



ECA
Piloting Safety

ECA Position Paper

EASA Opinion 01/2014 for an amendment of requirements for flight recorders and underwater locating devices

Representing over 38.000 professional pilots from 37 European countries, ECA welcomes the general intention behind the EASA Opinion 01/2014, i.e. to allow for a quicker location of accident aircraft location and a thorough analysis of the factors that contributed to an accident.

In particular, ECA welcomes and supports the proposals on longer duration and more easily detectable Underwater Locating Devices (ULD). We recommend considering an earlier implementation of the proposed introduction of such ULD, subject to a careful assessment of the costs related to retrofitting to ensure these costs are justified and proportional to the risks.

As regards the proposed increase of the recording time of Cockpit Voice Recorders (CVR) from the current 2 hours to 20 hours, ECA stresses the following:

1. Recording flight crew conversations is a normal and necessary part of the pilots' work environment. Every moment they are in the cockpit, flight crews are continuously recorded, with the CVR storing at least the last 2 hours of their conversations. Pilots support this because – as safety professionals – they clearly understand the safety benefits arising from being able to analyse the flight crews' conversations and ambient audio prior to and during an accident. This helps to learn the factors contributing to accidents in order to prevent future ones happening.
2. Pilots submit to such recording under the strict condition that the CVR data is to be used exclusively by accident investigation authorities in the context of their safety investigations. Pilots are one of the few professions that agree to being recorded at their workplace and the consequent infringement of their privacy
3. National and European legislators recognise the need to protect CVR recordings (Reg. 996/2010). However, despite various legal provisions at EU and national level, as well as best practices in many airlines, CVR data or their transcripts have too often leaked to the public and media¹, exposing data with private and personal content – sometimes the last minutes of the crews' lives – to a wide audience, generating speculation, interpretations and apportioning blame – in a way that may be far removed from what actually happened, what contributed to the accident and why.
4. This inappropriate use and distribution of sensitive CVR data beyond accident investigation agencies negatively affects Just Culture and the safety improvement efforts in Europe. Extending CVR duration would increase the quantity of data available for misuse significantly.

¹ Links to CVR data that leaked <http://www.airdisaster.com/cvr/cvrwav.shtml>
YouTube list CVR and ATC Recordings [link](#)
Spanair Flight 5022 (JK5022) [link](#)
Alaska Flight 261 [link](#)
Swissair Flight 111 [link](#)
Turkish Airlines 1951 [link](#)

5. Leaking of CVR data results in speculation that increases the pressure on accident investigators, on the judiciary to act quickly to hold accountable those 'responsible', and on other authorities or public figures to come up with quick answers, rather than waiting for the Final Report to be published and generating mature safety improvements.
6. Increasing CVR duration would also increase the data that is potentially available to the airline management. While many companies in Europe have internal procedures – and sometimes agreements with the pilot representatives – in place to ensure sensitive data is not misused, this is not the case for all companies. Hence, an increased recording time – combined with very powerful digital storing facilities and the possibility to cross-check CVR and FDM data – would also increase the scope for (un)intentional (ab)use of such data by company management for other than safety purposes (e.g. any form of disciplinary measures). Although this would not be in line with EU legislation, not all airlines are as exemplary as some, and not all legislation is adequately enforced.
7. Increasing CVR duration on European aircraft also increases the risk of CVR data being used – and potentially made public – by non-European authorities, which are not bound by EU legislation and the protections contained therein. This is the case especially for long-haul operations (at which an increase of the recording time is actually aimed) where the majority of the flight is outside Europe. If an accident happens outside Europe, the national safety and judicial authorities will be entitled to seize the CVR and will be bound by their own local laws, by local political considerations, and general public pressure. – This would be an unintended – but very real – consequence that must be taken into account.
- 8. Therefore improved CVR Data Protections are an essential pre-requisite before increasing the amount of CVR Data in circulation. Without these protections CVR duration should not be changed.**
 - a. The majority of problems associated with (increased) CVR data misuse will be mitigated - with no effect on safety levels - if any legislation mandating increased CVR duration specifies that only official state accident and incident investigation authorities may access, download and store CVR data. This would address the urgent need to prevent and provide accountability for CVR data misuse.
 - b. It is crucial that protections are put in place for aviation personnel with respect to CVR and FDR data that are based on Reg. 996/2010 (accident investigation) and Reg. 376/2014 (occurrence reporting).
 - c. To at least partially address points 4, 6 and 7, it is essential that any legislation specify that upon engine shutdown at the completion of a flight which has contained no investigable incident, Commanders have the right to erase the contents of the CVR, and operator procedures must not conflict with this right.
 - d. Whilst the privacy rights of aviation personnel may be regarded as sometimes conflicting with safety needs, they cannot be ignored (as recognised by the protections in Reg. 996/2010 and Reg. 376/2014). Any regulation and especially the issues in point 3 should be reviewed and addressed with consultation from the European Data Protection Supervisor in order to ensure respect for the fundamental rights of aviation personnel.
 - e. The proposed changes to the Implementing Rules and the related new Acceptable Means of Compliance (AMCs) are a welcome step in the right direction. However, they contain problematic/insufficient provisions and must be improved and strengthened in order to allow longer CVR recording times while minimizing the problems listed above. Crucially, they must be legally binding – as the corresponding provisions of Reg. 996/2010 are – as part of the Implementing Rules/Annex (part CAT), rather than having the status of 'soft law' (AMCs). The annex to this document makes a number of suggestions to this effect.

