Summary: The FAA initiated a rulemaking that would increase the recording time of cockpit voice recorders (CVRs) from the mandated 2 hours to a proposed 25-hour recording time for all future manufactured aircraft that are required to have a CVR installed. This rulemaking will provide accident investigators, aircraft operators, and civil aviation authorities with substantially more CVR data to help find the probable causes of incidents and accidents and use the information to prevent future incidents and accidents.

An NPRM was published on December 4, 2023. Once the final rule is published (see Federal Register Docket No. FAA-2023-2270), the 25-hour CVR data collection requirement will apply to newly manufactured aircraft (that are required to have a CVR installed) after May 16, 2025, for aircraft with a MCTOW of 59,525 lbs./27,000 kg, 30 or more passenger seats, or operating in Part 121. Newly manufactured aircraft operating in Parts 91, 125, and 135 with a MCTOW of 59,524 lbs./26,999 kg and less than 30 passenger seats have three years to comply with the new rule.

Additionally, the name of this IC is revised from "Revisions to Cockpit Voice Recorder and Digital Flight Data Recorder Regulations" to "Cockpit Voice Recorder and Flight Data Recorder Regulations".

Changes from previously reported burden are due to:

- Revised CVR data collection hours from 2 hours to 25 hours under rulemaking "25-Hour Cockpit Voice Recorder (CVR) Requirement, New Aircraft Production (refer to Federal Register Docket No. FAA-2023-2270 for Final Rule)
- Revised wage estimates for reporting CVR and flight data recorder (FDR) data
- Revised fleet estimates to reflect the aircraft fleet that must collect 2 hours of CVR data versus 25 hours of CVR data. Revised fleet estimates are lower than previously approved estimates resulting in lower estimated burden.
- Under the CVR rulemaking, 1,585 aircraft in the fleet will be required to collect an additional 23 hours of CVR data (in addition to the 2 hours that were already required). However, the net result due to the adjustment of the fleet size estimate results in a decreased information collection burden than what was previously estimated and approved.

1. Explain the circumstances that make the collection of information necessary. Identify any legal or administrative requirements that necessitate the collection.

The Federal Aviation Administration (FAA) regulations promulgated under Title 14 Code of Federal Regulations (14 CFR) require certain aircraft and aircraft operations to have an FDR system and a CVR system to collect aircraft flight data and cockpit voice data, and to provide that data to the NTSB for the purpose of accident and/or incident investigation.

Title 49, United States Code (49 USC), Subtitle VII – Aviation Programs, Part A-Air Commerce and Safety, puts forth the public law authorizing the FAA to issue such regulations:

• 49 USC Section 40113(a), *Administrative*, empowers the Secretary of Transportation (or the Administrator of the Federal Aviation Administration) to issue such regulations as the Secretary shall deem necessary to carry out this part, including conducting investigations, prescribing regulations, standards, and procedures, and issuing orders.

• 49 USC Section 44701, *General Requirements*, empowers the Secretary of Transportation (or the Administrator of the Federal Aviation Administration) to prescribe reasonable rules and regulations, or minimum standards necessary for safety in air commerce.

2024 FAA Reauthorization Act, Securing Growth and Robust Leadership in American Aviation Act. Public Law No: 118-63, Sec. 366. May 16, 2024. This law prohibits operation of certain aircraft on May 16, 2025, unless the aircraft has a CVR installed that retains the last 25 hours of recorded information using a recorder that meets specified standards.

