



RTCA Paper 309-17/SC229-026

EUR-299-17 / WG98-27

Paris and Washington December 1<sup>st</sup>, 2017

**12<sup>th</sup> JOINT EUROCAE WG-98 / RTCA SC-229- Meeting Minutes**  
**“Aircraft Emergency Locator Transmitters (ELTs)”**

<b>Date</b>	<b>Tuesday 5<sup>th</sup> through Friday 8<sup>th</sup> September 2017</b>
<b>Place</b>	<b>Paris, France</b>
<b>Venue</b>	<b>EUROCAE, 9-23 Rue Paul Lafargue, 93210 Saint-Denis, FRANCE</b>
<b>Hosted</b>	<b>EUROCAE</b>

**Present:**

<b>Name</b>	<b>1<sup>st</sup> name</b>	<b>Company</b>
<b>First Name</b>	<b>Name</b>	<b>Company</b>
Richard	Anderson	Boeing
Xavier	Audouze	EASA
Craig	Bloch-Hansen	TSB
Alain	Bouhet	Orolia-McMurdo
Erin	Boyle	US Coastguard
Mylène	Bronde	DGAC/SAR Depart <sup>t</sup>
Thierry	Clairret	DGAC/SAR Depart <sup>t</sup>
Claude	Cresp	ELTA
Françoise	Despraux	DGAC/SAR Depart <sup>t</sup>
John	Fisher	FAA
David	Fuhrmann	USAF
Charisse	Green	FAA
Christopher	Hoffman	ACR Electronics, Inc.
Christophe	Horiot	Airbus
Fadl	Khalil	Boeing
Majed	Koubeissi	Cobham
Claude	Lelaie	Airbus
Stéphanie	Levaillant	DGAC/SAR Depart <sup>t</sup>
Pauline	Martin	Thalès
Lisa	Mazzuca	NASA

Jean-Paul	Mautil-Quinot	DGAC/SAR Depart <sup>t</sup>
Jim	Miller	NASA

### **WebEx:**

Blake	van den Heuvel	DRS
Chip	Bulger	FAA
Dan	Lemon	Comcast
Joe	Lostracco	DRS
John	Barry	FAA
Rebecca	Morrison	RTCA

## **Day 1 – Tuesday 5<sup>th</sup> September (9:00 AM – 5 PM)**

### **1. Welcome/Introductions/Administrative Remarks**

Tom welcomed everyone to RTCA for the joint RTCA SC-229 and EUROCAE WG-98 meeting.

Rebecca announced a statement for RTCA/EUROCAE policies regarding proprietary references and new membership policy below:

*Any party participating in the work of EUROCAE/RTCA is requested, in the timeliest possible manner and to the best of their knowledge, to draw attention to any known patent or to any known pending application on patent, either their own or of other organisations, that, according to their own judgment, may be considered to be or become an essential patent for the deliverable.*

*Conditions for use of such material are further detailed in the EUROCAE/RTCA Handbook. Final decision by EUROCAE/RTCA Council based on justification provided by WG.*

#### **EUROCAE/RTCA are membership-based organizations**

- *Participation to EUROCAE/RTCA activities is reserved for EUROCAE/RTCA members*
- *Non-members are welcome to participate for a limited period of time to understand the scope of activities (1-2 meetings / 3 months max)*
- *After this period, should they wish to continue their participation, they must become members*
- *Otherwise, WG membership and workspace access will be suspended*

**Questions** - No questions.

Tom asked for round table introductions.

Everyone was asked to sign the attendance list.

Charisse opened the meeting announcing the Federal Advisory Committee Act, stating that the Advisory Committee meeting is open to the public. Notice of the meeting was published in the Federal Register and that attendance is open to the interested public.

### **2. Agenda overview and approval**

Tom & Philippe reviewed the agenda from the on-screen presentation discussing the plan for the week.

#### **Day 1 Welcome/Introductions/Administrative Remarks**

Agenda overview and approval

Minutes Washington D.C. meeting review and approval

Review Action Items from Washington D.C. Meeting

Industry coordination and presentations

Week's plan  
Working Group of the whole meeting (rest of the day)

## Day 2 & 3

Working Group plenary to discuss chapters 1-7

## Day 4

Plenary Continued.  
ICAO GADSS-AG and Doc10054 activities: Philippe Plantin de Hugues  
Cospas-Sarsat Update: Dany St Pierre  
Cospas-Sarsat T-ELT Correspondence Working Group: Chris Hoffman  
ARINC Presentation: Tom Pack  
Helios and GRICAS presentations  
Other presentations  
Working group of the whole meeting  
Action item review  
Future meeting plans and dates (Pre-FRAC/OC, FRAC/OC, MASPS for RLS)  
Other Business

### 3. Minutes Washington meeting review and approval

Philippe gave an update of the minutes produced from the Washington meeting.

