



دستورالعمل های هواپیمایی کشوری
Civil Aviation Directives (CAD)

دستورالعمل ۴۹۱۳
CAD 4913

Flight Recorder Read-out Procedure

دستورالعمل بازخوانی دستگاههای ثبت و ضبط
اطلاعات پروازی




دستورالعمل های هواپیمایی کشوری
Civil Aviation Directives (CAD)

دستورالعمل ۴۹۱۳
CAD 4913

Flight Recorder Read-out Procedure

دستورالعمل بازخوانی دستگاههای ثبت و ضبط
اطلاعات پروازی

دفتر ایمنی و بررسی سوانح	روش اجرایی بازخوانی دستگاههای ثبت و ضبط اطلاعات پروازی	 سازمان هواپیمایی کشوری معاونت استاندارد پرواز
شماره سند: FS-CAD-4913-03		
صفحه ۱ از ۱۶		



سازمان هواپیمایی کشوری
معاونت استاندارد پرواز

روش اجرایی بازخوانی دستگاههای ثبت و ضبط اطلاعات پروازی

شماره سند : FS-CAD-4913-03

کدبازنگری: ۰۳	تاریخ بازنگری: اردیبهشت ماه ۱۳۹۰	تاریخ صدور اولیه: مهر ۱۳۸۹
---------------	----------------------------------	----------------------------

جدول بازنگری و اصلاحات

جدول تصحیحات			
ردیف	تاریخ تصحیح	تاریخ انجام	امضاء

جدول بازنگری			
ردیف	تاریخ بازنگری	تاریخ انجام	امضاء
۱-	۸۹/۸/۱۲	۸۹/۸/۱۶	
۲-	۸۹/۸/۳۰	۸۹/۹/۲	
۳-	۹۰/۲/۲۰	۹۰/۲/۳۰	



سازمان هواپیمائی کشوری
معاونت استاندارد پرواز

دفتر ایمنی و بررسی سوانح

شماره سند: FS-CAD-4913-03

صفحه ۳ از ۱۶

روش اجرایی بازخوانی دستگاههای ثبت و ضبط اطلاعات پروازی

لیست صفحات موثر:

شماره صفحه	تاریخ صدور اولیه	تاریخ بازنگری	کد بازنگری
کلیه صفحات	مهر ۱۳۸۹	آبان ۸۹-آذر ۸۹-اردیبهشت ۹۰	۰۳

کلیات:

بر اساس مندرجات ICAS113 دفتر ایمنی و بررسی سوانح می بایست نسبت به بازخوانی دستگاه های ثبت و ضبط پروازی جهت تحلیل رویدادهای ایمنی (سانحه) بر اساس Flight Data Recorder Handbook دفتر ایمنی و بررسی سوانح اقدام نموده و در مواردی که امکانات و تجهیزات بازخوانی و تجزیه و تحلیل دستگاههای ثبت و ضبط اطلاعات پروازی و آنالیز آنها وجود نداشته باشد تیم بررسی سانحه از سایر کشورها که دارای امکانات مورد نظر باشد درخواست استمداد خواهد نمود تا این امر در اسرع وقت صورت پذیرد.

اجرا:

۱- پس از وقوع هر سانحه یا حادثه جدی اعضای گروه بازخوانی دستگاههای ثبت اطلاعات پروازی بعنوان یکی از گروههای ۱۱ گانه تشکیل شده و سرگروه مربوطه اطلاعات ذیل را از شرکت و کارخانه سازنده دریافت نموده و اطلاعات ظاهری دستگاههای ثبت اطلاعات پروازی (نمونه شکل - S/N- P/N) را در اختیار تیم اعزامی به سایت سانحه قرار داده تا این تیم اقدام به جداسازی دستگاههای مذکور نموده و به نحو مقتضی تحویل گروه گردیده تا سریعاً نسبت به بازخوانی آن اقدام شود. اطلاعات حاصل از بازخوانی دستگاههای ثبت اطلاعات پروازی به روند بررسی سانحه تسریع بخشیده و تاثیر بر روند بررسی قرائن موجود در سایت سانحه گذاشته و نتیجه گیری زودتر و صدور پیشنهادات ایمنی گردد.


