

Supporting Statement A
Aging Aircraft Program (Widespread Fatigue Damage)
2120-0743

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

The 2010 rule requires actions to preclude widespread fatigue damage (WFD) in transport category airplanes. It applies to transport category, turbine-powered airplanes with a type certificate issued after January 1, 1958, and a maximum takeoff gross weight greater than 75,000 pounds, regardless of whether the maximum takeoff gross weight is a result of an original type certificate or a later design change. It applies to airplanes whose maximum takeoff gross weight has been decreased to 75,000 pounds or less by a design change approval for which application is made after the effective date of the rule. And, it applies to all transport category airplanes to be certified in the future, regardless of maximum takeoff weight.

(1) Section 26.21(b) requires design approval holders (DAHs) to establish a limit of validity of the engineering data that supports the structural maintenance program (hereafter referred to as LOV) for affected airplane models. This section requires DAHs to evaluate the airplane structural configuration of each model for which they hold a type certificate to determine its susceptibility to WFD and, if susceptible, to determine that WFD would not occur before the LOV. The evaluation would be based on test data, analyses and, if available, service history, and teardown inspections of high-time airplanes. Using the results of the evaluation, the DAH must then establish an LOV. Although the rule allows DAHs to establish LOVs without relying on maintenance actions, the FAA expects most current DAHs to adopt LOVs that will rely on such actions. If they choose to establish LOVs that rely upon maintenance actions to prevent WFD before the LOV, § 26.21 requires DAHs to identify those actions and, unless the necessary service information already exists, develop the service information in accordance with a binding schedule approved by the FAA. Those actions would then be mandated by future airworthiness directives. Section 26.21 also requires, unless previously accomplished, that DAHs establish an Airworthiness Limitations section (ALS) in the Instructions for Continued Airworthiness (ICA) for each airplane structural configuration evaluated, incorporate the applicable LOV, and submit it to the responsible Aircraft Certification Service office for approval.

Section 26.21(d) requires that DAHs develop and submit a compliance plan to the FAA for approval. The purpose of the compliance plan is to ensure that affected persons and the FAA have a common understanding and agreement of what is necessary to achieve compliance with these sections. The plan will also ensure that the affected persons produce an ALS and service information that is acceptable in content and format in a timely manner. Integral to the compliance plan will be the inclusion of procedures to allow the FAA to monitor progress toward compliance. These aspects of the plan will help ensure that the expected outcomes will be acceptable and on time for incorporation by the affected operators into their maintenance programs in accordance with the operational rules (i.e., 14 CFR 121.1115 and 129.115) contained in this proposal.

(2) Sections 121.1115 and 129.115 require operators of an affected airplane to incorporate into their maintenance programs the ALS of the ICA that includes an LOV for the airplane. These rules have the effect of prohibiting operation of an airplane beyond its LOV¹ unless an extended LOV is approved.

(3) Section 25.571 and appendix H to part 25 require applicants of future, transport airplane designs to include the LOV in the airplane's ALS of the ICA. The LOV will apply regardless of how or by whom the airplane is operated. This information is for reference only since it is an element of the widespread fatigue damage rule for the Aging Airplane Program. These requirements are part of another information collection.

(4) Section 26.23 allows any person to extend the LOV for an airplane if that person can demonstrate that the airplane will be free of WFD up to the extended LOV and can develop a maintenance program that supports the extended limit, if necessary. The extended LOV is optional. To operate beyond the initial LOV or any subsequent LOV, the operator must incorporate the extended LOV and the associated maintenance actions into its maintenance program and may not operate the airplane beyond that limit.

This collection of information supports the DOT strategic goal of safety.

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 mandates that affected DAHs submit to the responsible Aircraft Certification Service office documentation that demonstrates they have complied with § 26.21 by establishing an LOV for each affected airplane model. As part of that collection, the DAH is to include the LOV in the ALS of the ICA. This collection also mandates that operators submit the LOV to their Principal Maintenance Inspectors to demonstrate compliance with § 121.1115 or §129.115, as applicable. When the airplane is sold or transferred, the new owner would comply with the ALS requirements. An operator may not operate an airplane beyond its LOV unless the operator has incorporated an extended LOV and associated maintenance actions in accordance with § 26.23.

Finally, this collection mandates under § 26.21(d) that certain persons submit to the responsible Aircraft Certification Service office a compliance plan, which documents how they will comply with § 26.21. This requirement is modeled substantially on "The FAA and Industry Guide to Product Certification," which is currently used for developing

¹ Under 14 CFR 91.403(c), no person may operate an airplane contrary to its applicable airworthiness limitations. By requiring operators to incorporate the LOV airworthiness limitations developed by the design approval holders under § 25.571, the WFD rule makes those LOVs applicable to the affected airplanes, and § 91.403(c) requires operators to comply with them.

project-specific certification plans for type certification programs to ensure that the project proceeds in a timely manner and reaches its original goal.

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.

A successful electronic submission process requires actions by both the FAA and the applicant.

