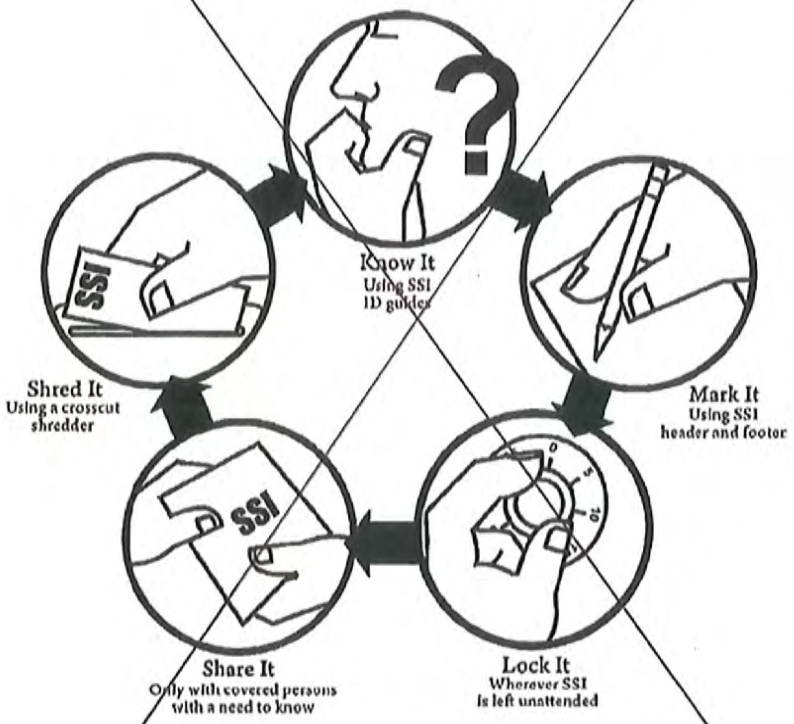
DEPARTMENT OF HOMELAND SECURITY

SENSITIVE SECURITY INFORMATION

Cover Sheet



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DHS Form 11054 (8/10)

Reference: 49 CFR § 1520.13, Marking SSI

~~SENSITIVE SECURITY INFORMATION~~

U.S. Department of Homeland Security
601 South 12th Street
Arlington, VA 20598

Transportation Security Administration

October 11, 2018

Mr. Henry Kerner
Special Counsel
Office of Special Counsel

RE: OSC File No. DI-16-2046

Dear Mr. Kerner:

The attached report is in response to the January 18, 2018 referral of the above-captioned matter to the Secretary of the Department of Homeland Security (DHS) regarding a disclosure received by your office. The Secretary referred this inquiry to the Transportation Security Administration (TSA) for investigation and response. The DHS Secretary has delegated authority to the Deputy Administrator of TSA as the official responsible for providing your office with the Department's report pursuant to 5 U.S.C. § 1213. The Department's findings are included in the attached Report of Investigation.

OSC characterized Federal Air Marshal (FAM) Robert MacLean's disclosures as follows: TSA failed to require aircraft operators to (1) strengthen and implement flight deck doors that open outward and away from the flight deck, and (2) install secondary barriers, which function as a second layer of protection between the passenger area and the flight deck. More specifically, according to OSC, FAM MacLean asserted that flight decks with inward opening doors remain highly vulnerable to attack, as he believes an attacker could knock back a standing pilot into the flight deck, resulting in a catastrophic event or a breach of the flight deck area by the attacker. Further, FAM MacLean asserted that in most aircraft there is only one (inward opening) door between the flight deck and passenger area, which leaves the flight deck susceptible to attack. The investigation revealed that TSA had not "failed" to correct the alleged security weaknesses, rather the Federal Aviation Administration (FAA) was aware of the potential vulnerabilities and had addressed them. For instance, the FAA issued guidance requesting that air carriers utilize one of three methods of secondary flight deck security.

The FAA has the primary regulatory authority over flight deck doors and secondary barriers on commercial aircraft. While Congress has not imposed any statutory mandate upon TSA relating to strengthening the cockpit door or installation of secondary barriers, ATSA provides that the TSA Administrator is required "to work in conjunction with the FAA Administrator with respect to actions or activities that may affect aviation security or air carrier operations." 49 U.S.C. 114(f)(13).

The FAA is statutorily charged with taking certain actions related to strengthening the cockpit door. Aviation and Transportation Security Act (ATSA), Pub. L. 107-71, title I, § 104, 115 Stat. 605 (November 19, 2001); 49 U.S.C. 44903 note. Section 104 of ATSA, titled "Improved Flight Deck Integrity Measures," mandated that the FAA issue an order requiring the strengthening of the flight deck door. See § 104(a)(1)(B) of ATSA. In 2002, the FAA published new standards strengthening cockpit doors to protect cockpits from forcible intrusion and small-arms fire or fragmentation devices, such as grenades. See 14 CFR 25.795. The FAA issued a final rule on August 15, 2007 (Flightdeck Door Monitoring and Crew Discreet Alerting Systems[1]), requiring a means for flight crews to visually monitor the door area outside the flight deck and requiring that flight attendants have a means to discreetly notify the flight crew of suspicious activity or security breaches in the cabin. See 72 FR 45629; 14 CFR part 121. The regulation does not specify which direction flight deck doors must open (inward or outward). See 14 CFR 121.582 and 121.584. An FAA Senior Technical Specialist indicated that various factors are involved in determining which direction flight deck doors open, to include decompression, geometric limitations, and engineering factors.

At the present time, the FAA does not require commercial aircraft carriers to install secondary barriers. TSA's Federal Air Marshal Service (FAMS) routinely works with the FAA on the issue of secondary barriers by providing advice and insights regarding threats to the flight deck. For example, the FAMS participated in a special committee formed to examine secondary barriers. A resulting 2011 report by the Radio Technical Commission for Aeronautics (RTCA), Inc. entitled "Aircraft Secondary Barriers and Alternative Flight Deck Security Procedures" provided methods to protect the flight deck door during a period of transition and stated three options for secondary flight deck security. The FAA issued an Advisory Circular (AC) on April 14, 2015 (AC No. 120-110), entitled "Aircraft Secondary Barriers and Alternate Flight Deck Security Procedures." In this AC, the FAA relied upon the RTCA study in providing guidance to air carriers on ways to achieve effective protection of the flight deck as required by 14 CFR 121.584(a)(1). The AC provided the three acceptable methods of secondary flight deck security listed in the RTCA study: installation of physical secondary barriers (IPSB); use of improvised non-installed secondary barriers (INSB); and human secondary barriers (flightcrew members). To date, all aircraft carriers are in compliance with the AC by utilizing one of the three methods of secondary flight deck security.

More recently, in 2018 the TSA Administrator sought assistance from an industry advisory group, the Aviation Security Advisory Committee (ASAC), to review the secondary barriers currently installed and in use onboard commercial aircraft and with evaluating the security risk of not having secondary barriers. As of this date, the ASAC report is not yet complete. Under recent legislation (the TSA Modernization Act, H.R. 302), TSA is required to complete an assessment identifying "any safety or security risks associated with unauthorized access to the flight decks on commercial aircraft and any appropriate measures that should be taken based on the risks." The TSA Administrator will consult with the FAA Administrator in completing the assessment requirement.

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[1] The rulemaking did not address the direction cockpit doors should open nor did it address the implementation of secondary barriers.

Please note that this report contains Sensitive Security Information (SSI) that is controlled under 49 C.F.R. Parts 15 and 1520 must be handled and protected accordingly, and cannot be publicly released. TSA's SSI office will conduct a review and redaction of the report for public release which will be forwarded to you as soon as possible. Per the request of OSC, the Agency will also redact all employee names included in the report, with the exception of the whistleblower.

If you require further information regarding these matters, please do not hesitate to contact [redacted] in the Office of Chief Counsel at [redacted].

Sincerely yours,

[redacted]

Deputy Administrator

cc: [redacted]
Executive Assistant Administrator
Law Enforcement / Federal Air Marshal Service

~~SENSITIVE SECURITY INFORMATION~~

U.S. DEPARTMENT OF HOMELAND SECURITY

TRANSPORTATION SECURITY ADMINISTRATION

REPORT OF INVESTIGATION

CASE NUMBER: I180099 **OPR CASE:** N/A

TITLE: Whistleblower Disclosure – Flight Deck Issues

CROSS REFERENCED CASES: OSC File No. DI-16-2046

SUBJECT(S): N/A
Name:
Duty title:
Pay band:
Duty location:
EOD:
Administrative Status:

ALLEGATION(S): OSC Whistleblower Disclosure

PERIOD OF INVESTIGATION: February 9 through September 12, 2018

CASE STATUS: Closed

INVESTIGATED BY: Special Agents [redacted] and [redacted]

REPORT BY: Special Agents [redacted]

[redacted] 9/26/18

Special Agent in Charge (Acting) Date
Investigations

cc: ☐ **Director, Professional Responsibility**

☐ **Chief Counsel**

☐ **Executive Assistant Administrator/Director, Federal Air Marshal Service**

☐ **Executive Assistant Administrator, Security Operations**

☐ **Supervisory Air Marshal in Charge/Insider Threat Section, Federal Air Marshal Service**

☐ **Division Director, Security Threat Assessment Operations, Intelligence and Analysis**

☐ **Chief, Personnel Security Section, Security Services and Assessment Division**

☐ **Special Agent in Charge/Investigations Division, Atlanta Field Office**

☐ **File**

Executive Summary:

The Office of Special Counsel's referral for investigation stipulated that the report of investigation include:

1) A summary of information with respect to which the investigation was initiated;

Federal Air Marshal (FAM) Robert MacLean filed a whistleblower disclosure with the U.S. Office of Special Counsel (OSC). OSC assigned the following case number to the whistleblower complaint: File No. DI-16-2046. The whistleblower disclosure by FAM MacLean alleged the following two issues:

a) TSA failed to require aircraft operators to strengthen and implement flight deck doors that open outward and away from the flight deck; and

b) TSA failed to require aircraft operators to install secondary barriers, which function as a second layer of protection between the passenger area and the flight deck.

2) A description of the conduct of the investigation;

FAM MacLean was interviewed [Attachment 2] and asked to provide documentation explaining his whistleblower disclosure. Initially, FAM MacLean raised this issue as a weakness in aviation security in 2006. FAM MacLean stated that it did not matter to him whether the Transportation Security Administration (TSA) or the Federal Aviation Administration (FAA) addressed the weaknesses. FAM MacLean provided a sworn statement indicating that both weaknesses could be addressed immediately, if air carriers stopped making announcements about forward lavatories, as it would no longer provide advance notice to potential attackers that the flight deck door was about to be opened. FAM MacLean stated that with this one change, the other two issues noted in his whistleblower disclosure would be less of a security issue.