۲- پس از انتقال دستگاههای ثبت اطلاعات پروازی با حمایت و حراست لازم به دفتر ایمنی و بررسی سوانح بررسی، مسئول گروه بررسی خواهند نمود که آیا امکانات بازخوانی و آنالیز آن در کشور وجود دارد یا خیر و در صورت عدم امکان، با هماهنگی کارخانه سازنده نسبت به جستجوی مرکزی خواهد پرداخت که دارای امکانات ویژه و تجربه کافی در این خصوص باشد و متعاقباً از طریق FAX یا Email درخواست رسمی به امضای مسئول بررسی سانحه به آن مرکز ارسال خواهد شد.

۳- مراکز بازخوانی دستگاههای ثبت و ضبط اطلاعات پروازی که مورد استفاده تیم بررسی سانحه قرار می گیرند میبایست حداقل دارای امکانات به شرح زیر باشند:

کد بازنگری: ۰۳

تاریخ بازنگری: اردیبهشت ماه ۱۳۹۰

تاریخ صدور اولیه: مهر ۱۳۸۹

دفتر ایمنی و بررسی سوانح	روش اجرایی بازخوانی دستگاههای ثبت و ضبط اطلاعات پروازی	 سازمان هواپیمائی کشوری معاونت استاندارد پرواز
شماره سند: FS-CAD-4913-03		
صفحه ۴ از ۱۶		

الف) توانایی منفک کردن قطعات و بازخوانی دستگاههای آسیب دیده یا بازیافت شده از آتش و آب را دارا باشد.
 ب) با استفاده از اطلاعات کارخانه سازنده یا قالب اصلی دستگاه که در سانحه آسیب دیده توانایی بازخوانی حافظه اصلی دستگاه یا نوارهای ضبط شده یا بازسازی آن را دارا باشد.

ج) امکان آنالیز دستی اطلاعات خام از نوع صفر ویک (Binary) از نوار مغناطیسی دستگاه FDR را دارا باشد .

د) امکان بهبود کیفیت و فیلتر کردن صدای ضبط شده کابین (CVR) را از طریق نرم افزار مناسب دارا باشد.

ه) امکان آنالیز گرافیکی اطلاعات به منظور کسب پارامترهای اضافه علاوه بر پارامترهای ضبط شده را دارا باشد.

۴- پس از مشخص شدن مرکز بازخوانی دستگاههای ثبت اطلاعات پروازی ، با هماهنگی سایر کشورهای درگیر (طراح، سازنده و بهره بردار) مسئول بررسی سانحه (IIC) لیست نفرات گروه اعزامی به آن مرکز (شامل نمایندگان همه کشورهای شرکت کننده در بررسی) جهت پیاده سازی اطلاعات به آن مرکز معرفی و اعزام میگردند.

۵- قبل از ارسال دستگاههای ثبت اطلاعات پروازی به لابراتوار بازخوانی باید (Data Frame Layout (Decoding Grid) مربوط از بهره بردار (operator) یا از طریق کارخانه سازنده دریافت و به لابراتوار تحویل گردد.

۶- گروه دستگاههای ثبت اطلاعات پروازی قبل از اقدام به بازخوانی دستگاهها باید اطلاعات لازم در خصوص تعداد پارامترهای ضبط شده و اعتبار پارامترهای ضبط شده در دستگاه با توجه به بازخوانی قبلی انجام شده در سیستم Flight Data Analysis (Monitoring) شرکت بهره بردار را کسب نموده و به اطلاع لابراتوار برسانند.

۷- چنانچه مسئول بررسی سانحه تصمیم گرفت از لابراتواری خارج از کشور محل وقوع (ایران) برای بازخوانی دستگاهها استفاده نماید، باید Notification به کشور مورد نظر فرستاده شده و این کشور میتواند گزارش نهایی بررسی سانحه را دریافت نموده و پیشنهاد و اصلاح هم در آن نماید.

۸- زمانیکه لابراتوار نسبت به بازخوانی دستگاههای ثبت اطلاعات پروازی اقدام نمود، چنانچه به دستگاهها نیازی نداشته باشد، این دستگاهها تحویل نمایندگان اعزامی میشود لیکن کلیه اطلاعات دستگاهها باید تا زمان انمام بررسی سانحه بطور محرمانه (confidential) در اختیار لابراتوار بوده تا بتوان در خلال بررسی سانحه از این اطلاعات استفاده کرد.

برای اطلاع بیشتر از نحوه عملکرد دفتر ایمنی و بررسی سوانح در خصوص بازخوانی دستگاههای ثبت اطلاعات پروازی میتوان به دستورالعمل زیر مراجعه نمود.