- f. To further enhance CVR data protection EASA is urged to study the feasibility of using data encryption and restricting access to the encryption key to investigation authorities.
9. EASA states that there are “frequent cases of the cockpit voice recorder (CVR) overwriting the recording after an accident or a serious incident” (see EASA explanatory note, p.4). This is actually not the case. EASA bases this observation on the assessment carried out by the European Flight Recorder Partnership Group² (EFRPG), which uses the EASA database on worldwide occurrences and statistics from national safety investigation bodies. Based on this data, EFRPG identified 32 worldwide accidents and serious incidents over a period of 11 years, where the CVR duration was found to be insufficient. Of these 32 cases of CVR overruns, in two thirds (23 cases) the relevant CVR recording could have been kept but was not (mainly because the CVR was not properly preserved after completion of the flight). In the remaining one third (9 cases), more than 2 hours elapsed from the occurrence to the end of the flight, leading to the recording being overwritten before flight completion. This “remaining third could only be addressed by increasing the CVR recording duration beyond two hours” EFRPG concludes. This is 9 worldwide cases over 11 years, where EASA’s proposal would have made a difference for the safety investigation (if it were somehow applied globally). While each accident and serious incident merits a full assessment, the benefit in a somewhat arbitrary 10-fold extension is therefore marginal.
10. Additionally, since EU regulation will only apply to European aircraft, its effects will be even smaller than the analysis in point 9, unless the regulation was part of international coordination to provide a universal approach.
- 11. European CVR duration needs to reflect international norms and best practice. The evidence does not support increasing duration unilaterally, or to an arbitrary absolute figure.**
- a. Joining the approach based on tailoring duration to the endurance of the aircraft, currently under discussion internationally, is the most precise, proportionate, and (through coordination) effective and widespread way to deliver the greatest safety benefits.
 - b. Accordingly it will be necessary to follow discussions at ICAO Air Navigation Commission³ (ANC) and Flight Recorder Panel (FLIRECP) level regarding the duration of CVR recordings and once concluded and clear recommendations (necessity, modalities and duration) are provided they can be incorporated in Europe.

If the identified problems are addressed as outlined above, in an internationally coordinated framework, an extension to CVR recording time would be acceptable and of some benefit.

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Attachment: ECA proposed changes to Acceptable Means of Compliance & Guidance Material (CRD to NPA 2013-26).

Final, 26/06/2014

² EFRPG_SE_2012-04_VeryLongDurationCVRs_20121128.doc

³ “IP5 of AN-WP/8697.PDP outlined a proposal to extend the duration of CVR recordings beyond the present two-hour duration. The ANC did not agree to the proposed “last 15 hours of its operation”. Technology may permit a considerable length of time; however a suitable length would need to consider the length of a flight(s), number of (shorter) flights recorded, retention, erasure (over-recording) and protection of the information. In some cases, previous flights contained key information on what happened during the accident flight, however many short haul flights could be captured on a 15 hour recording. More work was required on the long-term objectives, recording/erasing procedures and intentions of the proposal. Additionally the recommendations for the protection of safety information made by the SIPTF should be considered.” Extract from Job Card sent by ANC to FLIRECP, 12 March 2014.

ANNEX – ECA proposed changes to Acceptable Means of Compliance & Guidance Material (CRD to NPA 2013-26).

Annex to the Draft Commission Regulation amending Commission Regulation (EU) No 965-2012

ANNEX

Annex IV (Part-CAT) to Commission Regulation (EU) No 965/2012 is amended as follows:

[...]