TSA's Deputy Director (DD) – Aviation, Office of Security Policy and Industry Engagement (OSPIE) was interviewed [Attachment 3]. The DD advised that the FAA has primary federal regulatory responsibility for these issues. Three FAA subject matter experts, related to flight deck doors and secondary barriers, were interviewed [Attachments 5-7]. All three indicated the FAA was the federal regulatory authority responsible for addressing any regulations or rule changes related to the flight deck doors and/or secondary barriers. All three stated that TSA had not "failed" to correct the alleged security weaknesses, rather the FAA was aware of the potential vulnerabilities and had taken corrective actions. For example, the FAA does not specify which direction flight deck doors are required to open (due to other engineering considerations).

In addition to interviewing subject matter experts, relevant documents were collected including: regulations, an FAA advisory, and communications regarding a tasking to the Aviation Security Advisory Committee.

3) A summary of any evidence obtained from the investigation;

The investigation did not identify any "physical evidence"; however, numerous supporting federal regulations were identified that relate to issues raised by FAM MacLean [Attachments 3-9]

The FAA issued a final rule on August 15, 2007 (Flight deck Door Monitoring and Crew Discreet Alerting Systems), requiring a means for flight crews to visually monitor the door area outside the flight deck and requiring that flight attendants have a means to discreetly notify the flight crew of suspicious activity or security breaches in the cabin. See 72 FR 45629; 14 CFR part 121. The regulation does not specify which direction flight deck doors must open (inward or outward). See 14 CFR 121.582 and 121.584.

Regarding coordinating with the FAA, ATSA provides that the TSA Administrator is required "to work in conjunction with the FAA Administrator with respect to actions or activities that may affect aviation security or air carrier operations." 49 U.S.C. 114(f)(13). TSA has not issued any regulations or guidance documents related to cockpit door safety independent of those issued by the FAA. The FAA has not *required* aircraft carriers to install secondary barriers. However, on September 28, 2011 the Radio Technical Commission for Aeronautics (RTCA) published a report entitled "Aircraft Secondary Barriers and Alternative Flight Deck Procedures." The RTCA Document, in part, provides methods to protect the flight deck door during a period of transition and provides options for secondary flight deck security. The FAA issued an Advisory Circular (AC) on April 14, 2015 (AC No. 120-110), entitled "Aircraft Secondary Barriers and Alternate Flight Deck Security Procedures." The AC identifies the RTCA Document as guidance to achieve effective protection of the flight deck as required by 14 CFR part 121. In this AC, the FAA provided guidance to carriers on ways to achieve effective protection of the flight deck as required by 14 CFR 121.584(a)(1), and listed three acceptable methods of secondary flight deck security: installation of physical secondary barriers (IPSB); use of improvised non-installed secondary barriers (INSB); and human secondary barriers (flight crew members). The AC requested that air carriers provide the FAA with the method of secondary flight deck security the carrier intends to use [Attachment 3]. The FAA advised that to date, all aircraft carriers are in compliance with this advisory [Attachment 7].

Additionally, on July 15, 2018, the TSA Administrator tasked the Aviation Security Advisory Committee (ASAC) with assessing secondary barriers [Supplemental Attachment 6]. Congressman Brian Fitzpatrick had discussed with the TSA Administrator his intention to draft legislation requiring secondary barriers on commercial aircrafts. The TSA Administrator offered to task ASAC with conducting an assessment including the advantages and disadvantages to help inform decisions on secondary barriers.

In his July 2018 tasking, the TSA Administrator requested that ASAC evaluate the types of secondary barriers that are currently installed and in use onboard commercial passenger aircraft and/or are available to install. He further tasked ASAC with evaluating the security risk of not having a secondary barrier and provide a cost/benefit analysis of requiring barriers.

4) A listing of any violation or apparent violation of law, rule or regulation; and

The investigation did not identify any violations or apparent violations of law, rule or regulation.

5) A description of an action taken or planned as a result of the investigation.

The investigation did not identify any further actions taken or planned as a result of the investigation. A referral to the Attorney General was not warranted as a result of the investigation.

ORIGIN OF CASE:

On January 18, 2018, the Office of Special Counsel (OSC) notified the DHS Secretary of a whistleblower disclosure. Subsequently, the DHS Office of Inspector General declined to investigate in lieu of an investigation being conducted by TSA. On February 5, 2018, TSA's Office of Chief Counsel (OCC), provided the following information to the Office of Inspection (OOI): FAM Robert MacLean alleged two whistleblower disclosures which might affect aviation security:

1. TSA failed to require aircraft operators to strengthen and implement flight deck doors that open outward and away from the flight deck; and

2. TSA failed to require aircraft operators to install secondary barriers which function as a second layer of protection between the passenger area and the flight deck.

ALLEGATION #1:

TSA failed to require aircraft operators to strengthen and implement flight deck doors that open outward and away from the flight deck.

FINDING #1:

Three (3) FAA subject matter experts were interviewed. All three asserted that this allegation is best addressed by the FAA as it is the federal agency responsible for flight deck doors, as per 14 CFR § 121.313 and 14 CFR § 25.795.

A FAA Senior Technical Specialist was interviewed who indicated that various factors are involved in making decisions regarding which direction flight deck doors open. He indicated that factors such as decompression, egress, rescue, and geometric limitations dictate the opening of flight deck doors. Engineering factors necessary to meet other safety requirements are also considered. As a result, FAA rules/regulations do not specify which direction flight deck doors open (inward vs. outward).

A TSA Deputy Director for the Office of Security Policy and Industry Engagement (OSPIE), agreed with each of the three FAA experts that FAA has primary regulatory responsibility for the first allegation in the whistleblower complaint, and if TSA wished to recommend a rule change to mandate this modification, TSA would work with the FAA.

ALLEGATION #2:

TSA failed to require aircraft operators to install secondary barriers which function as a second layer of protection between the passenger area and the flight deck.

FINDING #2:

Three (3) FAA subject matter experts were interviewed. All three asserted that this alleged vulnerability is best addressed by the FAA as it is the federal agency responsible for regulations concerning secondary barriers on commercial aircraft. At the present time, the FAA does not require commercial aircraft carriers to install secondary barriers. The primary FAA expert for secondary barriers reiterated secondary barriers are regulated by the FAA.

On April 14, 2015, the FAA issued an AC, which listed three acceptable methods of secondary flight security and stated that U.S. air carriers are to present objective evidence of compliance to the FAA for approval [Attachment 3]. According to an FAA Inspector who was interviewed, to the best of her knowledge, all U.S. air carriers are in compliance with the AC [Attachment 7].

A TSA Deputy Director for the Office of Security Policy and Industry Engagement (OSPIE), agreed with each of the three FAA experts that FAA has primary regulatory responsibility for the second allegation in the whistleblower complaint, and if TSA

wished to mandate this modification, it would work with the FAA. He said that in its effort to support the FAA, TSA also works with several aviation interest groups on security issues, and that the TSA Administrator recently sent an action memo to the Charmian of TSA's industry advisory group, the Aviation Security Advisory Committee (ASAC), requesting an assessment of Secondary Barriers on Commercial Aircraft.

A TSA Senior Federal Air Marshal in Charge (SAC) was interviewed and said that the Federal Air Marshal Service (FAMS) routinely works with the FAA on the issue of secondary barriers, providing advice and insights regarding threats to the flight deck. The FAMS participation in the Requirements and Technical Concepts for Aviation (RTCA) Special Committee (AC) 221, formed to examine secondary barriers, was cited as evidence of this collaborative effort. He said that the TSA/FAMS advice is used by the FAA in its decision making, but that the ultimate responsibility to write policy on the issue rests with the FAA.

ATTACHMENTS	
Attachment Number	**Description**
1	Memorandum of Activity reviewing the initial information relating to the whistleblower disclosure of FAM MacLean dated February 5, 2018
2	Memorandum of Interview of FAM MacLean dated February 7, 2018
3	Memorandum of Interview of [redacted] dated February 8, 2018
4	Memorandum of Interview of [redacted] dated February 9, 2018
5	Memorandum of Interview of [redacted] dated February 12, 2018
6	Memorandum of Interview of [redacted] dated February 13, 2018
7	Memorandum of Interview of [redacted] dated February 15, 2018
8	Memorandum regarding Supplemental Questions Review and Dissemination dated April 2, 2018
9	Supplemental Attachment 1 – Follow up Questions for [redacted] and FAA Subject Matter Experts
10	Supplemental Attachment 2 – Email from [redacted] with response to follow up questions
11	Supplemental Attachment 3 – Email from [redacted] with response to follow up questions
12	Supplemental Attachment 4 – Email from [redacted] with response to follow up questions
13	Supplemental Attachment 5 – Email from [redacted] with response to follow up questions
14	Supplemental Attachment 6 – Memorandum of re-interview of [redacted] re: second set of supplemental questions
15	Supplemental Attachment 7 – Memorandum of interview of FAM Senior Air Marshal in Charge [redacted] re: second set of supplemental questions

ATTACHMENT 1

MEMORANDUM OF INTERVIEW OR ACTIVITY

Type of Activity:	Date and Time:
☐ Personal Interview ☐ Telephone Interview ☐ Records Review ☒ Other	February 5, 2018 4:15 PM
Activity or Interview of: Initial information regarding a whistleblower disclosure originated by Federal Air Marshal (FAM) Robert MacLean	Conducted By: Special Agent [redacted]
	Location of Interview/Activity: Denver, CO

Subject Matter/Remarks

On Monday, February 5, 2018, Attorney Advisor [redacted], Office of Chief Counsel (OCC), Transportation Security Administration (TSA), provided the following information to the Office of Inspection (OOI). The information consisted of a memorandum from TSA's Principal Deputy Chief Counsel [redacted] to TSA's Office of Inspection (OOI) Acting Assistant Administrator [redacted], dated February 5, 2018, Subject: Whistleblower Disclosure, OSC File No. DI-16-2064. The memorandum related how OCC became aware of a whistleblower disclosure filed with the U.S. Office of Special Counsel (OSC), by Federal Air Marshal (FAM) Robert MacLean alleging two issues:

1. TSA failed to require aircraft operators to strengthen and implement flight deck doors that open outward and away from the flight deck; and
2. TSA failed to require aircraft operators to install secondary barriers which function as a second layer of protection between the passenger area and the flight deck.