Safety & Accident Investigation Dep.**Flight Data Recorder Handbook
For
Aviation Accident Investigations****FOREWORD:**

This handbook provides general information to assist the investigator-in-charge, flight recorder group chairmen, and other Safety Board staff who may encounter a flight data recorder during the course of an aviation safety investigation. It is intended to provide guidance on the procedures, laws and standard practice surrounding the flight data recorder and its recorded information during the course of an investigation.

The safety & AIG Department of IRI CAO Flight standards will be responsible for keeping this handbook updated.

This handbook is an IRI CAO staff product and is intended to provide information and guidance to IRI CAO employees who are involved in the flight data recorder portion of an aviation Safety investigation.

TABLE OF CONTENTS:

1 Applicable Flight Data Recorders	.....
2 FDR Data: Disclosure and Access	.....
3 FDR Recovery: From On Scene to the FDR Laboratory	.....
4 principle of FDR Data Download	.....
5 FDR Arrival at the Safety Board Recorder Laboratory	.....
6 Initial FDR Readout	.....
7 FDR Preliminary Data: Release to the Parties	.....
8 FDR Preliminary Data: Safety Board Staff and Official Use	.....
9 Planning the FDR Group Meeting	.....
10 The FDR Group Meeting	.....
11 FDR Animations	.....
12 The FDR Factual Report	.....
13 Release of the Recorder and Original Data Media	.....
14 Military Investigations or Other Federal Agencies	.....
15 Flight recorders analysing with Foreign Representatives	.....
16 Foreign Investigations with IRI CAO Participation or Assistance	.....

1 Applicable Flight Data Recorders:

1.1. The term “FDR” (flight data recorder) includes digital flight data recorders (DFDRs), solid-state flight data recorders (SSFDRs) and Universal flight data recorders (UFDRs).

1.2. The laws and policies that govern the procedures regarding FDRs and recorded event data are generally applicable to any and all flight data that are recorded on board an aircraft. Any event data that are recovered from an aircraft following a safety occurrence are given the same protection and security of an FDR or FDR data.

1.3. Devices that record flight event data include, but are not limited to Quick Access Recorders (QARs), flight test equipment, FADEC, PARs. Furthermore, any magnetic tape or digital memory chips found in the wreckage may contain flight data and shall be secured by IRI CAO.

1.4. The protections pertaining to on-board recorders also apply to ground-based recorded flight data (CNS/ATM, ACARs, etc).

1.5. In the event that recorded media from other event-recording devices is recovered, the investigator-in-charge (IIC) shall immediately contact the Chief of the Flight recorder group for guidance.

1.6 The term “CVR” (Cockpit Voice recorder) includes any type of CVRs which installed on the aircraft same as SSCVR or MAG Tape CVR ,....

2 FDR Data: Disclosure and Access:

2.1. FDRs contain highly sensitive material and unauthorized release of information by IRI CAO employees is grounds for disciplinary action.

2.2. The FDR specialist, the members of the Flight Recorder Group, the General Directors of Safety & AIG Department, and the IIC are the only staff automatically authorized access to the FDR data.

2.3. The FDR specialists assigned to the accident ordinarily has complete access to the FDR and data at all times. Additionally, any FDR specialists may assist with FDR data, when necessary, with the approval of the Chief of the Flight Recorder Group.

2.4. Other Safety Board staff is given access to the FDR data in a timely manner to aid in the on-scene portion of the investigation, in coordination with the IIC and the General Directors of Safety & AIG Department.

2.5. The FDR specialists shall keep the IIC apprised of information and activities concerning the FDR or FDR data. In particular, any observations that may be significant to the investigation shall be brought to the IIC’s attention.

3 FDR Recovery From On Scene to the FDR Laboratory:

3.1. Upon notification of an Aviation Safety Occurrence in which an FDR is installed on the aircraft, the IIC considers whether the FDR might contain information relevant to the investigation (taking into consideration that the FDR can record a minimum of 25 hours of flight information). Consultation with the Chief of the Flight Recorder Group may be necessary to determine the relevance of recorded information.

3.2. The Chief of the Flight Recorder Group assigns FDR specialists to join in this group for investigation. Also the photo and P/N & S/N of flight recorders should be delivered to inspectors that will attend in accident site to find it.