3. Subparagraph (f)(1) of paragraph CAT.GEN.MPA.195 is replaced by the following:

- ‘(1) CVR recordings shall not be used for purposes other than the investigation by a safety investigating authority, by the competent authority or by the administration of justice, or for ensuring the CVR serviceability, unless:
- (i) a procedure related to the handling of CVR recordings and of their transcript is in place; and
 - (ii) all crew members and maintenance personnel concerned have given their prior consent.’

13. Subparagraph (f)(1) of paragraph NCC.GEN.145 is replaced by the following:

- ‘(1) CVR recordings shall not be used for purposes other than the investigation by a safety investigating authority, by the competent authority or by the administration of justice, or for ensuring the CVR serviceability, unless:
- (i) a procedure related to the handling of CVR recordings and of their transcript is in place; and
 - (ii) all crew members and maintenance personnel concerned have given their prior consent.’

[...]

[...]

23. Subparagraph (f)(1) of paragraph SPO.GEN.145 is replaced by the following:

- ‘(1) CVR recordings shall not be used for purposes other than the investigation by a safety investigating authority, by the competent authority or by the administration of justice, or for ensuring the CVR serviceability, unless:
- (a) a procedure related to the handling of CVR recordings and of their transcript is in place; and
 - (b) all crew members and maintenance personnel concerned have given their prior consent.’

CRD to NPA 2013-26 – Acceptable Means of Compliance & Guidance Material

ECA Comment:

The protection of CVR data cannot be left to ‘soft-law’ but must be in a legally binding format. Both Reg. 996/2010 and Reg. 376/2014 – and their provisions on protecting sensitive safety information – are legally binding and directly applicable in each EU Member State. The proposed protections related to CVR data and their (exceptional) use by other parties than safety investigation authorities, competent authorities or the administration of justice, need **to be moved from the soft-law AMCs to the legally binding Implementing Rules of Annex IV (Part-CAT) of Reg. 965/2012.**

AMC1 CAT.GEN.MPA.195(f) Preservation, production and use of flight recorders recordings

USE OF CVR RECORDINGS

- (a) The procedure related to the handling of CVR recordings should be written in a document which should be signed by all parties (airline management, crew member representatives nominated either by the union or the crew themselves, maintenance personnel representatives if applicable). This procedure should, as a minimum, define:
- (1) the method to obtain the consent of all crew members and maintenance personnel concerned;
 - (2) an access and security policy that restrict access to CVR recordings and CVR transcripts to specifically authorised persons identified by their position; and
 - (3) a retention policy and accountability, including the measures taken to ensure the security of CVR recordings and CVR transcripts.
- (b) Each time a CVR recording file is read out for purposes other than investigation by a safety investigating authority, the competent authority or the administration of justice, and other than for ensuring the CVR serviceability:
- (1) the operator should delete without delay all parts of the CVR recording file that contain information with a privacy content, and it should not permit that such information is transcribed.
 - (2) the operator should not permit this CVR recording file or any transcript of it to be used for other than safety-related purposes.
 - (3) the operator should retain, and when requested provide to the competent authority:
 - (i) information on the use made (or the intended use) of the CVR recording; and
 - (ii) evidence that the persons concerned consented to the use made (or the intended use) of the CVR recording file.

Suggested text changes to strengthen the proposal [note: all ‘should’ of this AMC are to be replaced by ‘shall’ – in line with legal writing style for ‘hard law’ – given that this AMC is to become an IR/Annex, i.e. hard law material]:

- (a) The procedure related to the handling of CVR recordings ~~should~~ **shall** be written in a document which ~~should~~ **shall** be signed by all parties (airline management, crew member representative nominated ~~either~~ by the union or, **in the absence of the latter, by** the crew themselves, maintenance personnel representatives if applicable). This procedure ~~should~~ **shall**, as a minimum, define:
- 1) the method to obtain the consent of all crew members, **including the right of the crew member to refuse giving consent and to involve a union representative**, and maintenance personnel concerned;