The Department of Homeland Security (DHS), Office of Inspector General (OIG), informed OCC of their declination to open an investigation into these two issues. OCC then requested OOI to investigate these two issues. The other requirement mentioned in the memorandum was that the

whistleblower, FAM MacLean, should be interviewed at the beginning of the investigation to allow him to provide additional information and an explanation of the allegations.

Three other supporting documents were included with the memorandum:

1) OSC transmittal letter to DHS Secretary Kirstjen Nielsen, dated January 18, 2018, referring the two above issues for investigation as whistleblower disclosures;

2) Radio Technical Commission for Aeronautics (RTCA) DO-329, dated September 28, 2011, Aircraft Secondary Barriers and Alternative Flight Deck Security Procedures, issued: June 26, 2017; and

3) The DOT OIG Audit Report (redacted for disclosure), Report Number: AV2017062, issued June 26, 2017.

The DOT OIG report stated that the Federal Aviation Administration (FAA) had taken actions to identify vulnerabilities and improve flight deck security since 9/11. The report indicated that the FAA does not coordinate with TSA at the field office level to identify emerging flight deck security vulnerabilities, such as coordinating on security issues raised during safety surveillance activities. Further, the report said that FAA may be missing ways to enhance safety and security through closer collaboration with TSA, and that the FAA was not effectively mitigating all existing cockpit security vulnerabilities.

The DOT OIG report did not specifically address how the two agencies (FAA and TSA) should work together to enhance safety. The report stated FAA and TSA field inspectors do not meet regularly, which would provide the opportunity to relay security issues reported through voluntary safety programs, such as crewmember noncompliance with published security procedures. The DOT OIG report further stated that FAA has not effectively mitigated certain identified cockpit security vulnerabilities and limitations with existing countermeasures. One of the examples of missed opportunities to improve safety and security by the FAA, pointed out in the DOT OIG report, were the gaps limiting the effectiveness in mitigating security vulnerabilities in FAA Advisory Circular 120-110, issued in April 2015, four years after the attached RTCA report was issued. The DOT OIG report pointed out that the original FAA requirements to harden cockpit doors were issued as a series of Special Federal Aviation Regulations, not simply an Advisory Circular. The DOT OIG report also cited how the FAA failed to publicize or implement most of the recommendations found in the RTCA report.

MEMORANDUM OF INTERVIEW OR ACTIVITY (continuation sheet)

The DOT OIG report provided six recommendations to FAA:

1. Develop and implement a process for field level inspectors to coordinate with TSA on programs with closely related safety and security responsibilities, such as results of air carrier cockpit access program audits.
2. Modify the current Safety Assurance System Data Collection Tool to ensure... (the remainder was redacted).
3. Publish an FAA Notice to inspectors that communicates the existence of AC 120-110 and RTCA Report DO-329, highlights the blocking methods orchestrated by the Special Committee, and directs inspectors to communicate this information to the carriers they oversee.
4. Require air carriers to conduct a Safety Risk Assessment (under FAA's Safety Management System) of their current secondary barrier methods using all information from the 2011 RTCA report on secondary barriers, either as a stand-alone Notice or incorporated into another Notice recommended above.
5. Meet with air carriers and TSA to discuss best practices that may be used to enhance cockpit security and reduce crew complacency.
6. Conduct outreach to industry and DHS to assess flight attendant concerns on additional training needed to better prepare for emergency situations, such as a crewmember lockout from the cockpit.

FAA's response to the DOT OIG Audit report concurred with recommendations 1, 5, and 6. FAA partially concurred with recommendation 3, but did not concur with recommendations 2 and 4. FAA's reasons for not modifying the current Safety Assurance System Data Collection Tool (2) was redacted. FAA stated that they did not concur with recommendation 4 as Air Carriers conduct safety risk assessments to comply with 14 CFR § 121.584. FAA further stated that they do not agree with all the findings in the RTCA report and they do not agree to use all information from the 2011 RTCA report.

ATTACHMENT 2

~~SENSITIVE SECURITY INFORMATION~~

MEMORANDUM OF INTERVIEW OR ACTIVITY

Type of Activity:	Date and Time:
☒ Personal Interview ☐ Telephone Interview ☒ Records Review ☐ Other	February 7-22, 2018
Activity or Interview of: Robert MacLean Federal Air Marshal (FAM) Washington Field Office (WFO) Federal Air Marshals Service (FAMS) Transportation Security Administration (TSA)	**Conducted By:** Special Agent [redacted] and Special Agent [redacted] **Location of Interview/Activity:** [redacted]

Subject Matter/Remarks

On February 7, 2018, the reporting agent contacted FAM MacLean in order to schedule an interview and obtain additional information related to his whistleblower disclosure. FAM MacLean was advised that his interview would be voluntary and that he would be asked to provide information related to the two whistleblower disclosures related to flight deck doors and secondary barriers. FAM MacLean indicated that he understood and then proceeded to explain his history with FAMS and TSA. FAM MacLean was reminded that this investigation was focused on the whistleblower disclosures related to the flight deck doors and the secondary barriers. FAM MacLean provided information on numerous issues unrelated to the whistleblower disclosures, some already investigated, some litigated. [NOTE: Information not directly related to the two whistleblower disclosures will be retained in the TSA Office of Inspection (OOI) case file.]

On February 8, 2018, FAM MacLean provided an email chain from February 2016 through March 2016, documenting his efforts to obtain an unredacted copy of the Radio Technical Commission for Aeronautics (RTCA) DO-329 report, dated September 28, 2011.

Case Number:	Case Title:
I180099	Whistleblower Disclosure - Flight Deck Issues

MEMORANDUM OF INTERVIEW OR ACTIVITY (continuation sheet)

On February 9, 2018, FAM MacLean provided an email chain (attached) from April 2016 thanking his supervisor, Supervisory FAM (SFAM) [redacted], for providing all of the members of their squad the information contained in the RTCA report. FAM MacLean then provided links to news stories on Congressional consideration of legislation addressing secondary barriers.

On February 9, 2018, FAM MacLean provided an email (attached) from SFAM [redacted], dated December 7, 2015, concerning the flight deck door opening into the flight deck on some aircraft and secondary barriers. SFAM [redacted] stated in the email, to FAM MacLean, that he [redacted] had addressed all of his (MacLean) concerns with his [redacted] contact at FAA.

On February 9, 2018, FAM MacLean provided an email he sent to ABC News on April 11, 2006, related to a Chicago Tribune story dated September 1, 2004, about United Airlines installing secondary barriers.

On February 9, 2018, FAM MacLean provided an email dated February 23, 2009, he sent to Adam Miles and Tom Devine, who represented him as a whistleblower after he was terminated by TSA. The email contains suggestions for efficiency review of the TSA / Office of Law Enforcement (OLE) / FAMS / Federal Flight Deck Officer (FFDO) Program. Some of FAM MacLean's suggestions are a secondary barrier, mounting shotguns inside the flight deck, changing the FAM position from a permanent position into a rotating assignment available to all federal law enforcement officers, converting all FAMs from their current 1801 occupational series into 1811 occupational series, ending the FFDO Program, installing Taser type weapons for use by flight crew members in the forward galley area of commercial aircraft, increasing the bullet resistance of the wall separating the flight deck and passenger cabin, requiring armed passengers to secure their weapons in the flight deck for the duration of the flight, and establishing a procedure where the flight deck crew could depressurize the aircraft at altitude in the event that attackers were able to overcome all other security measures prior to breaching the flight deck.

On February 10, 2018, FAM MacLean provided an email identifying 49 CFR § 1544.237 as a policy requiring all air carriers to restrict access to the flight deck in their security program.

On February 10, 2018, FAM MacLean provided an email with a link to a New York Times story relating how Ellen Saracini, whose husband was killed on 9/11, was lobbying Congress to require secondary barriers. FAM MacLean said that Ms. Saracini told him that thee TSA managers tried to persuade her to stop pressing for secondary barriers.

Case Number:	Case Title:
I180099	Whistleblower Disclosure - Flight Deck Issues

MEMORANDUM OF INTERVIEW OR ACTIVITY (continuation sheet)

On February 10, 2018, FAM MacLean provided an email outlining what he believed would be an immediate solution to the dangers involved in the flight deck door transition.

On February 13, 2018, at 10:17 AM, Special Agent [redacted] and the reporting agent met with FAM MacLean at FAMS Washington Field Office (WFO). FAM MacLean was again advised the interview was voluntary, he was not compelled to cooperate, he was being interviewed to allow him to further explain his allegations, and to provide any additional information he felt was important to support his whistleblower disclosures. While FAM MacLean wanted to discuss the numerous issues he had been involved with concerning his previous whistleblower case, he indicated that he understood that this investigation was only going to focus on the two whistleblower disclosures made in the U.S. Office of Special Counsel's transmittal letter:

1. TSA failed to require aircraft operators to strengthen and implement flight deck doors that open outward and away from the flight deck; and
2. TSA failed to require aircraft operators to install secondary barriers which function as a second layer of protection between the passenger area and the flight deck.

FAM MacLean stated he understood, but felt the investigation was missing an opportunity to create a safer environment by addressing some of the long-standing issues he had with TSA and FAMS. FAM MacLean indicated that the flight deck door transitions and secondary barrier issues have long been a problem for him, and he has attempted, multiple times, to have either TSA OOI, Department of Homeland Security (DHS) Office of Inspector General (OIG), and/or OSC address these issues. He indicated that as far back as 2006, he had been trying to get someone to change some of the current security policies to make aviation safer. He discussed many of the documents he had already provided and indicated that he would continue to send more documents that he believed supported his position on these issues. FAM MacLean was asked whether he believed the TSA or Federal Aviation Administration had primary responsibility for the flight deck door and secondary barrier issues. FAM MacLean said both agencies have responsibility. FAM MacLean indicated that it did not matter to him which agency had primary responsibility, but that federal employees have a responsibility to change security weaknesses, like the flight deck door and lack of secondary barriers.

FAM MacLean indicated he would be willing to provide a sworn statement regarding his whistleblower disclosures. He stated that an email he had sent in the past few days would specifically remedy one of the worst deficiencies in aviation security related to both the flight deck door transitions and the secondary barrier. FAM MacLean selected the email he sent on February 10, 2018, outlining an

MEMORANDUM OF INTERVIEW OR ACTIVITY (continuation sheet)

immediate solution as the most important information he wanted to convey in this investigation. The seven-page voluntary sworn statement executed by FAM MacLean is attached.

On February 15, 2018, FAM MacLean provided an email related to information concerning a potential threat to aviation security posed by an improvised Fentanyl grenade being deployed by attackers against the flight deck while the door was opened during a door transition.