3.3. Preliminary occurrence information shall be sent to the Chief of the Flight Recorder Group and the FDR specialists, as soon as possible. Specifically, the following information is required to facilitate data readout:

- ✎ Event description (phase of flight, type of event)
- ✎ Aircraft type
- ✎ Flight number
- ✎ Flight itinerary
- ✎ Number of flights after event, if the recorder is not removed immediately.
- ✎ Local altimeter setting at the time of the accident/incident.
- ✎ Elevation of accident/incident site.
- ✎ Location of previous takeoff, runway used, and field elevation.
- ✎ Local altimeter setting at time of takeoff.
- ✎ Time of departure, coordinated universal time (UTC)
- ✎ Time of accident/incident (UTC)
- ✎ Accident site conditions that may have cause damage to the recorder (fire duration, fuel type, etc)

3.4. Recorder information shall be sent to the Chief of the Flight Recorder Group and the FDR specialists, as soon as possible. This information can be obtained from the airline and/or the airframe manufacturer. Specifically, the following information is required to facilitate data readout:

- ✎ FDR manufacturer/model (Fairchild, Sundstrand, , L3, MSRP,....)
- ✎ FDR Part number and Serial Number
- ✎ FDAU (flight data acquisition unit) manufacturer/model and part number
- ✎ Parameters recorded
- ✎ Word(s) and bit location(s) of each parameter
- ✎ Conversion algorithm for each parameter
- ✎ Parameter range
- ✎ Original owner/upgraded retrofit history
- ✎ Airline, recorder maintenance/readout facility contact phone number.

3.5. If there is any visible damage to the underwater locator beacon (ULB or “pinger”), it should be removed prior to shipping. Use caution when handling damaged beacons.

دفتر ایمنی و بررسی سوانح	روش اجرایی بازخوانی دستگاههای ثبت و ضبط اطلاعات پروازی	 سازمان هواپیمائی کشوری معاونت استاندارد پرواز
شماره سند: FS-CAD-4913-03		
صفحه ۹ از ۱۶		

3.6. The Flight Recorders unit shall not be tampered with or opened (risk of damage to the recordings), and the recording medium shall not be removed (i.e., the tape or memory module) until it reaches the recorder laboratory which be determined by Chief of Flight recorder group via agreement by other states that participate in the investigation.

3.7. The Flight Recorders shall not be read out or downloaded on scene. The IIC should keep the flight recorders as secured by security authority up to agreement by other states to choose response laboratory.

3.8. The Flight Recorders must be shipped to IRI CAO in a manner that protects it from damage (i.e., inside a cardboard or wooden box, wrapped in either foam or bubble-wrap or in a container filled with foam peanuts).

3.9. If the Flight Recorders is recovered in water, it shall immediately be packed in water (fresh, if possible) and not be allowed to dry out. Packaging may be accomplished by sealing the recorder (in water) inside a plastic beverage container with silicon adhesive or a similar sealant. Contact the Chief of the Flight Recorder Group for further assistance.

3.10 If the flight recorder was damaged and its body and internal parts exploded, all small parts near to location of flight recorder should be collected and spread down in protected area by chief of group supervision. Then all flight recorder parts will be known by introduction of manufacturer and all related parts should be sent to capable laboratory for data download.

3.11. The IIC shall contact the Chief of the Flight Recorder Group to coordinate the shipment of the Flight Recorders to IRI CAO.

3.12. The Flight Recorders may be sent to IRI CAO with any transportation devices by decision of IIC. If Flight Recorders are sending with the aircraft, this usually needs to be coordinated with the captain of the flight.


4 principle of FDR Data Download:

4.1. The FDR shall not be read out or downloaded on scene. The IIC shall caution the parties to the investigation that unauthorized readout or download of an FDR, following a reportable accident or incident, may result in loss of party status.

4.2. Under exceptional circumstances, the General Directors of the Safety & AIG department, in consultation with the Chief of the Flight Recorder Group and IIC, may approve the owner/operator or a third party vendor to download the data from an undamaged FDR. Ordinarily, such downloads shall be supervised or observed by the group, as designated by the IIC.

4.3. Downloaded FDR data provided to IRI CAO shall be provided in a recorder manufacturer format, in consultation with the Chief of the Flight Recorder Group.

