

BEFORE THE ADMINISTRATOR
FEDERAL AVIATION ADMINISTRATION

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Federal Aviation Administration
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Petition for Reconsideration of the FAA's Denial of FlyersRights.org's October 5, 2022
Rulemaking Petition: The Case of the Incredible Shrinking Airline Seat (FAA-2022-1353)

Submitted by:
FlyersRights.org

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Introduction

FlyersRights.org petitions for reconsideration of the FAA's denial of its minimum seat size rulemaking petition. We believe that available studies demonstrate the need for minimum seat size dimensions to safeguard passenger safety and health.

A Generalized Statement in an ARC Report That "Overall Safety in Evacuations Is Very High" Does Not Relieve the FAA from Making Safety Improvements Regarding Seat Size

The FAA's denial asserts there are no immediate safety concerns to address. In support, the FAA cites the Emergency Evacuation Standards Aviation Rulemaking Committee's conclusion that "overall safety in evacuations is very high" and the CAMI report's conclusions that the FAA itself characterizes as "not necessarily definitive" and "of little utility."

The FAA's denial does not contextualize the excerpt from the Emergency Evacuation Standards ARC's May 2020 report (released to the public on March 31, 2022). The Emergency Evacuation Standards ARC's charter, in fact, explicitly *prohibited* the consideration of seat dimensions and passenger size.¹ And while the FAA asserts that the charter was later amended to

¹ "The Emergency Evacuation Standards ARC will also not address the impact of seat dimensions and passenger demographics on evacuation capabilities, because that topic is already under evaluation." Aviation Rulemaking Committee Charter, April 24, 2019, https://www.faa.gov/regulations_policies/rulemaking/committees/documents/media/Emergency%20Evac

allow for consideration of passenger demographics, this issue was never considered in its analysis of actual emergency evacuations and is not addressed in its report.

A mere generalization that the general level of safety is very high does not mean that there are no immediate safety concerns to address or that no changes are needed. In fact, the ARC made 27 safety recommendations and noted additional areas that its charter prohibited it from considering. However, the FAA has failed and refused to take any action on the 27 recommendations made over three years ago.

FlyersRights.org accordingly objects to the denial of the petition based on the seat issue as “not immediate” using the Emergency Evacuation Standards ARC’s generalized statement. The Emergency Evacuation Standards ARC acknowledged that most of the 290 incidents that it reviewed were not in fact emergencies.² The final report cautioned, “Although approximately 28% of the events involved a fire and another 11% were based on the belief there could be a fire, most events were not, at least in retrospect, an emergency. The fact that in so many events, a decision was made to use the emergency escape systems to unload the airplane at a modest rate was an unexpected, but significant, finding.”³

Additionally, the ARC acknowledged the limitations of its examination of incidents occurring only within the past 10 years, noting “[e]vents with airplanes that do not have the latest safety enhancements would require an additional assessment as to how the outcome might have been different, had those enhancements been in place.”⁴

The ARC findings did not consider seat size, and the scope of their inquiry was limited to recent evacuations, most of which were non-threatening. Even if evacuation events are rare, and especially because they are survivable, they are safety critical. What results is an understudied phenomenon that is safety critical in which the FAA is not considering certain assumptions or using the most recent or best data and testing methods. The FAA has narrowed its scope of inquiry while dismissing concerns and limitations raised about its approach by the public, Congress, the Emergency Evacuation Standards ARC, and the FAA itself.

CAMI Test Results Form No Basis for Denial of Petition

The FAA itself emphasized the limited utility of the CAMI test results in its March 2022 report to Congress. In echoing the same concerns raised by this rulemaking petition as well as the public comments of many organizations in the August 2022 Request for Information, the

[uation%20Standards%20ARC%20\(effective%204-24-19\)%20Website%20Copy%20posted%208-29-19.pdf](#).

² Emergency Evacuation Standards Aviation Rulemaking Committee Final Report at 5.

³ Id.