- The FAA and the applicant must use compatible e-signature recognition software.
- The applicant's internal security procedures must allow transmission of proprietary data electronically in a format that can be recognized by the e-signature recognition software—some manufacturers do not believe that encrypted e-mail is sufficiently secure.
- The FAA and/or the applicant must be able to store and retrieve records (all the compliance data and FAA approvals) for the life of the airplane, which often is longer than 50 years.

The FAA continues to work toward electronic submission agreements with large airplane manufacturers since the FAA released Order 8000.79. However, the FAA does not have a suitable electronic records retention system and a secure data transmission system that is acceptable to all applicants. Further, the FAA cannot require that applicants change their internal procedures to transmit documents electronically with e-signatures rather than on paper with ink signatures—a change in process must be voluntary on the part of the applicant. In general, these issues have prevented electronic submission agreements so far. Most manufacturers will voluntarily e-mail or allow secure download of technical reports, service information, and similar data, but will simultaneously prepare and send hardcopy submittals with ink signatures.

The FAA estimates that approximately 30% of the DAHs and operators will submit the information electronically.

For recordkeeping, the FAA does not require that operators keep their records in any special format.

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.

Certain TC and STC holders will revise the ALS of the ICA to document the LOV. Affected operators will use this documentation to comply with this collection. There is no evidence of duplication because this information is not currently available elsewhere.

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

This collection will not have a significant economic impact on a substantial number of small entities for the following reasons.

- Entities potentially affected by this collection include part 25 manufacturers; applicants for certain future STCs and amended type certificates; and part 121 and 129 operators of transport category airplanes.
- The FAA uses the size standards from the Small Business Administration for Air Transportation and Aircraft Manufacturing, which specifies companies having fewer than 1,500 employees as small entities.
- The current United States part 25 airplane manufacturers that are affected include: Boeing, Lockheed Martin, and McDonnell Douglas (a wholly-owned subsidiary of The Boeing Company). These manufacturers will incur TC and amended TC costs. Because all U.S. transport-aircraft category manufacturers have more than 1,500 employees, none are considered small entities.
- Future TC applicants will incur additional compliance costs. However, these applicants will make the choice to incur the cost only if they believe that expected revenue from additional sales will exceed the expected cost. While future STC and amended TC costs will be passed on to airplane operators, it is not possible to determine which operator will buy and install such STCs. Because expected revenue will be greater than the expected cost, the FAA believes there will not be a significant impact on a substantial number of STC applicants.
- The FAA has determined that no part 25 manufacturers are small entities, there will not be a significant impact on a substantial number of amended TC or STC applicants, and the estimated operator compliance cost will not be significant.

The FAA has provided guidance material to aid those impacted by this collection.

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 was not conducted or was conducted less frequently, then it would be impossible for operators to comply with the WFD rules.

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

- *requiring respondents to report information to the agency more often than quarterly;*
- *requiring respondents to prepare a written response to a collection of information in fewer than 30 days after receipt of it;*
- *requiring respondents to submit more than an original and two copies of any document; requiring respondents to retain records, other than health, medical, government contract, grant-in-aid, or tax records, for more than three years;*
- *in connection with a statistical survey, that is not designed to produce valid and reliable results that can be generalized to the universe of study;*
- *requiring the use of a statistical data classification that has not been reviewed and approved by OMB;*
- *that includes a pledge of confidentiality that is not supported by authority established in statute or regulation, that is not supported by disclosure and data security policies that are consistent with the pledge, or which unnecessarily impedes sharing of data with other agencies for compatible confidential use; or*
- *requiring respondents to submit proprietary trade secrets, or other confidential information unless the agency can demonstrate that it has instituted procedures to protect the information's confidentiality to the extent permitted by law.*

There is only one circumstance that requires the collection to be inconsistent with the guidelines in 5 CFR 1320.5(d)(2) and that is the requirement that the airplane records be maintained for the life of the airplane.

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.

A 60-day notice for public comments was published in the Federal Register on October 21, 2019, vol. 84, no. 203, page 56281. No comments were received.

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

Not applicable.

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

Respondents are not given assurance of confidentiality. Certain records would be available through the Freedom of Information Act.

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.

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

- **Indicate the number of respondents, frequency of response, annual hour burden, and an explanation of how the burden was estimated. Unless directed to do so, agencies should not conduct special surveys to obtain information on which to base hour burden estimates. If the hour burden on respondents is expected to vary widely because of differences in activity, size, or complexity, show the range of estimated hour burden, and explain the reasons for the variance. Generally, estimates should not include burden hours for customary and usual business practices. * If this**

request for approval covers more than one form, provide separate hour burden estimates for each form and aggregate the hour burdens.

- **Provide estimates of annualized cost to respondents for the hour burdens for collections of information, identifying and using appropriate wage rate categories. The cost of contracting out or paying outside parties for information collection activities should not be included here. Instead, this cost should be included under item 13.**

Section 26.21 requires that DAHs for certain existing transport category airplanes establish LOVs for those airplanes. Those DAHs are also required to revise the ALS of the ICA to include the LOV.