کدبازنگری: ۰۳	تاریخ بازنگری: اردیبهشت ماه ۱۳۹۰	تاریخ صدور اولیه: مهر ۱۳۸۹
---------------	----------------------------------	----------------------------

دفتر ایمنی و بررسی سوانح	روش اجرایی بازخوانی دستگاههای ثبت و ضبط اطلاعات پروازی	 سازمان هواپیمائی کشوری معاونت استاندارد پرواز
شماره سند: FS-CAD-4913-03		
صفحه ۱۰ از ۱۶		

4.4 The reconstruction of FDR with recovered memory is recommended at the following conditions:

- The aircraft fuselage was destroyed as an accident.
- The package of flight recorder set was damaged.
- The flight recorder was covered from the water or wreckage was in rainy condition.
- The ELT of the damaged aircraft was activated because the impact load might cause internal failure in flight recorder.
- Direct read out of flight recorder is not successful.

5 FDR Arrival at Recorder Laboratory:

5.1. The FDR's arrival and initial data download is not ordinarily a group activity.

5.2. The FDR specialists handle and secure the FDR and its original recording medium.

5.3. If the recorder is damaged, the damage is documented and the FDR specialists extract the recording medium with the use of cutting tools or other special equipment.

5.4. The FDR specialists download the original tape or memory from the FDR. The pertinent data are transferred or downloaded from the original medium and are digitally stored.

5.5. The FDR specialists initially check the recording to determine that information has been recorded.

6 Initial FDR Readout:

6.1. Any critical information that might assist in the field phase of the investigation is relayed to the IIC and General Director of safety & AIG Department of IRI CAO.

6.2. If the recording contains data pertinent to the investigation, the General Director of safety & AIG Department (or their designees), in consultation with the IIC, will make a determination as to whether it is necessary to establish an FDR group.

6.3. The data briefing shall be held over a secure landline telephone – not a portable mobile phone – and not routed through any conferencing facility.


6.4. The IIC shall coordinate the distribution of FDR information to parties on scene.

6.5. An electronic file containing preliminary plots and data may be emailed to the IIC, in consultation with the Chief of the Flight Recorder Group

7 FDR Preliminary Data: Release to the Parties

7.1. In consultation with the Chief of the Flight Recorder Group, if an FDR group is not established, a preliminary set of plots and tabular data shall be sent to the IIC, who coordinates distribution to the party members, as necessary.

کدبازنگری: ۰۳	تاریخ بازنگری: اردیبهشت ماه ۱۳۹۰	تاریخ صدور اولیه: مهر ۱۳۸۹
---------------	----------------------------------	----------------------------

دفتر ایمنی و بررسی سوانح	روش اجرایی بازخوانی دستگاههای ثبت و ضبط اطلاعات پروازی	 سازمان هواپیمائی کشوری معاونت استاندارد پرواز
شماره سند: FS-CAD-4913-03		
صفحه ۱۱ از ۱۶		

7.2. If an FDR group convenes, at the conclusion of the initial FDR group meeting, a preliminary set of plots and tabular data shall be sent to the IIC and may be provided to the group members (hardcopy or electronically), subject to the concurrence of the IIC.

7.3. Updates and corrections to the preliminary data (plots and corresponding tabular data) may be released to the FDR group members during the course of the investigation. If an FDR group does not convene, updates shall be sent to the IIC for distribution to the other groups.

7.4. Release of any additional FDR data (additional data/information not contained in the preliminary plots and corresponding data file) requires the express approval from the IIC.

7.5. Release of ancillary data (FDRs from other aircraft, flight tests, etc), requires the express approval from the IIC.

7.6. FDR parameter conversion information may be proprietary and any release to other groups requires written acknowledgement of responsibilities.

7.7. A copy of the preliminary data, as released to other groups or IIC, shall be retained for Safety & AIG Department archive.

7.8. Animations, reconstructions or graphic simulations are not typically released with FDR data, unless authorized by General Director of safety & AIG Department, in consultation with the Chief of the Flight Recorder Group.

7.9. Preliminary data released to the other groups or IIC may contain non-validated data, and shall bear notation to that effect. The final report shall contain finalized and validated data for the parameters and time periods used and deemed pertinent, but not necessarily for every parameter and data point recorded.

7.10. Copies of the waveform or binary data are generally not released, unless authorized by Directors of the Offices of Research and Engineering and Aviation Safety, in consultation with the Chief of the Flight Recorder Group.


8 FDR Preliminary Data: Safety Board Staff and Official Use:

8.1. An electronic file containing preliminary plots shall be distributed to the IIC and the Chief of the Flight Recorder Group.