⁴ Id.

FAA “recognize[d] that the CAMI tests relied on able-bodied adult subjects under age 60, consistent with regulatory and ethical standards for human testing. As a result, they provide useful, but not necessarily definitive information, regarding the effects of seat dimensions on safe evacuations for all populations.”⁵

Minimum Standards Are Necessary for Passenger Safety

The ergonomic studies cited in the original petition and 26,000 public comments, including those from experts, demonstrate that minimum seat dimensions are necessary for passenger safety and pose an immediate safety concern. Ergonomic and safety experts expressed the need for minimum standards. It took nearly 4 years for the FAA to publicly begin the rulemaking required by Section 577 of the 2018 FAA Reauthorization Act. In doing so, the FAA requested public comment on just one narrow issue within the Reauthorization Act’s ambit, but received an overwhelming number of comments that the FAA is still reviewing.⁶

In the 2022 Request for Information, the Association of Flight Attendants-CWA (AFA) argued for minimum seat standards and the inclusion of severely obese people in emergency evacuation testing.⁷ By 2023, AFA noted 50% of the American population will be obese.⁸ Similarly, the Association of Professional Flight Attendants (APFA) commented that recent real-world emergency evacuations were not concluded within 90 seconds. APFA contended that “the study was not set up to be able to produce accurate results.”⁹ The Air Line Pilots Association concurred that the CAMI testing excluded larger passengers and that further research is needed.¹⁰

The American Society of Safety Professionals (ASSP) commented on the need for an updated review of emergency evacuation standards that are partially based on data that is nearly 50 years old.¹¹ ASSP argued that “evacuation procedures need to be considered in their entirety and not only seat dimensions” and for the FAA to “[c]onsider the feasibility of additional engineering controls to prevent lower extremity fractures during the crash sequence.”¹² In carrying this out, ASSP predicts this review “may include a need to change seat pitch.”¹³ The Human Factors Ergonomics Society (HFES) criticized the CAMI study for not including the

⁵ FAA letter to Congress, March 31, 2022, <https://www.faa.gov/sites/faa.gov/files/2022-03/PL-115-254-Sec-337-Aircraft-Cabin-Evacuation-Standards.pdf>.

⁶ FAA Denial Footnote 9.

⁷ FAA-2022-1001-25686.

⁸ Id.

⁹ FAA-2022-1001-23587.

¹⁰ FAA-2022-1001-24725.

¹¹ FAA-2022-1001-11902.

¹² Id.

¹³ Id.

effects of children, older passengers, passengers with disabilities, reclined seats, and personal items on the evacuation process.¹⁴ HFES raised concerns about deep vein thrombosis, frozen shoulders, and head strikes.

The American Council of the Blind remarked that the CAMI study did not include people with balance issues or examine the presence of service dogs and the risk of entanglement at reduced seat pitches.¹⁵ The Paralyzed Veterans of America commented that “[t]he seat pitch hinders movement and will inevitably increase egress time. Seat pitch must be increased to ensure that all persons can evacuate in the necessary amount of time.”¹⁶ These comments are representative of comments made by other safety and advocacy groups.

Manufacturers Are Given Multiple Attempts To Pass A Test

The FAA denies that manufacturers are given multiple attempts to pass an evacuation test, arguing that would be in contravention of regulations. However, the contents of Advisory Circular 25.803-1A are “neither mandatory nor regulatory in nature and does not constitute a regulation. It describes acceptable means, but not the only means, for demonstrating compliance with the applicable regulations.”¹⁷

As one example, McDonnell Douglas failed two tests to certify the MD-11.¹⁸ The FAA does not publicly disclose the number of failed attempts, but FlyersRights.org President Paul Hudson, with decades of service on the FAA Aviation Rulemaking Advisory Committee, including on the Emergency Evacuation Issue Group in the 1990s, is aware of the FAA practice or policy that allows multiple attempts.