14 CFR prescribes the aircraft operating requirements, which include requirements for collecting information using CVRs and FDRs, in the following parts/sections:

Aircraft Operating Requirements			
14 CFR	<u>CVR</u> Section	<u>FDR</u> Section	
Part 91	91.609	91.609	
Part 121	121.359	121.343, 121.344, 121.344a	
Part 125	125.227	125.225, 125.226	
Part 129	129.24	129.20	
Part 135	135.151	135.152	

For CVR, the aircraft operating regulations listed above state, among other requirements, that the operator of an aircraft equipped with a CVR must:

- Collect CVR data during flight, continuously from the use of the checklist before the flight to the completion of the final checklist at the end of the flight,
- Retain the last 2 or 25¹ hours of CVR data (overwritten on a continuous basis),
- Provide the CVR data to the NTSB following an accident or occurrence that results in the termination of a flight, and
- Keep the recorded information for at least 60 days or, if requested by the NTSB or FAA, for a longer period.

For flight data recording, the aircraft operating regulations listed above state, among other requirements, that the operator of an aircraft equipped with an FDR must:

- Collect FDR data during the flight, continuously from the use of the checklist before the flight to the completion of the final checklist at the end of the flight,
- Retain the last 25 hours of FDR data (overwritten on a continuous basis),
- Provide the FDR data to the NTSB following an accident or occurrence that results in the termination of a flight, and
- Keep the recorded information for at least 60 days or, if requested by the NTSB or FAA, for a longer period.

¹ Aircraft manufactured prior to the effective dates in the final rule "25-Hour Cockpit Voice Recorder (CVR) Requirement, New Aircraft Production" (see Federal Register Docket No. FAA-2023-2270), are only required to retain 2 hours of CVR data.

The collection of flight and CVR data is a valuable tool used in the accident investigation process. The data can provide information that may be difficult or impossible to obtain by other means. This assists the NTSB in reconstructing the events leading to an aircraft accident or incident and determining the probable cause. Understanding the probable cause of aviation accidents and incidents allows the FAA and aviation industry to improve aircraft design, operation, and maintenance, thus improving aviation safety overall.

This collection of information supports the Department of Transportation's Strategic Plan FY 2022-2026², strategic goal for *Safety:* Make our transportation system safer for all people. Advance a future without transportation-related serious injuries and fatalities.

In addition, the FAA has continuous goals of ensuring the National Airspace System is the safest and most efficient aircraft operating space in the world.³ This requirement gives the FAA the ability to analyze the events and procedures affecting the aircraft during incidents/accidents.

2. Indicate how, by whom, and for what purpose the information is to be used. Except for a new collection, indicate the actual use the agency has made of the information received from the current collection.

This collection encompasses mandatory requirements to collect and retain (recordkeeping requirement), and to report (reporting requirement), flight data and cockpit voice data using an FDR and CVR.

Respondents to the collection include operators of aircraft for which the operating requirements of parts 91, 121, 125, 129, or 135 require the aircraft to have and use a CVR or FDR.

Collection frequency is as follows:

Recordkeeping - Continuous

• The FDR and CVR continuously record data, which is stored and continuously overwritten by new data, while retaining the last 2 hours for CVRs (if the aircraft was manufactured prior to the effective dates in the new rule), 25 hours for CVRs (if the aircraft was manufactured after the effective dates in the new rule), or 25 hours for FDRs of recorded data.

Reporting – As-needed

- The data is reported/provided to the NTSB on an as-needed basis (i.e., after an aircraft has been involved in a reportable accident or incident), or
- The data is stored (off aircraft), upon request by the FAA and/or NTSB, until the investigation can be conducted.

Use of Information Collected: The data collected by an FDR or CVR is received and used by the NTSB for accident and incident investigation:

- Following an accident, the FDR and CVR are immediately removed from the accident site and transported to NTSB headquarters in Washington, D.C. for processing. Using sophisticated computer and audio equipment, the information stored on the recorders is extracted and translated into an understandable format.
- Depending on the severity of an aircraft incident, the NTSB may request the FDR and/or CVR data for an aircraft directly from the aircraft owner or operator.

² https://www.transportation.gov/sites/dot.gov/files/2022-04/US_DOT_FY2022-26_Strategic_Plan.pdf

³ For 2022 FAA safety metrics and goals, see http://www.faa.gov/sites/faa.gov/files/2022-04/fy22_portfolio_goals.pdf

The information collected is used as described below:

CVR Data

The CVR records the flight crew's voices, as well as other sounds inside the cockpit.