DAHs have completed the initial one-time effort (spread over five years) associated with establishing LOVs and incorporating them in a new or revised ALS. Operators have completed the initial one-time effort associated with incorporating LOVs into their structural maintenance programs. The duration of this compliance activity occurred over 42 months, starting 12 months after the initial DAH compliance date. Many airplanes from the original 33 affected models are no longer in production or being flown by part 121 or 129 operators. As a result, there are 16 models affected by the requirements related to applicants amending type certificates after the initial compliance period.

The FAA computed the new, annual recordkeeping burden hours by analyzing the necessary paperwork requirements needed to satisfy this collection. The average cost per hour varies due to the number of affected airplanes in each group, the amount of engineering time required to develop programs, and the amount of time required for a DAH to revise an ALS and for an operator to incorporate an ALS into its structural maintenance program. Design changes to the affected airplanes are not typically going to result in the need to establish a new LOV for those airplanes. This is because the LOV is an airplane-level number and the typical structural design change only affects part of the airplane. As a result, there will not be a large number of ALS revisions with a new LOV under the rule after 2017. Consequently, operators will not have many ALS revisions with new LOVs to incorporate into their structural maintenance programs.

Information Collection Burden for Design Approval Holders

The FAA estimates that DAHs will spend 20 labor hours per airplane model to submit each new or revised ALS with the LOV incorporated to the FAA for approval. The DAHs affected are Boeing (Boeing and McDonnell Douglas vintage products), Airbus, Bombardier, and Lockheed Martin. Boeing and Airbus have the largest number of in-service airplanes. Thus, it is likely they would have the greatest number of responses.

The FAA estimates this collection will affect six (6) models on average every year and take approximately 120 hours to complete (6 models X 20 hours). For the purpose of this collection, the FAA estimates three (3) respondents will be affected twice in a year.

Future applicants for either STCs or amendments to TCs that decrease or increase maximum takeoff gross weights would be developing a compliance plan for the certification project. The Paperwork Reduction Act compliance for development of these certification plans is covered by OMB's previous approval of part 21. The FAA estimates the additional burden to include information on a plan for establishing an LOV for these airplanes would be minimal.

Table 1: Information Collection Burden for Design Approval Holders

Summary (Annual numbers)	Reporting	Recordkeeping	Disclosure
# of Respondents	3	0	0
# of Responses per respondent	2	0	0
Time per Response	20	0	0
Total # of responses	6	0	0
Total burden (hours)	120	0	0

The annual burden cost for DAHs is \$9,840. To determine this cost, the FAA multiplied the fully loaded labor rate of \$82 per hour² for aerospace engineers by the annual burden of 120 hours.

² The source of the mean hourly wage (\$56.03 per hour) is from the U.S. Bureau of Labor Statistics, Occupational Employment and Wage, May 2019, 17-2011 Aerospace Engineers, <https://www.bls.gov/oes/current/oes172011.htm>; and the source of employee benefits (\$25.77 per hour) is from the U.S. Department of Labor, Bureau of Labor Statistics, News Release USDL-20-0451, Thursday, March 19, 2020, <https://www.bls.gov/news.release/pdf/ecec.pdf>.

Information Collection Burden for Operators

The FAA estimates operators will spend two (2) labor hours per airplane model to submit each revised maintenance program with the LOV to the FAA for approval. The FAA estimates this collection will take each affected operator approximately 12 hours each year (6 models X 2 hours). The FAA estimates 24 operators will need to submit revised maintenance programs.

Table 2: Information Collection Burden for Operators

Summary (Annual numbers)	Reporting	Recordkeeping	Disclosure
# of Respondents	24	0	0
# of Responses per respondent	6	0	0
Time per Response	2	0	0
Total # of responses	144	0	0
Total burden (hours)	288	0	0

The annual burden cost for operators is \$23,616. To determine this cost, the FAA multiplied the fully burdened labor rate of \$82 per hour for an aerospace engineer by the annual burden of 288 hours.

Other costs associated with the collection requirements within this rule (in addition to the monetized hourly costs reflected above) are minimal.

Information Collection Burden Summary

The total annualized cost is \$33,456 for both DAHs and operators (\$9,840 + \$23,616). The total number of respondents is 27 (3 DAHs and 24 operators). The number of responses is different for DAHs and operators. Thus, that total is left blank in the summary. The time per response is calculated by dividing the total number of hours by the total number of responses. The table below summarizes the annual recordkeeping burden for design approval holders and operators.

Table 3: Summary of Information Collection Burden

Summary (Annual numbers)	Reporting	Recordkeeping	Disclosure
# of Respondents	27	0	0
# of Responses per respondent	N/A	0	0
Time per Response	2.72	0	0
Total # of responses	150	0	0
Total burden (hours)	408	0	0

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

There are no costs that are not already included in Question 12.

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 the government incurred by this collection. The DAHs routinely submit information to the FAA; review of the information is part of the FAA's existing oversight responsibilities.

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

The FAA adjusted the hourly burden and costs to reflect that all affected DAHs and operators have complied with the initial requirements. The wage rate for engineer costs has been updated.

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.

Not applicable. The FAA will not publish the information collected. The rule requires DAHs to make the data available to operators.

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.

Approval to not display the expiration date is not requested.

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

There are no exceptions.