What is more concerning is that manufacturers do not even need to pass a single full scale demonstration if they convince the FAA analysis and partial demonstrations is sufficient. The most recent full scale demonstration of a 737-NG occurred 35 years ago.

¹⁴ FAA-2022-1001-8757.

¹⁵ FAA-2022-1001-24745.

¹⁶ FAA-2022-1001-24717.

¹⁷ AC 25.803-1A(2)(b),

https://www.faa.gov/documentLibrary/media/Advisory_Circular/AC_25.803-1A.pdf.

¹⁸ *FAA Alters the Rules for MD-11 Safety Test : Aviation: The agency modified the requirements for Douglas after dozens were hurt in a 1991 evacuation drill. A government official denies any relaxation of standards*, Los Angeles Times, January 13, 1993,

<https://www.latimes.com/archives/la-xpm-1993-01-13-fi-1278-story.html>.

The FAA Surrenders Custody of Its Emergency Evacuation Test Data to the Regulated Party and Has Been Roundly Criticized by the OIG for Misrepresenting This Data

The FAA attempts to rebut the OIG’s conclusion that the FAA “does not collect comprehensive evacuation data to identify needs for regulation updates”¹⁹ by arguing that the OIG finding “referred only to physical application files kept on site at the FAA.”²⁰ That the FAA maintains information about a regulated party by storing it at the regulated party’s facilities and needing to request access to the data is an absurd argument to make when the FAA’s reputation is tarnished and has been criticized for over-delegation of authority to Boeing in the 737 MAX debacle.²¹ More importantly, it distracts from the OIG’s more salient point that “FAA has not established a systematic process to collect evacuation data from accidents and incidents”²² and “FAA does not collect comprehensive evacuation data to identify needs for regulation updates.”²³

After the 2017 remand decision of the United States Circuit Court of Appeals for the District of Columbia Circuit, the FAA stated that it needed to obtain permission from the airplane manufacturers to release emergency evacuation demonstration videos. Additionally, FAA officials have informed FlyersRights.org that the FAA does not retain this information because the manufacturers state that the information is proprietary. Both FAA’s data collection and data retention policies have hindered the FAA’s ability to identify risks and has resulted in inaccurate assumptions and data that pose a threat to safety and health.

This arrangement allows the FAA and regulated parties to shield information from Freedom of Information Act requests. The DOT Inspector General revealed errors in the FAA’s conclusions and assertions. This untenable dynamic undermines the FAA’s credibility and requires any assertion made by the FAA on seat safety and emergency evacuations to be thoroughly and independently corroborated.

A number of FAA’s claims contradict the conclusions of the DOT OIG report. More information is required to substantiate the following assertions in the FAA’s denial:

¹⁹ FAA’s Process for Updating Its Aircraft Evacuation Standards Lacks Data Collection and Analysis on Current Evacuation Risks, U.S. Department of Transportation Office of Inspector General, September 16, 2020, <https://www.oig.dot.gov/sites/default/files/FAA%20Oversight%20of%20Aircraft%20Evacuations%20Final%20Report%20-%202009-16-20.pdf>, at 13.

²⁰ FAA Denial at 5.

²¹ “While FAA officials attend demonstration evacuations, the Agency does not maintain critical data from demonstration evacuations or analyses to identify risks. FAA instead relies on the manufacturers to retain data on the results of evacuation demonstrations and the data they generate from component testing and analyses. When we requested certification reports from FAA, the Agency had to request most of the reports from the manufacturers,” OIG Report at 16.

²² OIG Report at 14.

²³ Id. at 7.

“The petition cites a criticism in the report that the FAA had characterized a particular test as a “28-inch test.” An FAA response to one of OIG’s queries for historical evacuation records referred to the incorrect model (737-300).”

“Also, the petition noted that the OIG report claimed that some airplanes which the FAA had characterized as being tested at 28” pitch were greater than 28” pitch.”