- 2) an access and security policy that restrict access to CVR recordings and CVR transcripts to a limited number of specifically authorised persons identified with by their safety related position;
 - 3) [NEW sub-paragraph]: the specific and exclusive safety-related uses that can be made of these recordings and transcripts; and
 - 4) a retention policy and accountability policy, including the measures taken to ensure the security and protection from misuse of CVR recordings and CVR transcripts, and including the period before the data is deleted and all the related procedures;
 - 5) [NEW sub-paragraph]: provisions for effective penalties for misuse of CVR recordings and transcripts and an appeal process – including the possibility of involving a union representative – for personnel that considers their rights to be infringed.
- (b) Each time a CVR recording file is read out [...]:
- 1) the operator should shall delete [...];
 - 2) the operator should shall not permit this CVR recording file or any transcript of it to be used for other than safety-related purposes except during the safety investigation for which the recording was retrieved or for any other safety related use as defined in paragraph (a);
 - 3) [NEW sub-paragraph]: the operator shall not permit the CVR recordings or transcripts to be used for any direct or indirect form of disciplinary action against crew members;
 - 4) [NEW sub-paragraph]: the operator shall retain and provide to the competent authority a copy of the procedure and the specific policies mentioned in para (a);
 - 5) the operator should shall retain and when requested provide to the competent authority:
 - i. information on the use made(or the intended use) of the CVR recording; and
 - ii. evidence that the persons concerned freely consented to the use made (or the intended use) of the CVR recording file;
 - iii. [NEW sub-paragraph]: evidence on any appeal cases that may have been initiated, their status and outcome, and if requested a detailed summary of the subject of a particular appeal.

Reasoning:

According to Reg. 996/2010 (Art. 14), CVR recorders “shall not be made available or used for purposes other than safety investigations” by the investigating authority. If this legally binding requirement is ‘waived’ under the above conditions, these conditions need to be as clear, ‘water proof’ and stringent as possible.

In particular, operators must be discouraged to cede to any temptation to use CVR data for any other than safety-related purposes and the procedure must allow the crew members concerned to refuse to give consent (e.g. if they feel under pressure and/or consider the data could be used against them by the operator), to be advised by a union representative if wished so, to be able to appeal in case his/her rights may have been infringed upon, and there must be clearly identified sanctions established for any kind of misuse. Equally, the competent authority must automatically get a copy of the procedure and related policies, without having to request it. And the authority must be entitled to obtain – upon request – information on appeals that have been initiated.

The above changes are needed, as not all operators have a mature safety culture / just culture environment, and many small and large operators actually have punitive cultures in place, where CVR data would be a handy tool to exert pressure and/or to engage in direct or indirect disciplinary measures. If CVR data is used once to reprimand/discipline a crew member, this will have negative repercussions on safety performance of crews, their willingness to report incidents and the safety culture in general.

GM1 CAT.GEN.MPA.195(f) Preservation, production and use of flight recorders recordings

USE OF CVR RECORDINGS

- (a) The CVR is primarily a tool for the investigation of accidents and serious incidents by investigating authorities. It is not meant to be used by an operator for monitoring operations. Misuse of CVR recordings is a breach of the right to privacy and it works against an effective safety culture inside the operator.
- (b) It is noteworthy that the FDR may be used for a flight data monitoring (FDM) programme, however in that case the principles of confidentiality and access restriction of the FDM programme apply to the FDR recordings. Because the CVR is recording the voices of the crew and verbal communications with a privacy content, the CVR recording must be handled with even more care than FDM data.
- (c) Therefore, the use of a CVR recording, when not dictated by an authority or needed for assessing the CVR serviceability, should be subject to the free consent of the persons concerned, and framed by a procedure that is recognised by all parties and that protects the privacy of crew members and (if applicable) maintenance staff. The competent authority is entitled to control that the use of CVR recordings made by an operator complies with these principles.

USE OF CVR RECORDINGS

- (a) The CVR is **primarily** a tool for the investigation of accidents and serious incidents by investigating authorities. **If however used by an operator under a procedure and subject to prior free consent by the crew members concerned, it** ~~It is not meant~~ to be used ~~by an operator~~ **e.g.** for monitoring operations, **assessing crew performance, or during training sessions.** Misuse of CVR recordings is a breach of the right to privacy and it works against an effective safety culture inside the operator.
- (b) It is noteworthy that the FDR may be used for a Flight data monitoring (FDM) programme, however in that case the principles of confidentiality and access restriction of the FDM programme apply to the FDR recordings. Because the CVR is recording the voices of the crew and verbal communications with a privacy content, the CVR recording must be handled with even more care **and protections** than FDM data.
- (c) Therefore, the use of a CVR recording, when not dictated by an authority or needed for assessing the CVR serviceability, **should is to** be subject to the free **and prior** consent of the persons concerned, and framed by a procedure that is recognised by all parties, **and** that protects the privacy of crew members and (if applicable) maintenance staff, **and is notified to the competent authority.** The competent authority is entitled **and encouraged** to control that the use of CVR recordings made by an operator complies with these principles **and the specific provisions of the company-internal procedure.**

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