On February 20, 2018, FAM MacLean provided an email reflecting that he had sent the Fentanyl grenade threat information to SFAM [redacted], who indicated he provided the information to TSA's Office of Security Policy and Industry Engagement (OSPIE).

On February 20, 2018, FAM MacLean provided an email with a copy of the Department of Transportation (DOT) OIG report number AV2017063.

On February 21, 2018, FAM MacLean provided an email with additional information from his attempts to get the RTCA report disseminated to a larger group of FAMS.

On February 22, 2018, FAM MacLean provided an email with Freedom of Information Act requests to both the Bush Administration and Obama Administration related to Al-Qaeda planning to exploit pilot door transitions.

~~SENSITIVE SECURITY INFORMATION~~

SWORN STATEMENT

Transportation Security Administration

I, ROBERT MACLEAN, having been duly sworn, hereby make the following statement to [redacted] who has been identified to me as a federal law enforcement officer and special agent with the Transportation Security Administration, Office of Inspection. I am making this statement of my own free will, without any duress or coercion.

* * * SEE ATTACHED STATEMENT * * *

I have read this entire statement consisting of 7 pages. RJM I have been given the opportunity to make any corrections necessary to make the statement accurate. All of the information contained in this statement is true and accurate to the best of my knowledge and belief. I understand that I may be prosecuted for perjury or making false statements if I have intentionally misrepresented anything contained in this statement. I have not intentionally omitted any information or knowledge I have that relates to the matters under investigation or review.

Signature

Signed and sworn to before me, this 8th day of FEBRUARY, 2018.

Witness

[redacted]
Transportation Security Administration
Department of Homeland Security
Authority to administer oaths: 5 U.S.C. § 303

Form INVD-S3 (Rev. 5/30/2013)

RJM

Numerous Federal Air Marshals (FAM) complain about the dangerous practice commercial passenger aircraft (aircraft) crew members utilize in order to exit and enter the flight deck (also known as a "cockpit") when a pilot needs to receive sustenance, use the lavatory, and/or crew-rest during flight. This dangerous method is mostly exercised if not always.

Herein I will refer to the process of a crew member entering and exiting the flight deck as a "door transition."

Crew members justify this dangerous method with the Department of Transportation / Federal Aviation Administration's (FAA) "two-man rule" regulation. The risk of a lone suicidal attacker diving into an unlocked flight deck outweigh the abilities a flight attendant—inside the flight deck—has to prevent a disaster if the one pilot becomes unconscious or suicidal. A suicidal pilot can instantly put an aircraft into a fatal dive long before a flight attendant may have any awareness, react in order to unlock the door, and summon a pilot who is likely inside of a lavatory.

For added measure, the concern that a pilot being alone in the flight deck can be overcome with a biometric override system of the flight deck lock. An override system can be programmed with both pilots' biometrics prior to departure—either one to override. There are numerous existing proposals for such an override system after the Germanwings flight 9525 disaster on March 24, 2015 caused by a suicidal pilot locking his fellow pilot out of the flight deck.

During the last 20 years, there have been **only four pilots** who have used a commercial passenger aircraft to commit suicide and killing more than 32 people on their flights. Most of those four conclusions are still in dispute by the entities who investigated them:

https://en.wikipedia.org/wiki/Suicide_by_pilot

Since 2014, there have been 22 vehicle lone-wolf terrorist attacks in Israel, Europe, Canada, and the U.S. Most of these attackers did not stop until being shot by police:

https://en.wikipedia.org/wiki/Vehicle-ramming_attack

Another method will eliminate three to five chances for an attack, **to only one**, during the final stage of a door transition. I will describe that method at the end of this draft after detailing the four to six chances for a suicidal attacker.

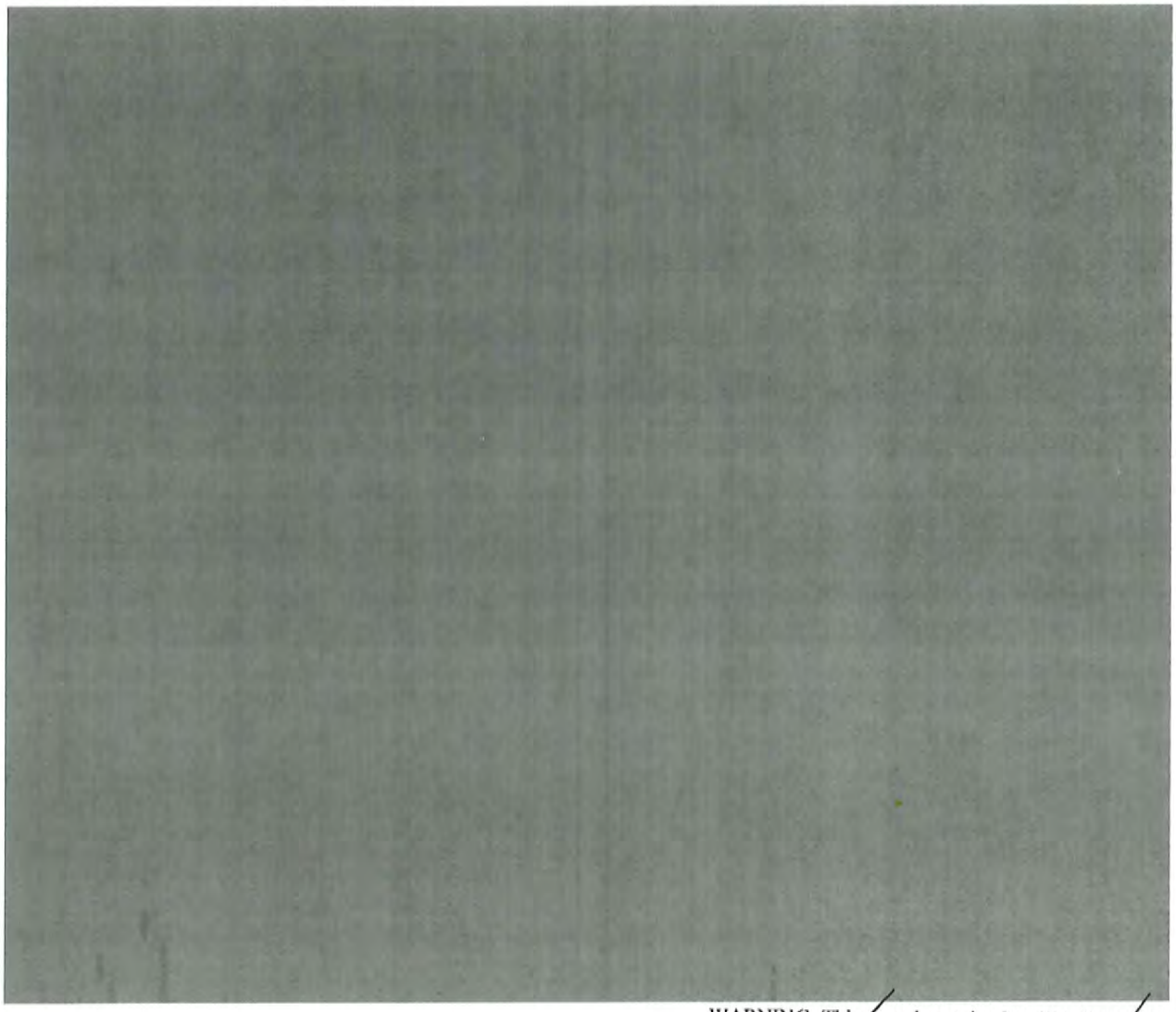
Finally, there would be no attack chances if a well-engineered and stable secondary barrier system was on all aircraft and deployed inside the cabin entrance before a door transition.

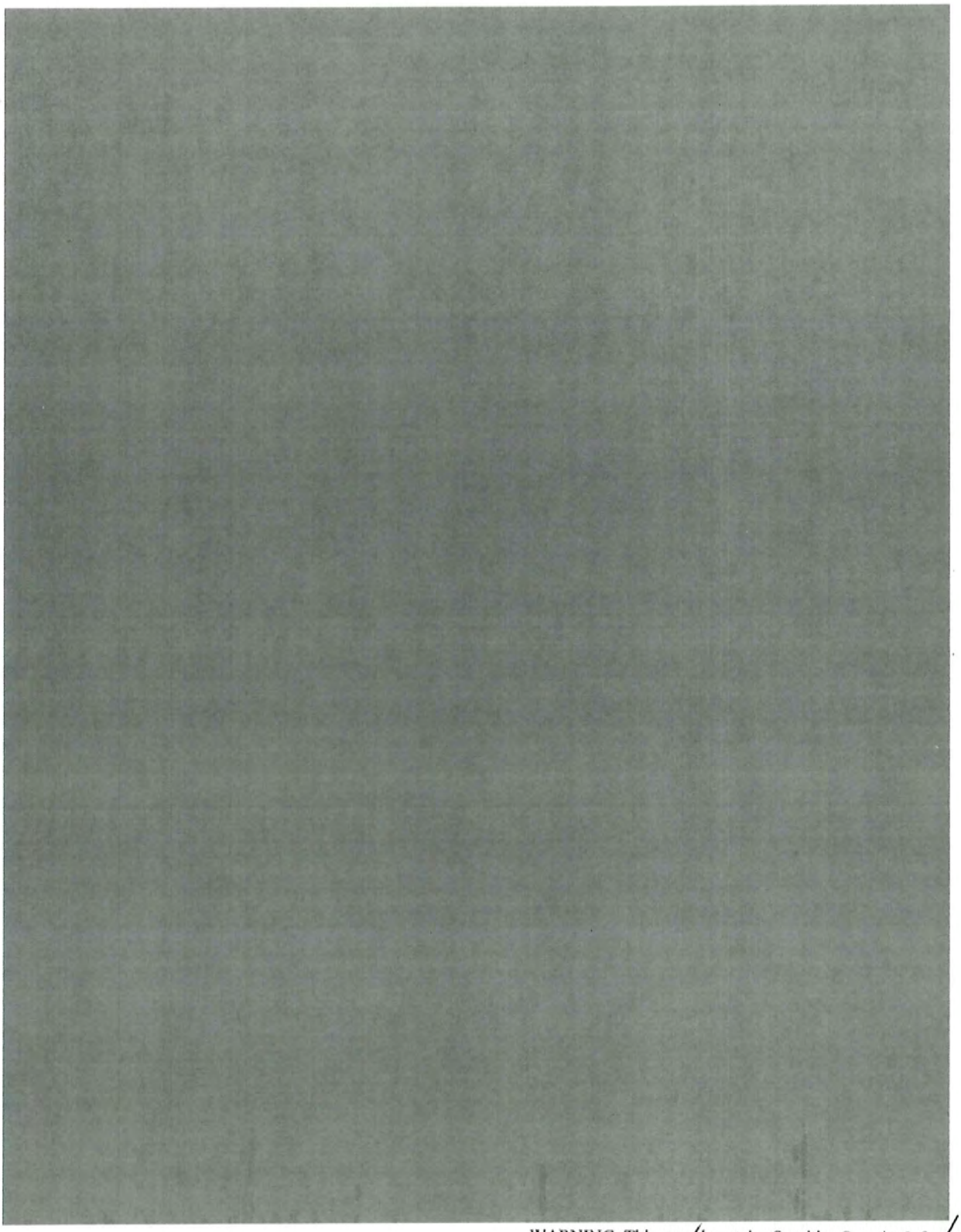
Without a customized and tested secondary barrier system, the security of the flight deck is relied on a galley cart that can be pushed aside or tipped over and flight attendants who are:

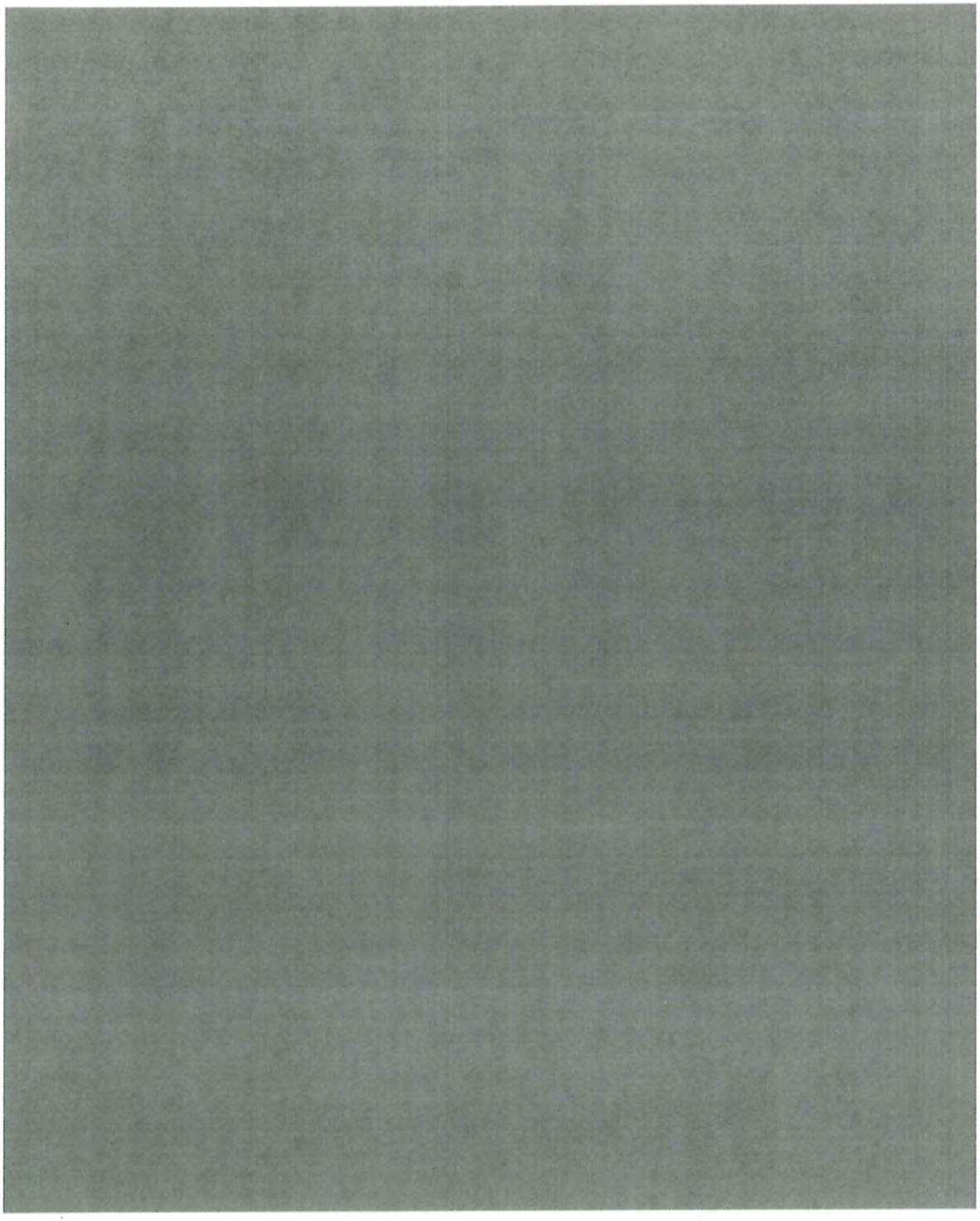
- Standing weakly while an attacker is diving
- Likely unaware of an imminent attack
- Likely do not self-defense training
- Likely do not have equal upper-body strength
- Likely have inherent complacency
- Likely have disabilities
- Likely do not have the time to react

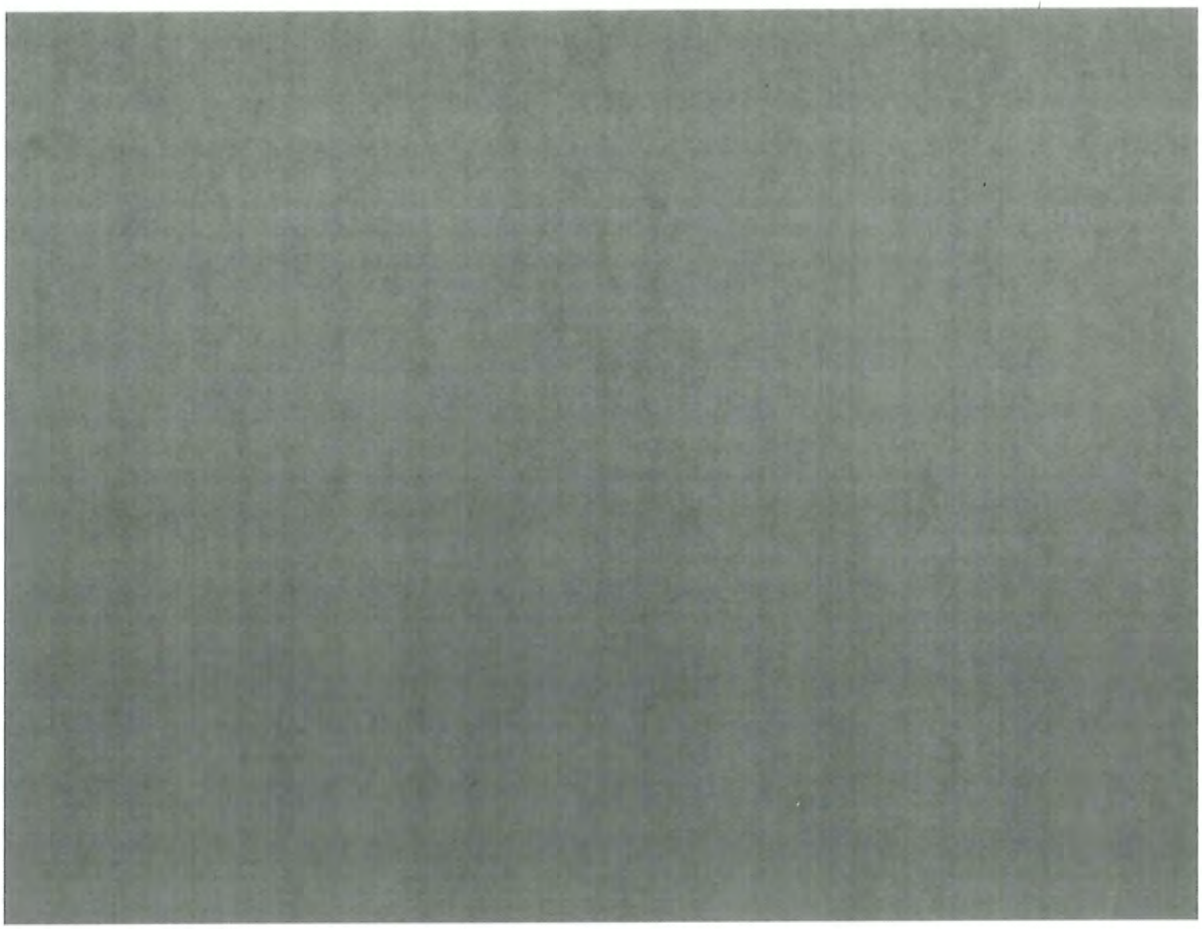
Flight attendants do not have a mandatory retirement age like pilots.

Six Attack chances During Inward-Opening Door Transition









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SOLUTION: "No-Alert" Door Transition Reducing Chances To ONLY ONE

The pilot only tells the other pilot in the flight deck that he will leave the flight deck. He/she alerts none of the flight attendants until he/she exits and locks the flight deck without allowing a flight attendant to enter.

RJM

After the pilot is ready to re-enter the flight deck, he/she establishes a barrier of flight attendants and galley carts, opens the door, walks through the threshold, enters the flight deck, and closes its door. The door is not left open for an extended duration because there was never a flight attendant inside who needs to exit the flight deck. This is the one and only chance for an attack.

This is technically a violation of the FAA's "two-man rule." A rule that is mostly nonsensical and needless because of the availability of override systems and the one-in-a-billion odds of a "suicide by pilot" potential.

Finally, all chances are eliminated if an effective secondary barrier system—independent of crew members and galley carts—was deployed on all aircraft.

[redacted]
Federal Air Marshal
Washington Field Office
[redacted]

PAGE 7 OF 7
RJM

ATTACHMENT 3

~~SENSITIVE SECURITY INFORMATION~~

MEMORANDUM OF INTERVIEW OR ACTIVITY

Type of Activity:	Date and Time:
☒ Personal Interview ☐ Telephone Interview ☒ Records Review ☐ Other	February 8, 2018 2:51 PM
Activity or Interview of: [redacted] Deputy Director (DD) – Aviation Office of Security Policy and Industry Engagement (OSPIE) Transportation Security Administration (TSA)	**Conducted By:** Special Agent [redacted] **Location of Interview/Activity:** [redacted] HQ, 601 East Building, Pentagon City, Arlington, VA

Subject Matter/Remarks

On February 8, 2018, the reporting agent contacted Transportation Security Administration Deputy Director (DD) [redacted], Office of Security Policy and Industry Engagement (OSPIE), in order to set up an interview and obtain information related to the two whistleblower disclosures outlined in the U.S. Office of Special Counsel's transmittal letter:

1. TSA failed to require aircraft operators to strengthen and implement flight deck doors that open outward and away from the flight deck; and
2. TSA failed to require aircraft operators to install secondary barriers which function as a second layer of protection between the passenger area and the flight deck.