The FAA cites the lack of a conclusion in the OIG report that the FAA should mandate minimum seat dimensions.²⁴ One would not expect an Inspector General to do so, and the absence of this conclusion has no probative weight. However, it was appropriate for the OIG to conclude that the FAA could not accurately respond to FlyersRights.org’s 2015 Petition²⁵ or to Congress²⁶ and that the FAA has inhibited “its ability to identify current evacuation risks and updates to its aircraft emergency evacuation standards.”²⁷

The CAMI Test Participants Were Not Representative of the Public

While the FAA denial accurately characterizes the ages of the CAMI test participants, they are considerably younger than the general population or the flying population. 16.8% of the population is over the age of 65, 29.7% of the population is over the age of 55, and 42% of the population is over the age of 45.²⁸ Of the CAMI participants, only 13% were over the age of 50.

The FAA denial claims that “the CAMI study found that current seat dimensions accommodated 99% of the more than seven hundred passengers who took part in the study.”²⁹ But the CAMI study suffers from selection bias. This statistic considers only those passengers who were not dismissed from the study.³⁰ More than 7% of non-excluded participants

²⁴ “Most importantly for the purposes of this petition, there was no conclusion in the OIG report that the FAA’s performance-based evacuation standards were ineffective, or that the FAA should mandate the nine seat dimensions and footrest that this petition requests. The report’s only recommendations were that the FAA should improve its data collection and analysis tools for developing and updating emergency evacuation standards,³⁰ and the FAA concurred with those recommendations.” FAA Denial at 6.

²⁵ OIG Report at 12.

²⁶ *Id.* at 3.

²⁷ *Id.*

²⁸ *National Population by Characteristics 2020-2022*, United States Census Bureau, <https://www.census.gov/data/tables/time-series/demo/pepest/2020s-national-detail.html>.

²⁹ FAA Denial at 7.

³⁰ See Petition Footnote 94. “Individuals too large to safely participate in the study were debriefed separately, paid for their time, thanked for their participation, and returned to the MMAC Visitor Center for release.” *Effects of Airplane Cabin Interiors on Egress I: Assessment of Anthropometrics, Seat Pitch, and Seat Width on Egress*, Civil Aerospace Medical Institute,

self-reported that they were unable to sit in the 26-inch seat pitch mock up.³¹ Their answers, as well as the answers of the participants who were unable to sit in the 28 inch seat pitch, were excluded from the post-test questionnaire. Of these participants whose answers were included, 61.9% found it difficult or very difficult to get into the 26-inch seat pitch, 65.6% found the 26-inch seat uncomfortable or very uncomfortable, 69.9% found it difficult to quickly get out of the 26-inch seat pitch, 57.9% believed a 30-120 minute flight in a 26-inch seat pitch would be unsafe or very unsafe, and 76.9% believed a 2 hour flight in a 26-inch seat pitch would be unsafe or very unsafe.³²

Contrary to the assertion in the FAA's denial, load factors have continued to increase slowly since 2015, excluding the pandemic. To date, load factors, on a month by month basis, are higher in 2023 than in 2022.³³ The ARC studied evacuations from 2008-2019. In that time, load factors increased from 78.69% to 83.85%. Accordingly, "The ARC expressed concern that passenger load factors were increasing, so the success of emergency evacuations in years past might not be relevant if more people had to evacuate from the same airplanes."³⁴ Importantly, emergency evacuation standards were developed when load factors were much lower.

The FAA denial acknowledges that topics such as carry-on baggage and service animals "have the potential to affect aviation safety."³⁵ Yet, the FAA refuses to consider these factors when assessing emergency evacuations and minimum seat standards because "these potential concerns exist irrespective of the minimum dimensions and footrest that this petition asks the FAA to mandate."³⁶ Carry-on baggage and service animals do raise concerns that *are* related to minimum seat dimensions. Emergency evacuation demonstration regulations³⁷ require testing that includes approximately 50% of total bags, blankets, and other articles to be placed around the cabin, but the FAA does not compile statistics on the number of carry-on bags on an aircraft, and the CAMI testing did not include any bags or related articles.