- Sounds of interest to an investigator could be engine noise, stall warnings, landing gear
 extension and retraction, and other clicks and pops. From these sounds, parameters such as
 engine rpm, system failures, speed, and the time at which certain events occur can often be
 determined.
- Communications with Air Traffic Control, automated radio weather briefings, and conversations between the pilots and ground or cabin crew are also recorded.

During an investigation, a CVR committee, usually consisting of members from the NTSB, FAA, operator of the aircraft, manufacturer of the airplane, manufacturer of the engines, and the pilot unions, is formed to listen to the recording.

- This committee creates a written transcript of the CVR audio to be used during the investigation.
- The transcript, containing all pertinent portions of the recording, can be released to the public at the time of the Safety Board's public hearing.

The CVR recordings are treated differently than the other factual information obtained in an accident investigation:

- Due to the highly sensitive nature of the verbal communications inside the cockpit, Congress has required that the Safety Board not release any part of a CVR audio recording.
- Because of this sensitivity, a high degree of security is provided for the CVR audio and its transcript.
- The content and timing of release of the written transcript are strictly regulated: transcripts of pertinent portions of cockpit voice recordings are released at a Safety Board public hearing on the accident or, if no hearing is held, when a majority of the factual reports are made public.

FDR Data

The FDR onboard the aircraft records many different operating conditions of the flight.

- By regulation, newly manufactured aircraft must monitor at least 88 important parameters, such as time, altitude, airspeed, heading, and aircraft attitude.
- In addition, some FDRs can record the status of more than 1,000 other in-flight characteristics that can aid in the investigation.

With the data retrieved from the FDR, the NTSB can generate a computer animated video reconstruction of the flight.

- The investigator can then visualize the airplane's attitude, instrument readings, power settings, and other characteristics of the flight.
- This animation enables the investigating team to visualize the last moments of the flight before the accident.

3. Describe whether, and to what extent, the collection of information involves the use of automated, electronic, mechanical, or other technological collection techniques or other forms of information technology.

All CVR and FDR data is collected by electronic technologies. Newer recorders are of solid-state design, while older recorders used a magnetic-tape design to **collect and store** voice or flight data when installed on an aircraft.

4. Describe efforts to identify duplication. Show specifically why any similar information already available cannot be used or modified for use for the purposes described in Item 2 above.

There is no duplication in information collection related to CVR or FDR data. The FAA and NTSB do not have separate requirements for collecting information. The FAA regulations require operators to collect the CVR and FDR data and provide it to the NTSB.

5. If the collection of information involves small businesses or other small entities, describe the methods used to minimize burden.

Certain aircraft operators subject to this collection of information may be considered a small business or entity. The collection of information is based on the size and passenger carrying capability of the aircraft being operated and does not change based on the size of the business.

6. Describe the consequence to Federal program or policy activities if the collection is not conducted or is conducted less frequently, as well as any technical or legal obstacles to reducing burden.

If the collection is not accomplished, when an incident/accident occurs, the information needed to conduct a successful investigation will not be available. Retaining 2 hours (CVR data) and 25 hours (CVR and FDR data) is the minimum amount of data needed to be useful during an incident/accident investigation; collecting less data would not provide enough data to be useful.

The reporting or storing of the information collected is only done at the time of accident or incident investigation. If the data were not reported or stored as required, the information needed by the NTSB to conduct a successful investigation will not be available.

7. Explain any special circumstances that would cause an information collection to be conducted in a manner:

There are no special circumstances. This information collection is consistent with the guidelines in Title 5 CFR 1320.5(d)(2)(i)-(viii).

