



EUROPEAN AVIATION SAFETY AGENCY  
AGENCE EUROPÉENNE DE LA SÉCURITÉ AÉRIENNE  
EUROPÄISCHE AGENTUR FÜR FLUGSICHERHEIT

# Flight recorders Our rules, your tools

Annual Meeting between EASA  
and European Safety Investigation Authorities, 09 April 2014

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Your safety is our mission.



# Summary

- I. Flight recorders and Safety Investigation at EASA
- II. The European Flight Recorder Partnership Group (EFRPG)
- III. New and upcoming rules



## I. Flight recorders and Safety Investigation at EASA

*What is a flight recorder?*

- An “aircraft safety system” (CS XX.1309)?
- Or an **investigation tool**?
  - Not covered by the conventional risk-matrix approach
  - End-user = safety investigators
  - One case does not make the safety case
  - And yet they are so essential for safety!
- In the “natural” remit EASA Safety Investigation Section
  - Because of our missions and competence
  - To provide a consistent approach across EASA



## I. Flight recorders and Safety Investigation at EASA

- In total more than **51 Safety Recommendations (SRs)** related to flight recorders and addressed to EASA
  - ESTO, FINL, FRAN, GERF, GREC, HUNG, IRLD, NETH, NORW, PORT, SPAN, SWED, UNKG.
  - Almost all SRs ask to amend rules or standards



# I. Flight recorders and Safety Investigation at EASA

- Main topics of flight recorders related SRs?
  - Flight recorder **serviceability**
  - Facilitating the **retrieval of data**
    - Localisation
    - Decoding
    - recording preservation
  - FDR **flight parameters**
  - Flight recorders **for light aircraft**
  - **More robust** specifications
    - power supply
    - crash detection
    - recording duration



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## II. European Flight Recorder Partnership Group

### ➤ EFRPG

- =flight recorder experts dedicated to “*issues related to the design, installation, operation, serviceability and use of regulatory flight recorders*”
- Not an EASA Rulemaking Group!
- Active since 2010 (7 Meetings so far)
- Delegates from Safety Investigation Authorities (SIAs), National Aviation Authorities (NAAs), Industry, Pilot Associations



## II. European Flight Recorder Partnership Group

- EFRPG deliverables
  - “*Initial Safety Evaluations*” and “*Positions*”
    - Main driver = safety recommendations and ICAO
    - Collect data and intelligence, analyse & conclude
    - 8 documents finalized
      - Not published
  - EFRPG deliverables **are not** EASA documents
- SIAs may be solicited by EFRPG
  - To confirm or assess the extent of an issue
  - To get CASIAs’ position on a question





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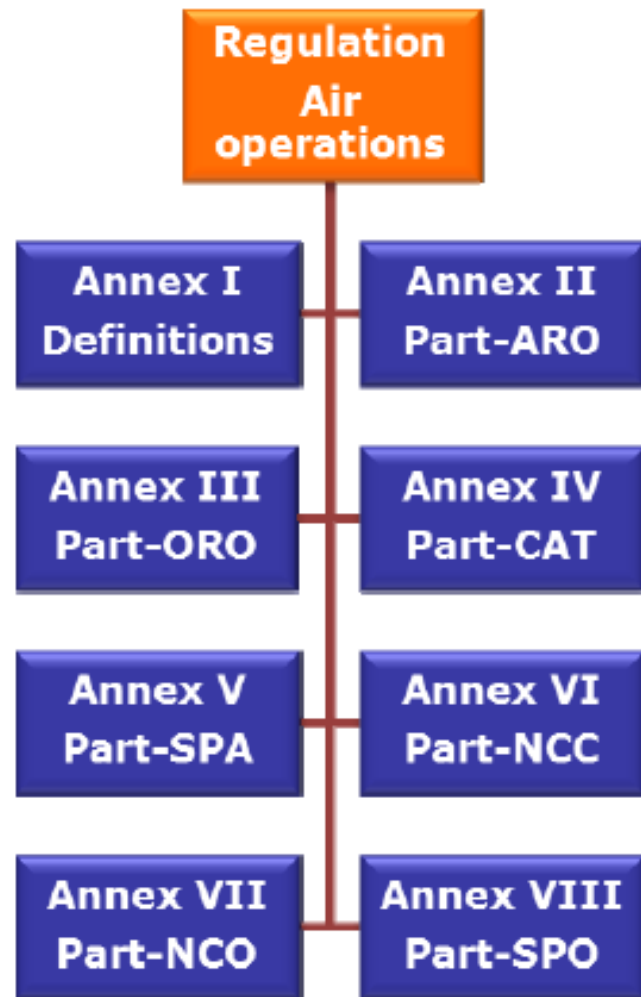


# New and upcoming – in OPS rules

- OPS rules = Part of « first extension » of Agency Rulemaking remit
- Scope
  - all types of operations
  - Aeroplanes, helicopters, balloons and sailplanes



# New and upcoming – in OPS rules



- Commission Reg (EU) 965/2012
- Commission Reg (EU) 800/2013
- EASA Opinion 02/2012

Implementing Rules (**IR**) and  
Acceptable Means of Compliance  
(**AMC**)/ Guidance Material (**GM**)



## III. New and upcoming – in OPS rules

### Flight recorder provisions in OPS requirements:

- IR and AMC/GM of Part CAT
  - Applicable no later than 28 October 2014
- IR and AMC/GM of Part NCC
  - Applicable no later than 25 August 2016
- IR and AMC/GM of Part SPO
  - EASA Opinion 02/2012 (not yet adopted)