DD Vogt stated that these issues are regulated by the Federal Aviation Administration (FAA). If the Transportation Security Administration (TSA) wanted to recommend rule changes, regarding either the flight deck doors or the secondary barrier issues, TSA would need to work with the FAA, as the FAA would be the primary agency responsible for these issues.

Case Number:	Case Title:
I180099	Whistleblower Disclosure - Flight Deck Issues

MEMORANDUM OF INTERVIEW OR ACTIVITY (continuation sheet)

DD Vogt provided the attached documents containing information related to the two issues:

- FAA Advisory Circular 120-110
- Secondary Flight Deck Door Barriers
- Aviation and Transportation Security Act Section 104
- 14 CFR Part 121, Flightdeck Door Monitoring and Crew Discreet Alerting Systems
- Cockpit Access
- Flight Deck Door Rule and Order 3-27-15

On February 14, 2018, DD [redacted] met with the reporting agent in his office at TSA Headquarters. He reiterated that the flight deck door issues and secondary barrier issues, being investigated in this whistleblower complaint/disclosure, are issues that reside in the jurisdiction of the FAA. DD [redacted] provided a point of contact with the FAA, [redacted] who could provide more information on these issues.

U.S. Department
of Transportation
Federal Aviation
Administration

Advisory Circular

Subject: Aircraft Secondary Barriers and Alternate Flight Deck Security Procedures	Date: 4/14/15	AC No: 120-110
	Initiated by: AFS-200 from AFS-007	Change:

1. PURPOSE.

a. This advisory circular (AC) calls attention to RTCA Document (RTCA/DO-329) Aircraft Secondary Barriers and Alternative Flight Deck Security Procedures, as guidance to achieve effective protection of the flight deck as required by Title 14 of the Code of Federal Regulations (14 CFR) part 121 § 121.584(1)(a).

b. This AC is not mandatory and does not constitute a regulation. It describes an acceptable means, but not the only means, to comply with pertinent regulatory requirements.

2. APPLICABILITY. This AC applies to air carriers, manufacturers, installers, field offices, regional offices, and headquarters (HQ) to convey effective methods to best protect the flight deck during door transition. To that end, this AC identifies RTCA/DO-329 as a means of compliance to § 121.584(1)(a).

3. RELATED TITLE 14 CFR PARTS.

a. Part 25.

(1) Section 25.772 – Pilot Compartment Doors.

(2) Section 25.795 – Security Considerations.

b. Part 121.

(1) Section 121.135 – Manual Content.

(2) Section 121.313 – Miscellaneous Equipment.

(3) Section 121.547 – Admission to flight deck.

(4) Section 121.584 – Requirement to view the area outside the flightdeck door.

(5) Section 121.587 – Closing and locking of flightcrew compartment door.

4. RELATED READING MATERIAL. RTCA, Inc. Document RTCA/DO-329. Order copies of RTCA/DO-329, Aircraft Secondary Barriers and Alternative Flight Deck Security Procedures, dated September 28, 2011, from RTCA, Inc., 1150 18th Street NW, Suite 910, Washington, D.C. 20036 or order online from RTCA, at http://www.rtca.org/.

5. BACKGROUND.

a. On long flights, as a matter of necessity, crewmembers must open the flight deck door to access lavatory facilities, to transfer meals to flightcrew members, or to switch crew positions for crew rest purposes. The opening and closing of the flight deck door (referred to as "door transition"), reduces the protective anti-intrusion/anti-penetration benefits of the reinforced door, if crewmembers do not properly use established procedures and/or equipment. During this door transition, the flight deck is vulnerable.

b. To date, passenger-carrying air carriers have employed several methods to support security of the flight deck when opening the flight deck door during flight. One method employs a combination of procedures using crewmembers to monitor the area and/or aircraft equipment, such as galley carts, to block access to the flight deck during the door transition.

c. An alternate method (that is in use at several air carriers), is to block access to the flight deck through the use of an installed physical secondary barrier (IPSB).

6. DISCUSSION OF RTCA/DO-329.

a. Why Use RTCA/DO-329.

(1) Use of RTCA/DO-329 provides a standard measure of protection of the flight deck during door transition.

(2) Use of /DO-329 provides an objective means of measuring compliance with § 121.584 requirements regarding flight deck security.

(3) RTCA/DO-329 establishes a standard for specific threats, how to impede them, and for how long (i.e., 200 lb. male for 5 seconds).

(4) RTCA/DO-329 offers several methods that an operator can select to best protect their flight deck.

(5) Finally, RTCA/DO-329 is data driven. It was created by members from industry, government, and document research and best practices currently utilized (e.g., the door should be opened for a maximum duration of 3 seconds), as well as data obtained from actual testing in cooperation with the Transportation Security Administration (TSA) Federal Air Marshall Service.

b. Presentation of Compliance with § 121.584 Using RTCA/DO-329.

(1) Show compliance using RTCA/DO-329 through the following steps:

(a) Step 1: Determine the method of secondary flight deck security you intend to use.

- Use of an IPSB per section 2.3. Installation of the IPSB is an alteration to the aircraft. The data approvals required for installation of the IPSB will vary based on the complexity of the design, the impact it has on the aircraft's airworthiness characteristics and the level of design and production approval of the IPSB. Work with your principal inspectors and/or the local ACO to determine what type of data approvals are required for the alteration.
- Use of improvised non-installed secondary barriers (INSB) per section 2.4 or,
- Use of human secondary barriers (i.e., flightcrew members) per section 2.5.

(b) Step 2: Establish objective evidence of compliance to the method of secondary flight deck security selected, to include required training of crewmembers.

(c) Step 3: Present the method and objective evidence of compliance to the Federal Aviation Administration (FAA) Principal Operations Inspector (POI), for approval.

(2) **Non-U.S. Air Carriers.** Considerations for non-U.S. air carriers are contained in section 3 of RTCA/DO-329.

7. **WHERE YOU CAN FIND THIS AC.** You can find this AC on the FAA's Web site at http://www.faa.gov/regulations_policies/advisory_circulars.

ORIGINAL SIGNED by

/s/ John Barbagallo
Assistant Director, Flight Standards Service

Secondary Flight Deck Barriers

The FAA is in the process of developing procedures to protect the flight deck when opening the door during flight.

Background

Reinforced flight deck doors mandated by the U.S. Congress after the terrorist attacks of Sept. 11, 2001, have added a valuable level of protection to the flight deck. Doors do not provide a complete solution to the problem they were intended to solve. A secondary barrier, accompanied by standard operating procedures for protecting the flight deck when opened in flight, would significantly augment the fortified door and add an important layer of security to prevent hostile takeover of the flight deck.

Many airlines have established flight deck access procedures to ensure that door transitions are made safely and in minimal time. In addition, a number of airlines have approved and begun improvised use of onboard equipment as a supplementary, interim protective barrier whenever the reinforced door is opened in flight. Generally, a flight attendant positions a galley/beverage cart diagonally across the aisle and monitors the cabin during the door transition. While using a galley/beverage cart in the aisle, coupled with properly executed door transition procedures, may provide an improvised method of protecting the flight deck, these combined precautions do not establish a predictably reliable system capable of significantly slowing and deterring a hijacker intent on seizing control of the flight deck.

A proposed solution to this security deficiency is a secondary barrier—a lightweight device that is easy to deploy and stow, installed between the passenger cabin and the cockpit door—that blocks access to the flight deck whenever the reinforced door is opened in flight. Voluntary industry movement toward designing and deploying secondary barriers and flight deck access procedures began in 2003 with United Airlines' installation of secondary barriers on select aircraft in its fleet.

A little homework goes a long way. ATSA directed FAA to complete the following:

SEC. 104. IMPROVED FLIGHT DECK INTEGRITY MEASURES.

(a) IN GENERAL.—As soon as possible after the date of enactment of this Act, the **Administrator of the Federal Aviation Administration** shall—

(1) issue an order (without regard to the provisions of chapter 5 of title 5, United States Code)—

(A) prohibiting access to the flight deck of aircraft engaged in passenger air transportation or intrastate air transportation that are required to have a door between the passenger and pilot compartments under title 14, Code of Federal Regulations, except to authorized persons;

(B) requiring the strengthening of the flight deck door and locks on any such aircraft operating in air transportation or intrastate air transportation that has a rigid door in a bulkhead between the flight deck and the passenger area to ensure that the door cannot be forced open from the passenger compartment;

(C) requiring that such flight deck doors remain locked while any such aircraft is in flight except when necessary to permit access and egress by authorized persons; and

(D) prohibiting the possession of a key to any such flight deck door by any member of the flight crew who is not assigned to the flight deck; and (2) take such other action, including modification of safety and security procedures and flight deck redesign, as may be necessary to ensure the safety and security of the aircraft.

(b) IMPLEMENTATION OF OTHER METHODS.—As soon as possible after such date of enactment, the Administrator of the Federal Aviation Administration may develop and implement methods—

(1) to use video monitors or other devices to alert pilots in the flight deck to activity in the cabin, except that the use of such monitors or devices shall be subject to nondisclosure requirements applicable to cockpit video recordings under section 1114(c);

(2) to ensure continuous operation of an aircraft transponder in the event of an emergency; and

(3) to revise the procedures by which cabin crews of aircraft can notify flight deck crews of security breaches and other emergencies, including providing for the installation of switches or other devices or methods in an aircraft cabin to enable flight crews to discreetly notify the pilots in the case of a security breach occurring in the cabin.

Issued in College Park, Georgia, on July 5, 2007.

Mark D. Ward,

Group Manager, System Support Group, Eastern Service Center.

[FR Doc. 07–3962 Filed 8–14–07; 8:45 am]

BILLING CODE 4910–13–M

DEPARTMENT OF TRANSPORTATION

Federal Aviation Administration

14 CFR Part 121

[Docket No. FAA–2005–22449; Amendment No. 121–334]

RIN 2120–AI16

Flightdeck Door Monitoring and Crew Discreet Alerting Systems

AGENCY: Federal Aviation Administration (FAA), DOT.

ACTION: Final rule.

SUMMARY: This final rule amends Federal Aviation Administration (FAA) regulations by requiring operators of passenger-carrying transport category airplanes used in domestic, flag, and supplemental operations to have a means for flightcrew to visually monitor the door area outside the flightdeck. This means will allow the flightcrew to identify persons requesting entry into the flightdeck and detect suspicious behavior or potential threats. This final rule also amends FAA regulations to require that, for operations requiring the presence of flight attendants, the flight attendants have a means to discreetly notify the flightcrew of suspicious activity or security breaches in the cabin. This final rule addresses standards adopted by the International Civil Aviation Organization (ICAO) following the September 11, 2001 terrorist attacks.