8. Provide information on the PRA Federal Register Notice that solicited public comments on the information collection prior to this submission. Summarize the public comments received in response to that notice and describe the actions taken by the agency in response to those comments. Describe the efforts to consult with persons outside the agency to obtain their views on the availability of data, frequency of collection, the clarity of instructions and recordkeeping, disclosure, or reporting format (if any), and on the data elements to be recorded, disclosed, or reported.

The NPRM was published in the *Federal Register* on December 4, 2023 (88 FR 84090).

The FAA has addressed all public comments to the NPRM in the preamble of the final rule.

 No public comments were received on the proposed rule's estimated burden on information collection.

Additionally, the FAA's Aircraft Certification Service and Flight Standards offices collect public comments through feedback links, to include:

- https://www.faa.gov/about/office_org/headquarters_offices/avs/stakeholder_feedback/air
- https://www.faa.gov/about/office_org/headquarters_offices/avs/stakeholder_feedback/afx

9. Explain any decisions to provide payments or gifts to respondents, other than remuneration of contractors or grantees.

No payment or gifts are to be provided to the respondents.

10. Describe any assurance of confidentiality provided to respondents and the basis for assurance in statute, regulation, or agency policy.

14 CFR regulations (i.e., the aircraft operating regulations referenced in Question 1) prohibit the use of the CVR recordings in any civil penalty or certificate action against the flight crew.

11. Provide additional justification for any questions of a sensitive nature, such as sexual behavior and attitudes, religious beliefs, and other matters that are commonly considered private.

There are no questions of a sensitive nature in this collection of information.

12. Provide estimates of the hour burden of the collection of information. The statement should:

The FAA estimates the burden to **27,229** respondents (current fleet and newly manufactured aircraft over the next three years, excluding retirements) this collection of information is **769,913** hours total and **\$21,996**, annually.

Reporting Burden	CVR/FDR Data Collection (2-hrs/25-hrs) Existing fleet	CVR/FDR Data Collection (2-hrs/25-hrs) New fleet	CVR/FDR Data Collection (25-hrs each) New fleet	CVR/FDR Data Reporting	Total
# of Respondents (annually)	23,273	2,296	1,585	75	27,229
Responses per respondent	1	1	1	1	1
Total # of Responses	25,569		1,585	75	
	23,273	2,296	1,505	/3	27,229
Time per Response (hours)	27	27	50	4	
Hour Burden (hours)	628,371	61,992	79,250	300	769,913
	690,363		79,250	300	709,913
Cost/Hour	negligible	negligible	negligible	73.32	
Cost Burden (\$)	\$0	\$0	\$0	\$ 21,996	\$21,996

Number of respondents:

The FAA estimates that in 3 years there will be approximately **27,162** operating aircraft that are required to have a CVR or CVR and FDR installed. Certain aircraft do not need a 25-hour CVR installed until 2028, therefore, estimates in this statement reflect both 2-hr and 25-hr CVR fleets:

- There are **23,273** aircraft in the current fleet collecting 2 hours of CVR data.
- Over the next 3 years, there will be **2,296** new aircraft that collect 2 hours of CVR data.
- Over the next 3 years, there will be **1,585** new aircraft required to collect an additional 23 hours of CVR data (i.e., 25 hours of CVR data).

14 CFR Operational Part	Existing Fleet 25HrFDR/ 2HrCVR	Newly Built 25Hr FDR/ 2-Hour CVR	Newly Built Aircraft 25Hr FDR/ 25Hr CVR	Total Fleet
Part 91 ⁴	11,828	1,820	583	
Part 121	7,809	0	818	
Part 125	81	0	8	-
Part 135	3,555	476	184	
Total	23,273	2,296	1,585	27,162

The FAA estimates the CVR/FDR data must be sent to the NTSB, or stored as requested by the FAA or NTSB, for approximately 75 aircraft accidents/incidents each year:

- This estimate is based on NTSB aviation accident statistics⁵ for 2021. In this report, there were 74 accidents by US air carriers operating under parts 121 and 135, and foreign registered aircraft.
- The FAA estimates that many of the part 135 and foreign aircraft accidents would not have involved aircraft with FDR/CVR installations, however, those aircraft numbers are offset by aircraft incident investigations, not included in the report, where CVR/FDR data was requested by the FAA and/or NTSB for investigative purposes.