There were no questions regarding the minutes and they were considered to be accepted.

### 4. Review Action Items from Cologne

Tom reviewed the action items and updated their status:

- Address ELT(DT), among other, in the environmental part of the standard, where now the ELT is supposed to be alive instead of standby during tests (acceptance criteria need revision) *Philippe, Xavier, OEM and ELT manufacturers and volunteers*
- Installation requirements for ELT(DT), *Philippe, OEM and ELT manufacturers and volunteers*
- 2.15.5 define the functional interface requirements to the ELT(DT) (e.g. ARINC/Analog/digital) to include, output from triggering logic, how ELT(DT) is armed, activated, deactivated, and to trigger when Distress Tracking activation logic is disabled. *Greg, Philippe Alain Bouhet, Claude Cresp, Christophe Horiot, Fadl, Xavier*
- Installation instructions regarding autonomous power of external GNSS for ELT(DT)
- Rechargeable non-lithium batteries, including potential criteria to trigger an alert when depleted, criteria to determine low capacity, *Open for discussion*
- Xavier's proposal: Installation instructions regarding autonomous power of external GNSS for ELT(DT) *WG TBD*
- Xavier's proposal: Combination of alerts for combined types (cancellation vs crash shock) *WG TBD*
- Xavier's proposal: Integrate ELT unit/system discussion results *WG TBD*
- Review 2.8 *Chris Tom Christophe Blake Alain Claude Cresp Xavier Fadl*
- Review 2.12 *Chad Charisse Hervé* to add a line to exclude control panel and indicator from the text and to improve the requirement for fire protection
- Rechargeable non-lithium batteries, including potential criteria to trigger an alert when depleted, criteria to determine low capacity, *Open for discussion*
- Xavier's proposal: Installation instructions regarding autonomous power of external GNSS for ELT(DT) *WG TBD*
- Xavier's proposal: Combination of alerts for combined types (cancellation vs crash shock) *WG TBD*
- Xavier's proposal: Integrate ELT unit/system discussion results *WG TBD*
- Review 2.8 *Chris Tom Christophe Blake Alain Claude Cresp Xavier Fadl*
- Review 2.12 *Chad Charisse Hervé* to add a line to exclude control panel and indicator from the text and to improve the requirement for fire protection
- Review 3.6.1 *Tom Claude Cresp Kyle check Stuart*

- Review 4.1.1.1 and check that there is no conflicts between ED-62B and C/S documents *PPH Dany*
- Update the file regarding ELT definition (equipment vs system/unit) *Xavier and PPH* send the doc to the group once done
- Review 4.4.8 audio frequency ??
- Review 4.5.1 *Christophe Horiot Chris H and Claude*
- Review 4.6.1 *Tom Claude Kyle Stuart*

*It was noted that most items were either complete or would be completed during the course of the week.*

## **5. Working Group of the whole meeting (rest of the day)**

Plenary continued to look at the definitions part of chapter 2 in the morning and completed that work.

Plenary continued working on the rest of chapter 2 for the afternoon.

### **Day 2 (All Day)**

The Working group continued as a plenary and worked through Chapter 2, discussing remote controllers followed by Power supplies in the afternoon. ELT(AD) Sections were held for future as a full proposal will be submitted.

### **Day 3 (All Day)**

The group continued as plenary to review chapter 6 and broke out for ELT(AD) proposal from Blake via WebEx at 3pm.

### **Day 4 (AM)**

Tom welcomed everyone back to Plenary for presentations.

## **6. Presentations**

### **ICAO GADSS-AG and Doc10054 activities: Philippe Plantin de Hugues**

Philippe gave a presentation on ICAO Doc10054 activities, describing their objectives with Annex 6 and what is being planned to produce guidance material and have performance based requirements.

Chris asked if the document was just for guidance or was it mandatory. Philippe confirmed that it is just guidance.

Philippe described the structure of the document from the background to GADSS high level aircraft tracking and considerations into aircraft in distress through to the various chapters covering guidance material for location of aircraft in distress and flight data recovery.

### **Cospas-Sarsat Update: Dany St Pierre**

Dany provided the group with an update to of some of the activities that Cospas-Sarsat have been working on the last few months that were relevant to the group, covering the Cospas-Sarsat programme evolution on MEOSAR, development of 2<sup>nd</sup> generation beacons while maintaining the current system. He gave an update on satellite status with new ground segments and what is planned for the future. Dany discussed the various meetings that have taken place since the last meeting, particularly TG2 where they reviewed the concept of operation for ELT(DT)s and changes to the operational documents (C/S A documents) required to address the distribution of alerts for SGBs and ELT-(DT)s.

He discussed the proposed amendments recommended to documents A.001, A.002, A.003, A.005 and A.006 and that they also reviewed the questions raised by the TG-1/2017 with regard to the use of a combined-function ELT(DT)/(AF).