8.2. FDR data (hardcopy or electronic) may be distributed to other group chairman or staff at the request of the IIC. The IIC may distribute data to the other group members, as necessary to aid in the investigation – group chairman and staff shall not release FDR data to unauthorized individuals.

8.3. FDR data shall not be released to the public, except through the official public docket of the accident investigation. Specifically, FDR group members, and other individuals with access to the FDR data (including group members) are prohibited from releasing FDR information to unauthorized individuals. However, the IRI CAO may decide to publicly release information regarding FDR activity.

کدبازنگری: ۰۳	تاریخ بازنگری: اردیبهشت ماه ۱۳۹۰	تاریخ صدور اولیه: مهر ۱۳۸۹
---------------	----------------------------------	----------------------------

دفتر ایمنی و بررسی سوانح	روش اجرایی بازخوانی دستگاههای ثبت و ضبط اطلاعات پروازی	 سازمان هواپیمائی کشوری معاونت استاندارد پرواز
شماره سند: FS-CAD-4913-03		
صفحه ۱۲ از ۱۶		

8.4. FDR plots may be overlaid with characterizations of CVR text or other events. Also, other data from the investigation (radar, etc.) may be correlated with FDR data. If applicable, the correlation between CVR events, FDR, and other data shall be coordinated between the CVR, aircraft Performance and other pertinent group chairmen.

8.5. Timing and correlation between FDR and other data sources (same as ATC Records –Fire frightening group) is not a group activity and the time correlation of flight recorder group report can be different from other group reports.

8.6. In the course of an investigation, other chief of the group may use FDR data, as necessary (to create plots, simulations, etc.). However, it is the responsibility of the chief to coordinate with the FDR group specialists to ensure that the data and plots utilized are up-to-date and accurate before finalizing in a report.

8.7. The General Director of safety & AIG Department shall coordinate requests from investigation team to review FDR data, prior to public release.

8.8. With approval of the General Director of safety & AIG Department, generic FDR data with accident/incident-specific information removed may be released for aviation safety-related interests on a case-by-case basis.

8.9. FDRs contain highly sensitive material, and premature or unauthorized release of information by IRI CAO is grounds for disciplinary action.

9 Planning the FDR Group Meeting:


9.1. All FDRs from the aircrafts which involved safety occurrence are not taken by IRI CAO. The General Director of safety & AIG Department, in consultation with the IIC, determine if a Flight Recorder group and down loading of these recorders are necessary.

9.2. The FDR specialist is the group chairman for the FDR portion of the investigation and shall be included in any correspondence and discussions that pertain to all group chairmen participating in the investigation.

9.3. The IIC shall coordinate through the Chief of the Flight Recorder Group to appoint FDR group members and to select a tentative date for an FDR group meeting at IRI CAO. The group meeting does not necessarily occur immediately after the FDR is sent to IRI CAO and should be before finalizing the group report.

9.4. The IIC shall notify the party coordinators that an FDR group is convening.

9.5. The IIC must ensure that only appropriate inspectors to the FDR group are invited. (Appropriate parties typically can include: the CAO employees, related security authorities, manufacturer, member of other states, and owner/operator.

دفتر ایمنی و بررسی سوانح	روش اجرایی بازخوانی دستگاههای ثبت و ضبط اطلاعات پروازی	 سازمان هواپیمائی کشوری معاونت استاندارد پرواز
شماره سند: FS-CAD-4913-03		
صفحه ۱۳ از ۱۶		

9.6. Other group members that can provide technical information to the FDR group. Typically individuals seated on the FDR group include those familiar with the aircraft systems, aircraft performance, or FDR readouts.

9.7. Ordinarily, only one representative per each group is seated on the FDR group meeting. Additional party representatives may be seated, at the decision of The General Director of safety & AIG Department, in consultation with the IIC and the FDR group chairman.

9.8. Downloading and transcribing the FDR data can take several hours and the FDR group meeting may not convene immediately after FDR delivery to the laboratory. The IIC finalizes a meeting time and date with the FDR group chairman, and notifies the group members.

10 The FDR Group Meeting:

10.1. At the designated meeting time, the FDR group members are met at the reception desk and escorted into the FDR laboratory by the FDR group chairman.

10.2. The FDR group chairman shall explain the FDR policies to the group and shall facilitate the group's effort to process and evaluate the FDR data.