Type of Operation	# of Accidents	
14 CFR 121 Scheduled	21	
14 CFR 121 Nonscheduled	3	
14 CFR 135 Commuter	11	
14 CFR 135 On-Demand	32	
Foreign registered aircraft	7	
Total	74	

Number of Response per respondent:

While all operators of applicable aircraft with an installed CVR or FDR collect data on a continuous basis, that data is only reported to the NTSB following certain aircraft accidents or incidents. Accidents or incidents requiring the operator to remove and provide the FDR or CVR are very rare, considering the operational hours of the entire aircraft fleet. Annually, most operators will never have

⁴ Includes Part 91 turbine powered and Part 91K Aircraft

⁵ US Civil Aviation Accident Statistics, 2002-2021 Accident Statistics, https://www.ntsb.gov/safety/data/Documents/AviationAccidentStatistics 2002-2021 20221208.xlsx

to respond, and some may have to respond multiple times. Therefore, for the purposes of burden estimation, the FAA estimated one response per respondent, annually.

Time Per Response:

<u>Data Collection</u> – Respondents have an existing combined collection burden of 27 hours or 50 hours per response (i.e., per aircraft), based on the minimum hours of data that must be collected by a CVR (2 or 25 hours) and an FDR (25 hours). However, the information collection is done by electronic devices which automatically and continuously collect data during aircraft operation.

<u>Data Sending/Storing</u> - The estimated time per response includes the amount of time it would take an operator to remove the CVR and FDR from the aircraft, and to deliver the CVR and FDR to the NTSB, or to ensure the data is kept for at least 60 days, or for a period longer upon request of the NTSB or the FAA.

- The FAA estimates it would take an operator 4 hours total to **remove**, and then **store or deliver** the CVR and FDR (or data) to the NTSB or FAA.
- The FAA estimates there is no burden difference for an operator to keep the data for less than or more than 60 days. Data is digital and any associated recordkeeping burden is included in the estimated reporting burden.

Cost Burden:

<u>Data Collection</u> – The FAA estimates that the cost burden for collecting data automatically and continuously on the CVR and FDR is **negligible** with respect to the overall operational costs of an aircraft.

<u>Data Sending/Storing</u> - The FAA estimates that, typically, an aircraft mechanic will conduct the removal of a CVR or FDR from an aircraft. Cost burden is based on the estimated hour burden multiplied by the fully-burdened hourly wage of \$ 73.32 determined in the Labor Cost Analysis shown below.

Labor Cost Analysis for Aircraft Mechanics: The wage rate of \$36.66 is the mean hourly wage for aircraft mechanics and service technicians, calculated by the Department of Labor, Bureau of Labor Statistics (BLS), May 2023, Aircraft Mechanics and Service Technicians #49-3011.⁶

Mechanics				
Hourly wage	31% Fringe Benefit ⁷	69% Overhead ¹⁰	Total	
\$ 36.66	\$ 11.36	\$ 25.30	\$ 73.32	

13. Provide an estimate for the total annual cost burden to respondents or record keepers resulting from the collection of information.

The industry must be equipped with the proper equipment to provide the required 25-hour CVR data. Upgrading to a 25-hour CVR from a 2-hour CVR costs \$4,500 on the high end. The affected number of aircraft is the same as noted in question 12: 1,585 aircraft. The total undiscounted costs to upgrade to 25-hour CVRs for these new aircraft in the next three years amounts to about \$7.1 million.

The aircraft operator is responsible for providing the FDR and CVR to the NTSB. All costs associated with providing these devices to the NTSB are included in the reporting burden estimates.