### III. New and upcoming – in OPS rules

<b>CAT Aeroplanes</b>	<b>Before EASA OPS rules</b>	<b>Carriage requirement according to EASA OPS rules</b>
CVR	EU OPS	Same as EU OPS
FDR	EU OPS	Same as EU OPS
Data link recording	No requirement	If data link communication capability & CVR is required & manufactured after 08. April 2014



### III. New and upcoming – in OPS rules

<b>CAT Helicopters</b>	<b>Before EASA OPS rules</b>	<b>Carriage requirement according to EASA OPS rules</b>
CVR	JAR OPS 3	Same as JAR OPS 3
FDR	JAR OPS 3	Same as JAR OPS 3
Data link recording	No requirement	If data link communication capability & CVR is required & manufactured after 08. April 2014

- In addition, extended recording duration for the FDR and CVR for helicopters
  - manufactured after 01. Jan 2016



### III. New and upcoming – in OPS rules

<b>NCC and SPO Aeroplanes</b>	<b>Before EASA OPS rules</b>	<b>Carriage requirement according to EASA OPS rules</b>
<b>CVR</b>	No requirement	<ul style="list-style-type: none"><li>• If MCTOM &gt; 27 000 kg &amp; manufactured after 01 Jan. 2016; or</li><li>• If 2 pilots &amp; (more than 1 turbojet or more than 2 turboprop) &amp; TC after 01 Jan. 2016</li></ul>
<b>FDR</b>	No requirement	If MCTOM > 5 700 kg manufactured after 01 Jan. 2016
<b>Data link recording</b>	No requirement	If data link communication capability & CVR is required & manufactured after 01 Jan. 2016



### III. New and upcoming – in OPS rules

<b>NCC ans SPO Helicopters</b>	<b>Before EASA OPS rules</b>	<b>Carriage requirement according to EASA OPS rules</b>
<b>CVR</b>	No requirement	If MCTOM > 7 000 kg & manufactured after 01 Jan. 2016
<b>FDR</b>	No requirement	If MCTOM > 3 175 kg & manufactured after 01 Jan. 2016
<b>Data link recording</b>	No requirement	If data link communication capability & CVR is required & manufactured after 01 Jan. 2016





### III. New and upcoming – in OPS rules

- AMC & GM to OPS Part CAT, NCC, SPO
  - **New!** Operational checks of flight recorders
    - Regular inspections of recordings
    - Calibration checks
  - **Upgraded** flight recorders performance
    - ED-112 for a/c manufactured after 01. Jan 2016
    - ED-112 FDR parameters list



### III. New and upcoming – NPA 2013-26

- *NPA 2013-26: "Amendment of requirements for flight recorders and underwater locating devices"*
  1. **Obsolete recording technologies**
    - Magnetic tape, magnetic wire, frequency modulation
  2. **CVR overruns**
    - In particular after serious incidents
  3. **Insufficient transmission time of flight recorder ULDs**
    - Currently 30 days
  4. **Locating aircraft wreckage in oceanic areas**
    - Very deep & very large search area



### III. New and upcoming – NPA 2013-26

Issue	Proposed solution
<b>Obsolete recording technologies</b>	<ol style="list-style-type: none"><li>1. <i>(Short-term) More frequent recording inspections</i></li><li>2. <i>(Short-term) Mandate pre-flight check</i></li><li>3. Phase out obsolete recording technologies</li></ol>
<b>CVR overrun</b>	<ol style="list-style-type: none"><li>1. <i>(Short-term) Preservation measures in the Operations Manual</i></li><li>2. Retrofit CAT aeroplanes with 2 hours CVRs</li><li>3. 15 hours-duration CVRs for large &amp; newly manufactured CAT aeroplanes</li></ol>
<b>Transmission time of flight recorder ULDs</b>	All flight recorders ULDs to have a transmission time of 90 days
<b>Locating aircraft wreckage in oceanic areas</b>	Fit large CAT aeroplanes overflying oceans with: <ul style="list-style-type: none"><li>• ULD with a very long detection range, or</li><li>• Means to locate point of impact within 6 nm accuracy</li></ul>



### III. New and upcoming – RMT.0271

*RMR.0271: « Flight recorders for light aircraft »*

- Addressing 7 SRs
- Scope= OPS rules
  - CAT, NCC, NCO, SPO
  - aeroplanes, helicopters, balloons and sailplanes
- Terms of Reference: Q2/2014



### III. New and upcoming – RMT.0249

*RMT.0249: « Recorders installation and instructions for continued airworthiness »*

- Addressing 8 SRs
- Scope= Certification Specifications
- Topics
  - CVR audio quality
  - More robust power supply
  - Crash detection logic
  - FDR decoding documentation
- Terms of Reference: Q3/2014



# Conclusions

- Flight recorders:
  - **EASA's rules**
  - **SIAs' tools**
- Recommendations to SIAs:
  - **Record and document** findings with flight recorders
  - **Make public** findings with flight recorders
    - E.g. in investigation reports or safety studies
  - **Follow up** standardisation and rulemaking activities and **provide feedback** when requested
    - EUROCAE, SAE, ARINC, etc
    - EFRPG request for data or comments
    - EASA Rulemaking tasks and ICAO State Letters



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# Thank you for your attention

Questions?

Your safety is our mission.  
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