10.3. Specifically with regard to FDR policies, FDR group members are prohibited from releasing FDR information to the public. However, IRI CAO may decide to publicly release information regarding FDR activity. FDR policy does not prohibit a party from implementing safety-of-flight related adjustments within their organization, as a result of their participation in a FDR group.

10.4. The group members must sign the Flight Recorder Group final report.

10.5. The FDR group chairman, in coordination with the General Director of safety & AIG Department, may excuse any member who is disruptive to the process or is in violation with his responsibilities.

10.6. The Chief of the Flight Recorder Group shall keep the IIC and the General Director of safety & AIG Department apprised of the FDR group activities.


10.7. During the course of an investigation it may be necessary to obtain technical assistance from non-party organizations, such as the FDAU (flight data acquisition unit) manufacturer or the FDR manufacturer or foreign FDR laboratories. Usually IRI CAO uses the BEA (France) facilities to download western made FDR's and IAC (Russia) laboratory for eastern made FDR's. The assistance shall be coordinated through the Chief of the Flight Recorder Group.

11 FDR Animations:

11.1. Animations are not created for every accident/incident.

11.2. Animations may require additional assistant of foreign countries and resources.

کدبازنگری: ۰۳	تاریخ بازنگری: اردیبهشت ماه ۱۳۹۰	تاریخ صدور اولیه: مهر ۱۳۸۹
---------------	----------------------------------	----------------------------

دفتر ایمنی و بررسی سوانح	روش اجرایی بازخوانی دستگاههای ثبت و ضبط اطلاعات پروازی	 سازمان هواپیمائی کشوری معاونت استاندارد پرواز
شماره سند: FS-CAD-4913-03		
صفحه ۱۴ از ۱۶		

11.3. Animation source files shall not be released.

11.6. Animation videos may be released to the public (including parties to the investigation) when they are placed into the public docket.

11.7. The General Director of safety & AIG Department shall coordinate requests from staff and Board Members to review animations, prior to public release.

12 The FDR Factual Report:

12.1. The FDR factual report typically contains information about the FDR type, operation, damage (with appropriate documentation), data extraction methods, quality and a summary of events.

12.2. If an FDR group convenes, the FDR group members shall have the opportunity to review and comment on the draft factual report.

12.3. The Chief of the Flight Recorder Group reviews and approves the final factual report.

12.4. CVR transcript-related sections (excluding timing information), or any CVR-related text shall not be distributed to any party coordinators, group members, unauthorized staff, or the general public prior to the public release of the CVR factual report with transcript.

However, at times it may be necessary to use paraphrased CVR text with FDR data. The General Director of safety & AIG Department shall approve any CVR-related paraphrased text that is disseminated prior to the public release of the CVR transcript.


The individual speeches of personnel which have not used for analysing the accident never write down on the group report.

13 Release of the Recorder and Original Data Media:

13.1. The IIC shall supply the FDR specialists with the recorder's return organization and address. Ordinarily with minor accidents and incidents, the owner/operator at the time of the accident or incident is the rightful return organization. Then the receipt of owner/operator should be documented by IIC in accident documents.

However, there are instances when the rightful return organization is less apparent, such as when the insurance company has control of the wreckage, or there are fractional owners, or if the aircraft is leased. If there is uncertainty regarding the proper return organization, the IIC and FDR specialists shall contact the General Counsel, who can resolve any issues regarding who shall receive the FDR and original FDR media.

13.2. For tape-based FDRs from which the tape has been removed, the FDR unit may be returned to the owner (or authorized recipient) as soon as the FDR specialist determines that there are no issues related to its operation.

دفتر ایمنی و بررسی سوانح	روش اجرایی بازخوانی دستگاههای ثبت و ضبط اطلاعات پروازی	 سازمان هواپیمائی کشوری معاونت استاندارد پرواز
شماره سند: FS-CAD-4913-03		
صفحه ۱۵ از ۱۶		

13.3. Although most subsequent data work is accomplished using the downloaded raw data or a digital copy of the original recorded data, the original recorded media may be used in the course of the investigation. The original media is returned to the authorized recipient only after the investigation is complete.

13.4. Typically with a solid-state FDR or a tape-based FDR containing the original tape, the entire FDR is considered “The Original Data” and shall not be released until the investigation is complete or otherwise authorized by the General Director of safety & AIG Department on a case-by-case basis.