14. Provide estimates of annualized costs to the Federal government. Also, provide a description of the method used to estimate cost, which should include quantification of hours, operational expenses (such as equipment, overhead, printing, and support staff), and any other expense that would not have been incurred without this collection of information.

There is no additional cost to the FAA related to the information collection described in this supporting statement.

The use of CVR and FDR information, such as analysis by the NTSB or FAA, is a normal cost in pursuit of the statuary mission. Thus, no added costs were estimated for this particular element of the collection burden on the Federal government.

15. Explain the reasons for any program changes or adjustments.

The FAA initiated a rulemaking that would increase the recording time of cockpit voice recorders (CVRs) from the mandated 2 hours to a proposed 25-hour recording time for all future manufactured aircraft that are required to have a CVR installed. This rulemaking will provide accident investigators, aircraft operators, and civil aviation authorities with substantially more CVR data to help find the probable causes of incidents and accidents and use the information to prevent future incidents and accidents.

An NPRM was published on December 4, 2023. Once the final rule is published (see Federal Register Docket No. FAA-2023-2270), the 25-hour CVR data collection requirement will apply to newly manufactured aircraft (that are required to have a CVR installed) after May 16, 2025, for aircraft with a MCTOW of 59,525 lbs./27,000 kg, 30 or more passenger seats, or operating in Part 121. Newly

⁶ U.S. DOL/BLS: https://www.bls.gov/oes/current/oes493011.htm

⁷ U.S. Department of Health and Human Services, "Guidelines for Regulatory Impact Analysis" (2016), https://aspe.hhs.gov/system/files/pdf/242926/HHS RIAGuidance.pdf. On page 30, HHS states, "As an interim default, while HHS conducts more research, analysts should assume overhead costs (including benefits) are equal to 100 percent of pretax wages...." To isolate the overhead rate, the Department subtracted the benefits rate of 69 percent from the recommended rate of 100 percent.

manufactured aircraft operating in Parts 91, 125, and 135 with a MCTOW of 59,524 lbs./26,999 kg and less than 30 passenger seats have three years to comply with the new rule.

Additionally, the name of this IC is revised from "Revisions to Cockpit Voice Recorder and Digital Flight Data Recorder Regulations" to "Cockpit Voice Recorder and Flight Data Recorder Regulations".

Changes from previously reported burden are due to:

- Revised CVR data collection hours from 2 hours to 25 hours under rulemaking "25-Hour Cockpit Voice Recorder (CVR) Requirement, New Aircraft Production (refer to Federal Register Docket No. FAA-2023-2270 for Final Rule)
- Revised wage estimates for reporting CVR and flight data recorder (FDR) data
- Revised fleet estimates to reflect the aircraft fleet that must collect 2 hours of CVR data versus 25 hours of CVR data. Revised fleet estimates are lower than previously approved estimates resulting in lower estimated burden.
- Under the CVR rulemaking, 1,585 aircraft in the fleet will be required to collect an additional 23 hours of CVR data (in addition to the 2 hours that were already required). However, the net result due to the adjustment of the fleet size estimate results in a decreased information collection burden than what was previously estimated and approved.
- 16. For collections of information whose results will be published, outline plans for tabulation and publication. Address any complex analytical techniques that will be used. Provide the time schedule for the entire project, including beginning and ending dates of the collection of information, completion of report, publication dates, and other actions.

Transcripts of pertinent portions of CVRs are released at a Safety Board public hearing on the accident or, if no hearing is held, when a majority of the factual reports are made public.

In some instances, computer animated video reconstruction of the flight, based on FDR data (or other data) may be released to the public following completion of an accident investigation.

17. If seeking approval to not display the expiration date for OMB approval of the information collection, explain the reasons why display would be inappropriate.

The FAA is not seeking such approval.

18. Explain each exception to the topics of the certification statement identified in "Certification for Paperwork Reduction Act Submissions."

No exception to the certification statement of OMB Form 83-I is requested.