DATES: Effective October 15, 2007.

FOR FURTHER INFORMATION CONTACT: Joe Keenan, Air Transportation Division, Flight Standards Service, 800 Independence Avenue, SW., Washington, DC 20591; telephone (202) 267–8166, facsimile (202) 267–9579, e-mail: *joe.keenan@faa.gov.*

SUPPLEMENTARY INFORMATION:

Availability of Rulemaking Documents

You can get an electronic copy using the Internet by:

(1) Searching the Department of Transportation's electronic Docket Management System (DMS) web page (*http://dms.dot.gov/search*);

(2) Visiting the FAA's Regulations and Policies web page at *http://www.faa.gov/regulations_policies/*; or

(3) Accessing the Government Printing Office's web page at *http://www.gpoaccess.gov/fr/index.html.*

You can also get a copy by sending a request to the Federal Aviation Administration, Office of Rulemaking, ARM–1, 800 Independence Avenue, SW., Washington, DC 20591, or by calling (202) 267–9680. Make sure to identify the amendment number or docket number of this rulemaking.

Anyone is able to search the electronic form of all comments received into any of our dockets by the name of the individual submitting the comment (or signing the comment, if submitted on behalf of an association, business, labor union, etc.). You may review DOT's complete Privacy Act statement in the **Federal Register** published on April 11, 2000 (Volume 65, Number 70; Pages 19477–78) or you may visit *http://dms.dot.gov.*

Small Business Regulatory Enforcement Fairness Act

The Small Business Regulatory Enforcement Fairness Act (SBREFA) of 1996 requires the FAA to comply with small entity requests for information or advice about compliance with statutes and regulations within its jurisdiction. If you are a small entity and you have a question regarding this document, you may contact the person listed under **FOR FURTHER INFORMATION CONTACT.** You can find out more about SBREFA on the Internet at *http://www.faa.gov/regulations_policies/rulemaking/sbre_act/.*

Authority for This Rulemaking

This rulemaking is promulgated under the authority described in Subtitle VII, Part A, Subpart III, Section 44701, "General requirements." Under that section, the FAA is charged with promoting safe flight of civil aircraft in air commerce by prescribing:

- Minimum standards required in the interest of safety for the design and performance of aircraft, and;
- Regulations for other practices, methods, and procedures the Administrator finds necessary for safety in air commerce and national security.

This regulation is within the scope of that authority because it prescribes:

- New standards for the safe operation of transport category airplanes, and;
- Practices, methods, and procedures that the Administrator finds necessary for safety in air commerce and national security.

Background

Following the terrorists' acts on September 11, 2001, the Office of the Secretary of Transportation, Congress, and the FAA took several long term actions to prevent hijackings on passenger-carrying airplanes used in air carrier service. As part of those actions, the FAA published the notice of proposed rulemaking (NPRM), "Flightdeck Door Monitoring and Crew Discreet Alerting Systems" (70 FR 55492; September 21, 2005). That NPRM proposed requiring operators of passenger-carrying transport category airplanes used in domestic, flag, and supplemental operations to have a means for flightcrew to visually monitor the door area outside the flightdeck. The NPRM also proposed that, for operations requiring the presence of flight attendants, flight attendants have a means to discreetly notify the flightcrew of suspicious activity or security breaches in the cabin. The proposed changes addressed standards adopted by the International Civil Aviation Organization following the September 11, 2001 terrorist attacks.

Before issuing the NPRM, the FAA participated in the rapid response teams (RRTs) created by the Secretary of Transportation to develop recommendations for improving security within the national aviation system. One team was tasked with developing recommendations to improve security at the nation's airports; the other team was tasked with developing recommendations for aircraft integrity and security, with a specific focus on cockpit access.

Members of the aircraft integrity and security RRT included representatives from American Airlines, the Boeing Company, the Association of Flight Attendants, and the Air Line Pilots Association. Members of the Department of Transportation and the FAA supported the security RRT. In addition to regular team meetings, this RRT met with representatives from the airline operators, pilot and flight attendant associations, and parts manufacturers. The security RRT also received numerous recommendations from the public as the result of an e-mail address on the FAA Web site.

On October 1, 2001, the RRT for aircraft integrity and security presented its final report to the Secretary of Transportation. The report made 17 recommendations. One recommendation recognized the need for reinforced flightdeck doors and severe limitations on flightdeck entry. Anticipating the new severe limitations on flightdeck entry, the RRT made several recommendations for flightdeck access. These included:

- Flight attendants must have a method for immediate notification to

the flightcrew during a suspected threat in the cabin.

• The flightcrew needs the capability to monitor the area outside the flightdeck door.

On November 19, 2001, Congress passed the Aviation and Transportation Security Act (ATSA) (Public Law 107–71). Section 104(b) of the ATSA states that the FAA Administrator may develop and implement methods—

(1) To use video monitors or other devices to alert pilots in the flight deck to activity in the cabin, except that use of such monitors or devices shall be subject to nondisclosure requirements applicable to cockpit video records under [49 U.S.C. § 1114(c)], * * * and

(3) To revise the procedures by which cabin crews of aircraft can notify flight deck crews of security breaches and other emergencies, including providing for the installation of switches or other devices or methods in an aircraft cabin to enable flight crews to discreetly notify the pilots in the case of a security breach occurring in the cabin.

The NPRM responded to the RRT's findings and to the legislation passed by Congress.

Summary of NPRM

The FAA proposed to add the new paragraph (k) to § 121.313. This requirement would apply to all passenger-carrying airplanes that must have a lockable flightdeck door pursuant to 14 CFR 121.313(f). Operators of these airplanes must be able to monitor the area outside the flightdeck door from the flightdeck. This measure would provide the means to allow the flightcrew to identify persons requesting entry and to detect suspicious behavior and potential threats.

The FAA proposed to add the new § 121.582 that would require all passenger-carrying airplanes required to have a lockable flightdeck door to have an approved means by which the cabin crew can discreetly notify the flightcrew in the event of suspicious activity or security breaches in the cabin.

The FAA also proposed to add the new § 121.584. This would prohibit unlocking or opening the flightdeck door unless a person authorized to be on the flightdeck uses an approved audio procedure and an approved visual device to verify that: (1) The area outside the flightdeck door is secure; and (2) if someone outside the flightdeck door is seeking to have the flightdeck door opened, that person is not under duress.

Summary of the Comments

The FAA received 88 comments. Of these comments, 45 stated strong support for the rule; only 5 opposed the rule. Of the 45 stating strong support for the rule, 6 commenters seemed to support the rule because they thought a video camera was the only means to comply with the requirement to monitor the flightdeck door. They may not have supported the proposal had they realized that video is not the only means to satisfy the requirement. The remaining comments did not directly express support for or opposition to the rule. Many comments included suggested changes, as discussed below.

I. Discussion of the Final Rule

A. Means of Monitoring the Area Outside the Flightdeck

The final rule sets a performance standard whereby air carriers must choose a method of compliance to view the area outside the flightdeck door. The performance standard may be met using a video monitoring device, a peephole or viewport, or other viewing device. The method of compliance must include procedures and training in existing part 121 requirements for unlocking the flightdeck door and operating all of the associated equipment for use in operations.

Several commenters including Boeing, Coalition of Airline Pilots Associations (CAPA), Association of Professional Flight Attendants (APFA), the Regional Airline Association (RAA), the Air Transport Association (ATA), and the Allied Pilots Association (APA) supported the use of current technology and procedures. The APA and CAPA stated that in the few cases when there is a need to open the flightdeck door, established procedures allow safe and secure passage from the flightdeck. Those procedures have stood the test of time and have a credible record of effectiveness. The RAA noted that nearly all their members presently use the peephole/audio method of confirming that the area outside the flightdeck door is secure before opening the door during flight. They saw no additional security benefit to using a video camera system over using their current peephole system to monitor the area outside the flightdeck door. The APFA and Boeing supported a viewing device in the flightdeck door that allows for the door and forward cabin to be monitored.

Several of the commenters thought that the FAA had proposed to require the use of video cameras to monitor the area outside the flight deck door and require wireless devices for discreet communication between cabin crewmembers and flight crewmembers. In particular, the Air Crash Victims Families Group and Families of September 11 expressed support for a requirement to install video cameras to monitor the area outside of the flight deck door. They also supported requiring wireless devices by the cabin crew to alert the flightdeck crew of a potential problem.

The FAA developed this rule over a period of years following the terrorist attacks of September 11, 2001, taking into consideration recommendations concerning flightdeck security and crew communications. While this action promulgates regulations for added protection of the flightcrew compartment, most part 121 air carriers already have procedures in place that perform this function. This rule allows U. S. air carriers options to meet requirements while remaining flexible in their methods. This flexibility provides an additional level of security to the public because air carriers will use different methods to provide flight deck security and crew communication. Different methods of compliance will make attempts to breach security more difficult because multiple systems will be more difficult to monitor and defeat.

Two commenters, former Congressman Bob Barr and the American Conservative Union, opposed the rule because of safety-related concerns resulting from increased pilot workload to monitor video cameras. The FAA does not believe that monitoring the area outside of the flightdeck door by the flightcrew will distract pilots or add a significant burden if video cameras are used. While air carriers may choose approved video cameras, a FAA-approved procedure-based approach (using procedures and hardware already installed, such as a peephole) is another option. Accordingly, pilots will not have to continuously monitor a video camera, they need only monitor the flightdeck door area when someone seeks access to the flightdeck or when notified by a flight attendant.

Former Congressman Bob Barr and the American Conservative Union also expressed concerns about passenger privacy in the cabin. The FAA is not imposing any requirement to monitor passengers beyond the area outside of the flight deck door. To the extent that a passenger is in the flightdeck door area, the FAA has a security interest in monitoring that passenger's activities.

B. Means of Notifying the Flightcrew

Several commenters, including Capitol Electronics, Inc., expressed concern over the interphone system and its inability to be used discreetly. They stated that the interphone is an obvious piece of equipment, could be compromised, and would be difficult to

use without arousing suspicion. They noted that when passengers or equipment (such as beverage carts) are in the aisles, the crew could find it difficult to reach the interphone quickly. These commenters stressed that a wireless system is the only discreet means for the cabin crew to notify the flightdeck of a problem.