He also announced that they also prepared a draft “Cospas-Sarsat Concept of Operations for ELT(DT)”.

*The full presentation is available on the web space.*

## **Questions**

*Fadl asked - Where do you see the schedule where the full capability to support ELT(DT) to be implemented. Dany said it would be address ED at the JC but they plan to have the documentation ready by the next council, the ground segment should follow shortly after. The plan is to have documentation at the beginning of next year and plan to meet the 2021 deadline.*

*Chris – how are we going to get it into the JC? What does this committee think about homing? Dany said we may need to modify some of the documents for example to look at homing etc.*

*George – part of the problem is that there isn't a definition for this device. Cospas Sarsat are guessing and they need a clear fundamental requirement.*

## **Battery Update: Chris Hoffman**

Chris provided an update on batteries looking at existing ETSO/TSO and what is already covered regarding batteries.

Chris summarised stating that:

- *Existing battery options and requirements seem to be well covered by the current ELT TSO.*
- *The current ELT TSO permits the use of Rechargeable Batteries.*
- *The latest RTCA Battery requirements in DO-347 and the coming updates to DO-227 and DO-311 are due to be referenced in updated TSOs next year.*
- *Our current Battery text would seem to be in contradiction to the intent of TSO-C126b*

Chris asked if we want to change or add some further text on Batteries to the MOPS?

He said that if we have concerns about retained battery capacity periods, charging periods, charger capabilities, charge state before ELT activation etc., then it seems we would need to add text to address these issues in Chapter 6 under installation as they are not a part of the ELT system.

*The full presentation is available on the web space.*

## **ARINC/AEEC Presentation: Tom Pack**

Tom gave a presentation on the formation of the ARINC Airline Electronic Engineering Committee (AEEC) and the work of the Systems Architecture and Interfaces (SAI) Subcommittee for Global Aircraft Tracking (GAT).

He described the:

- ARINC Project Initiation/Modification and how the document works.
- Phased Approach to Autonomous Distress Tracker (ADT) and Timely Recovery of Flight Data (TRFD)
- ADT Parts and Functions
- Implementation architecture
- GAT Team Requirements Discussions/Issues

Tom also discussed the next stages and future meetings.

*The full presentation is available on the web space.*

### **GRICAS presentation**

Pauline provided an update from the Galileo Search and Rescue Return Link Improvement group discussing their work on their objective, to improve safety and security of air navigation, answering to new ICAO requirements and providing a solution to ADT phase of GADSS.

Her presentation included solutions with major recommendations. She discussed the various trials that they had completed, discussing the good results that they had received. They plan to carry out more trials in Spain and Toulouse early next year.

*The full presentation is available on the web space.*

### **Helios presentation**

Alain gave an update on Helios program describing their current status, their global concept, quality management system, system integration, design assumptions & recommendations, second generation activities and return link service activities.

*The full presentation is available on the web space.*

## **7. Plenary**

Plenary continued after lunch to discuss Distress tracking in section 2.

## **8. Action item review**

Philippe reviewed the action list as some of the outstanding actions had been closed during the week on chapter 1, 6 and 7. It was suggested that these changes were noted on the worksheet with separate actions from the plenary.

## **9. Pre-Frac Review**

Anna gave an overview of the FRAC process explaining how it works. The idea is that before going to open consultation they try and get comments from the committee sorted out before Frac. The idea is that the document is sent to the committee with a comments sheet prior to FRAC. The committee make comments, the comments would be reviewed in the December meeting and try and get a resolution. Then following that FRAC will commence after that meeting with public consultation. The EUROCAE template was demonstrated on-screen. Anna explained that this process has worked very well with other working groups.

## **10. Future meeting plans and dates**

It was proposed that the Washington meeting would be increased to 4 days instead of 3.

The March meeting was discussed and Philippe took the action to find a venue in Europe. Dates were discussed and the 13-16 March 2018 was proposed and agreed for the last meeting.

## **11. Other Business**

Philippe discussed that EUROCAE are proposing a TOR for the MASPS and that as soon as ED-62B is completed, RTCA will stop working and EUROCAE will take benefit of the working group looking at RLS in Europe. More details will follow once the TORs are agreed.

## **12. Adjourn**

Tom thanked Charisse, John Fisher, Anna, Philippe and Stuart for their work.

He also thanked everyone for attending.

Meeting closed 16:00

### **List of Actions**

The list of actions is included and updated on the file "DO-204 - Working version.doc" available on the web space.

Plenary actions are:-

ACTION NUMBER	ACTIONNEE	ACTION	STATUS
ACTION 1	Philippe	find a venue for the final meeting in Europe	OPEN
ACTION 2	Philippe	Send revised document with actions attached.	OPEN
ACTION 3	ALL	Review revised document with actions attached and continue WebEx calls and ad hock working groups	OPEN