Topics such as air rage, assault, and family seating are not directly related to minimum seat dimensions but are necessary components of any comprehensive review or study to establish, or to not establish, minimum seat dimensions.

https://www.faa.gov/sites/faa.gov/files/2022-04/Effects_of_Airplane_Cabin_Interiors_on_Egress_I.pdf, at

34.

³¹ *Id.*

³² *Id.* at 34-36.

³³ *Load Factor (passenger-miles as a proportion of available seat-miles in percent (%))*, Bureau of Transportation Statistics.

³⁴ Emergency Evacuation Standards Aviation Rulemaking Committee Final Report at 8.

³⁵ FAA Denial at 9.

³⁶ *Id.*

³⁷ Appendix J(k) to Part 25.

DVT Risk Is Low or Not Airplane-Specific

Contrary to the assertions in the FAA denial, studies cited in the petition for rulemaking do suggest a link between air travel and DVT. The World Health Organization found that the risk of developing deep vein thrombosis is two to three times higher for flights of four hours or more.³⁸ Studies also show that DVT risk increases for flights longer than 8 hours for those with risk factors, such as obesity or prior incidence of DVT. Even if DVT were a general, long-distance travel issue instead of an air travel issue, the FAA should seek to reduce the incidence of DVT in air travel. To rebut the studies cited in the Petition, the FAA cites an Airbus-associated study that does not address flights longer than eight hours.³⁹

Secret Information and Public Process

The FAA's denial has missing references or footnotes that make it impossible to evaluate the FAA's conclusions. Footnote 7 does not contain supporting documentation to substantiate FAA's claim that it "has found no new data compelling the agency to propose rulemaking to mandate the minimum dimensions and footrest that this petition requests."⁴⁰

Additionally, the Memorandum of Susan Jay that is referenced in Footnote 13 is not included in or with the denial, nor was it docketed to FAA-2022-1353.

Federal courts have held that secret studies cannot be used to deny a rulemaking petition, noting "information critically relied upon by the agency that no one can see does not count."⁴¹ The FAA's denial was not docketed for public comments. The FAA has also not responded to the 26,000 comments from its July 2022 request for information.

Requests

FlyersRights.org respectfully requests:

1. Reconsideration of FAA's denial,
2. Information referenced in the denial but not released,
3. Information on seat-to-aisle times or, alternatively, reasons for not measuring this data,
4. Information on methods used to simulate older or obese passengers, mobility issues, the presence of children and babies, and the presence of personal items and carry on bags, or, alternatively, reasons for not simulating these factors,

³⁸ Rulemaking Petition Footnote 47.

³⁹ FAA Denial Footnote 14, <https://pubmed.ncbi.nlm.nih.gov/28641682/>.

⁴⁰ FAA Denial at 9.

⁴¹ *Flyers Rights Education Fund v. FAA*, 864 F.3d 738, 747 (D.C. Cir. 2017).

5. Clarification on whether the FAA had to request its information from Boeing in order to respond to the DOT OIG requests
6. Clarification on whether the FAA allows regulated parties to have custody over the FAA's data in order to shield the data from Freedom of Information Act Requests
7. Information on demographic information collected on passengers by class of service (first class, business class, coach class)
8. The FAA's records of how many attempts were made prior to passing an emergency evacuation test for each certificated airplane model since 1965.

Conclusion

In light of the above cited deficiencies and errors contained in the FAA's April 14th, 2023 letter denying the FlyersRights.org October 2022 Petition for Rulemaking, FlyersRights.org respectfully requests that the FAA reconsider this denial.

At a minimum, in light of the 2018 Congressional mandate that the FAA issue minimum seat size regulations for width and pitch, as well as the 26,000 public and expert comments on seat size regulation submitted in 2022 that the FAA has yet to respond to, the FAA should withdraw its April 14th denial letter pending further consideration and review.

Respectfully submitted

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