13.5. Prior to returning any original FDR recording medium (solid state recorder or the original tape), the FDR specialists shall obtain specific permission from the General Director of safety & AIG Department, in coordination with the IIC.

14 Cooperation with Military Investigations:

14.1. On occasion IRI CAO is asked to assist with the recovery and read-out of an FDR involved in a military investigation. The related military investigation Authority should send specific requested letter to IRI CAO minister and the extent of participation by flight recorder specialists and facilitation to use FDR laboratories, is determined by the General Director of safety & AIG Department

14.2. The investigating organization may require a report of FDR-related procedures performed.

14.3. Normally, the original and all copies of the data and reports are returned to the investigating agency. The Safety & AIG Dep. of IRI CAO shall not retain any copies.

15 Fight Recorders Analysing with Foreign Representatives:


15.1. When the Safety & AIG Dep. conducts an investigation that involves a foreign operator/owner, The Safety & AIG Dep. FDR standard procedures and policies apply, in consultation with the foreign government’s Accredited Representative.

15.2. Coordination between the governments is managed by the IIC with the General Director of safety & AIG Department, and the foreign government’s Accredited Representative.

15.3. The IIC shall clearly identify the participants from the foreign government and their technical advisors to the FDR specialists, in order to avoid unauthorized access to the FDR data.

16 Foreign Investigations with IRI CAO Participation or Assistance:

16.1. Under ICAO Annex 13, when the IRI CAO is asked to participate or assist in foreign country investigation, the Iranian Airline FDR laboratories may be used for the FDR portion of the investigation by coordination of The Safety & AIG Dep. of IRI CAO.

دفتر ایمنی و بررسی سوانح	روش اجرایی بازخوانی دستگاههای ثبت و ضبط اطلاعات پروازی	 سازمان هواپیمائی کشوری معاونت استاندارد پرواز
شماره سند: FS-CAD-4913-03		
صفحه ۱۶ از ۱۶		

16.2. The Safety Board's accredited representative must coordinate through the Chief of the Flight Recorder Group to select a date for FDR services at FDR Laboratory.

16.3. If the IRI CAO assists a foreign government in their accident investigation and the services of FDR specialists are required, the Safety Board's Accredited Representative shall coordinate the scope of the requested services through the General Director of safety & AIG Department. Assistance in the FDR portion of a foreign investigation may include: downloading the FDR, producing plots, preparing the data, or running an FDR group.

16.4. The Safety Board's accredited representative shall introduce the point of contact for the foreign investigation (the foreign government's IIC or designee). It shall be made clear to all participants involved with FDR activities that the FDR specialists shall only be coordinating with the foreign government through the individual designated as the point of contact.

16.5. Participants from the foreign government and their technical advisors shall clearly be identified to the FDR specialist to avoid unauthorized access to the FDR data.

16.6. The FDR specialists shall keep the Safety Board's accredited representative and the foreign government's IIC or designee apprised of any FDR activities or actions.

16.7. When assisting in a foreign government's investigation, the FDR specialists shall advise the investigating government's IIC or designee of the Safety Board's FDR policies and procedures. In the absence of specific guidance from the investigating government, pertinent Safety Board FDR standard practices and procedures apply.

16.8. Any issues or conflicts concerning FDR procedures shall immediately be brought to the attention of the Directors of the Offices of Research and Engineering and Aviation Safety, in consultation with the Safety Board's Accredited Representative, for immediate resolution.

16.9. Generally, the investigating government may require a brief report of procedures performed, along with plots, if applicable.

16.10. At the request of the foreign government's IIC or designee, data, plots and reports shall be distributed, in consultation with the Safety Board's Accredited Representative and the General Director of safety & AIG Department.

16.11. The original data and recorder shall be returned to the foreign government's IIC or designee.

16.12. During a foreign investigation, the foreign officials are guests of the Safety Board and shall be welcomed accordingly. During the FDR activities, coordination of daily events, such as meeting time, lunch and other breaks, shall be coordinated with the FDR specialists.

16.13. During the initial meeting after the arrival of the foreign officials, the role of the FDR specialist shall be relayed to the group participants in order to avoid unnecessary delays in completing the FDR activities.

کدبازنگری: ۰۳	تاریخ بازنگری: اردیبهشت ماه ۱۳۹۰	تاریخ صدور اولیه: مهر ۱۳۸۹
---------------	----------------------------------	----------------------------