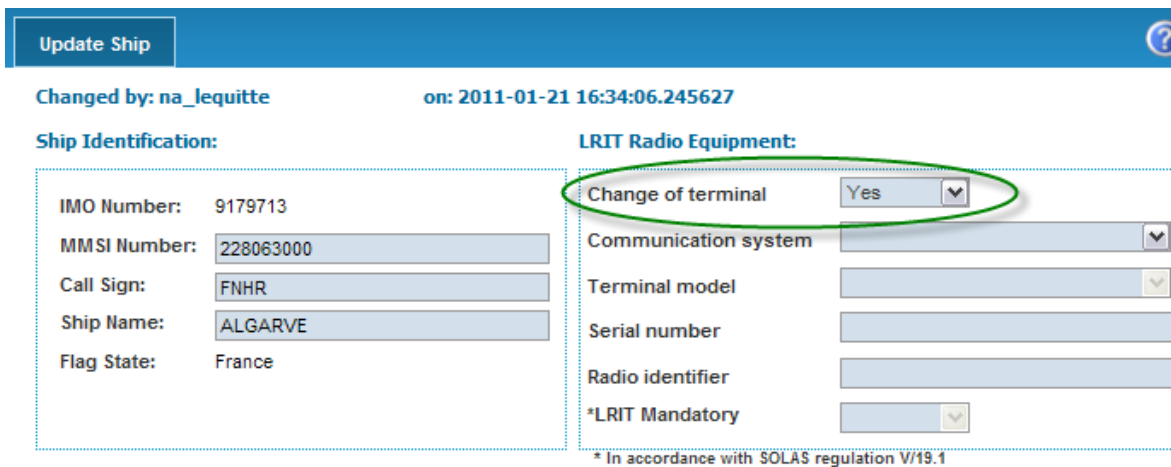
According to the IMO circular 1307 a Conformance Test Report (CTR) should be issued in all cases except for terminals type-approved by the administration in accordance with the provision of SOLAS regulation V/19-1.

At the issue date of this document, there are no terminals type-approved by the Administration according to regulation V/19-1. The field "Date of issue" in this box must therefore be completed. Take care not to enter the Date of completion of the testing of the shipborne equipment, but the date of issue of the CTR.

2- Update of a ship

2 cases are possible:

1. The update affects data in the box "LRIT Radio Equipment". Then, the field "Change of terminal" must be set to YES. All the fields in this box are erased.




The screenshot shows the 'Update Ship' interface. At the top, a blue bar contains the text 'Update Ship' and a help icon. Below this, the form is divided into two main sections: 'Ship Identification' and 'LRIT Radio Equipment'. The 'Ship Identification' section contains fields for IMO Number (9179713), MMSI Number (228063000), Call Sign (FNHR), Ship Name (ALGARVE), and Flag State (France). The 'LRIT Radio Equipment' section contains fields for Change of terminal (set to Yes), Communication system, Terminal model, Serial number, Radio identifier, and *LRIT Mandatory. A green oval highlights the 'Change of terminal' field. At the bottom of the form, a note states: '* In accordance with SOLAS regulation V/19.1'.

Ship Identification:		LRIT Radio Equipment:	
IMO Number:	9179713	Change of terminal	Yes
MMSI Number:	228063000	Communication system	
Call Sign:	FNHR	Terminal model	
Ship Name:	ALGARVE	Serial number	
Flag State:	France	Radio identifier	
		*LRIT Mandatory	

* In accordance with SOLAS regulation V/19.1



Please note that a simple change in the MID of the MMSI number implies a change of the Radio identifier for Inmarsat C terminals; so in this case it is necessary to enter again all the LRIT radio equipment data with the new Radio identifier. A new CTR, with the new radio ID, has to be issued and entered in the "Shipborne equipment type approval" box. A new integration will automatically follow.

2. The update does not affect data in the “LRIT Radio Equipment” box. Then, the “Change of terminal” field must be set to NO.

Update Ship 

Changed by: na_lequitte **on:** 2011-01-21 16:34:06.245627

Ship Identification:
IMO Number: 9179713
MMSI Number: 228063000
Call Sign: FNHR
Ship Name: ALGARVE
Flag State: France

LRIT Radio Equipment:
Change of terminal: No 
Communication system: INMARSAT C/ mini C
Terminal model: TTHRANE - TT-3000LRIT
Serial number: 4TT0883D05D9
Radio identifier: 422806312
*LRIT Mandatory: No 
* In accordance with SOLAS regulation V/19.1

In this case it is not possible to modify any data in the “LRIT Radio Equipment” box, but all the other fields can be updated.