The FAA notes that the interphone system is not intended to be an encrypted or a secure communication means, rather it is a way for all crewmembers to be able to communicate among themselves throughout the passenger cabin and the flightdeck. Nevertheless, if a crewmember uses the existing technology of the interphone system while adhering to the air carrier's communication procedures, discreet communication may be maintained. Conversations between crewmembers on the interphone are generally not broadcast over the aircraft's public address system and the system has the ability for all crewmembers to participate on the call, as company procedures may dictate. The ability of the crewmembers to communicate discreetly in many instances currently exists, primarily by following the operator's procedures.

Some commenters, including the Professional Flight Attendants Association and the Association of Professional Flight Attendants, recommended that flight attendants carry or have in their possession a wireless device to contact the flightdeck. Some suggested the flight attendant carry a wireless device in a pocket or around the neck.

The FAA does not believe requiring flight attendants to carry or have in their possession a wireless device to contact the flight deck is a good idea. A wireless device that is carried on the person (in a pocket or around the neck) may be problematic because an attacker could threaten or assault the flight attendant in order to obtain the wireless device and then use the device fraudulently to gain access to the flightdeck. Additionally, devices carried by an individual are subject to events that may be beyond the control of the air carrier. An entire security system could be compromised if a device in the personal possession of a flight attendant is lost or stolen.

Additionally, the cost to supply a wireless device to each flight attendant could be an unreasonable burden, as there are approximately 130,600 part 121 flight attendants. While the wireless communication device is an option for discreet communication, wireless communication is not the only available option. This rule is permissive in the sense that an air carrier may elect to use a sophisticated (for example, wireless) communication method, but this rule does not impose a new requirement for such devices.

In the NPRM, the FAA suggested that the evacuation system could be used as a compliant communication method. As noted by the Association of Professional Flight Attendants, not all aircraft have an emergency evacuation system available.

C. Entry to the Flightdeck

This regulation states that no person may unlock or open the flightdeck door unless a person authorized to be on the flightdeck uses an approved audio procedure and an approved visual device to verify that a person seeking entry to the flightdeck is not under duress.[1] The FAA has made a technical correction to § 121.584. We state that the requirements of the entire paragaph (a) must be satisfactorily accomplished before the crew member in charge on the flightdeck will authorize unlocking and opening the door.

Bosch Security Systems, CAPA, and the APA recommended that the FAA require installation of a secondary barrier, in addition to the flightdeck door, on all airplanes that are used in operations affected by this rule. Requiring installation of a secondary barrier would mean reconfiguring each airplane affected. Such an operation would require a major effort that is outside of the scope of this rulemaking and is therefore not adopted.

The International Brotherhood of Teamsters requested the FAA define "the area outside the flightdeck door." Such a definition would vary depending upon the configuration differences among airplanes. There are many areas adjacent to flightdeck doors where an intruder could hide. This fact tends to validate the importance of the audio check from inside the flightdeck with a crewmember in the cabin prior to opening the flightdeck door.

Boeing requested the FAA change the requirement to confirm that a person seeking flightdeck access is not under duress. They noted that "duress" may take the form of both visible and non-visible actions. They further stated that there is "no definable or verifiable means of compliance for this as a requirement." Boeing suggests changing the requirement that a crewmember evaluate whether a person is under duress, to simply require identification of a person seeking access to the flightdeck. FAA rules already require any person seeking flightdeck access to be identified before admittance. Section 121.587(b) limits persons on the flightdeck to those eligible under § 121.547. In addition, air carriers already have procedures in place regarding how and when to open a flightdeck door. The concept of determining whether someone is under duress is already applied in current procedures and appears to be readily understood. Air carriers should use the FAA-approved procedures already in place to determine whether someone is under duress. Because duress remains a threat not fully accommodated by the existing requirement that the person seeking access to the flightdeck is authorized to enter, the requirement to check that a person is not under duress remains unchanged.

Boeing also commented on the proposed requirement for both an audio and a visual check before opening the flightdeck door. They stated that most operators have adopted a visual procedure using the door peephole or an installed flightdeck entry visual surveillance system. Boeing made the assumption that use of the cabin interphone system is required to meet the audio procedure requirement. Boeing suggested revising the rule to require "an approved procedure and approved visual device," which does not include a requirement for an audio check. Boeing stated that most major airlines are using a visual procedure/device, but not an audio procedure. It maintained that a robust visual device and an approved procedure to verify that the area around the flightdeck door is secure will satisfy the intent of the rule. It also claimed that requiring both a visual and an audio procedure could create an undesirable operational impact on the flightdeck. This could occur if the interphone equipment was not easily accessible to the person making a visual check of the door area. It did not state the basis for this observation. The FAA has determined that both a visual and audio check is required to provide an appropriate amount of security prior to opening the flightdeck door. Neither check alone provides adequate security. A video camera system may not provide complete coverage of the area outside of the flightdeck door or confirm that any

[1] Use of the word "approved" is a common term used in FAA regulations. Unless otherwise specified, it means approved by the Administrator. The approval for the audio and visual procedures is accomplished by letter from the Principal Operations Inspector for the air carrier. The approval for the viewing device was accomplished by the FAA's Aircraft Certification Office as part of the Supplemental Type Certificate issued for the design changes for the flightcrew compartment door.

lavatory in that area is unoccupied. An audio check with a crewmember in the cabin that has verified that the area is clear is required. Likewise, it would be very difficult to determine if a person seeking access to the flightdeck was under duress without an audio as well as a visual check. An air carrier's procedures for opening the flightdeck door are already required to include both checks. Therefore, the requirement for both an audio and visual check remains unchanged from current practice.

Boeing requested the FAA change the requirement in § 121.584(a)(2) concerning authorization to unlock the flightdeck door from "the crewmember in charge" to "an authorized crewmember." Boeing stated its concern that the phrase "the crewmember in charge" can be interpreted always to require the pilot-in-command (PIC) to authorize unlocking and opening of the flightdeck door. While the FAA agrees with Boeing's interpretation of the proposed requirement, it does not share Boeing's apparent concern. Section 91.3(a) states, "The pilot in command of an aircraft is directly responsible for, and is the final authority as to, the operation of that aircraft." While the PIC may delegate functions to other crewmembers, the PIC remains responsible for the outcome of those functions. An air carrier's approved procedures are required to address opening of the flightdeck door while flight crewmembers leave or return to the pilot's compartment. While functions, such as unlocking and opening the flightdeck door may be delegated, the responsibility for such action rests with the PIC. Therefore, the requirement for "the crewmember in charge" remains unchanged.

Aircraft Operators should be aware that the Transportation Security Administration (TSA) is reviewing the procedures that are in use for ingress and egress through the flight deck door during flight, and is considering additional procedures that may be necessary to address security concerns. TSA will coordinate with the FAA during the development of any proposed additional requirements.

D. International Standards

As stated in the NPRM, the International Civil Aviation Organization (ICAO) adopted standards on March 15, 2002 that require installing flightdeck doors, locking and unlocking such doors, monitoring the area on the passenger side of the flightdeck door, and discreetly notifying the flightcrew in the event of security breaches in the cabin. The standards are located in ICAO Annex 6, Part 1, Chapter 13, provision 13.2, which state:

13.2.1 In all aeroplanes which are equipped with a flight crew compartment door, this door shall be capable of being locked, and means shall be provided by which cabin crew can discreetly notify the flight crew in the event of suspicious activity or security breaches in the cabin.

13.2.2 From 1 November 2003, all passenger-carrying airplanes of a maximum certificated take-off mass in excess of 45500 kg or with a passenger seating capacity greater than 60 shall be equipped with an approved flight crew compartment door that is designed to resist penetration by small arms fire and grenade shrapnel, and to resist forcible intrusions by unauthorized persons. This door shall be capable of being locked and unlocked from either pilot's station.

13.2.3 In all aeroplanes which are equipped with a flight crew compartment door in accordance with 13.2.2:

(a) This door shall be closed and locked from the time all external doors are closed following embarkation until any such door is opened for disembarkation, except when necessary to permit access and egress by authorized persons; and

(b) Means shall be provided for monitoring from either pilot's station the entire door area outside the flight crew compartment to identify persons requesting entry and to detect suspicious behavior or potential threat.

In the NPRM, the FAA identified three areas where the proposed rule did not appear to meet ICAO standards. We stated in the NPRM:

- The proposal in this action will not be implemented before the November 1, 2003 ICAO deadline.
- Any passenger-carrying airplanes operated under parts 91, 125, and 135 including international commercial air transport operations with a maximum certificated takeoff mass in excess of 45500 kg or with a seating capacity of greater than 60 (as ICAO requires), are not covered by this proposed rule.
- The proposed rule will permit an alternative means to monitor the area outside the flightdeck door from the flightdeck side of the door, instead of from either pilot station, as ICAO requires.

L–3 Communications and the International Brotherhood of Teamsters state that the rule falls well short of ICAO standards and ATSA requirements because the viewport option and existing interphone systems do not adequately address ICAO requirements. L–3 Communications expresses support for cameras and wireless devices in meeting these requirements.

The International Air Transport Association (IATA) commented that it is concerned that the United States (U.S.) will continue to have differences with the ICAO standard. IATA is concerned that other national authorities may take a different view on the applicable ICAO standards. They ask that the FAA work with its international partners. Several commenters, including Delta Airlines, the Transport Workers Union of America, the CAPA, the Air Transport Association, and the APA generally agree with the FAA that the new rule meets the intent of ICAO standards addressing flightdeck security. ICAO implementation guidance provides for a procedural-based approach.

Upon further review of the ICAO standards associated guidance and FAA actions, we have determined that only one of three perceived differences remains. First, concerning the ICAO implementation date, the FAA discovered that if an ICAO member country has policies in place before the implementation date for the ICAO standard, the member country is considered to be in compliance with the ICAO standard. The FAA published Notice N8400.51, Procedures for Opening, Closing, and Locking of Flightcrew Compartment Doors before November 1, 2003. This notice addresses air carrier procedures to open the flightdeck door during flight operations and addresses the intent of the ICAO standards for monitoring the area outside the flightdeck door. In accordance with ICAO guidance, the FAA met the intent of the standard before the ICAO implementation date of November 1, 2003.

Second, the FAA has met the intent of the ICAO requirement to monitor from either pilot's station the entire door area outside the flight crew compartment. ICAO guidance permits operators to use different methods to monitor the area outside the flightdeck door. The monitoring does not have to take place from "either pilot's station," as a plain reading of the ICAO standard indicates. According to ICAO, use of a spyhole or peephole would satisfy the requirement to monitor the area outside the flightdeck door. Since this final rule adopts a performance standard that contemplates the type of system that ICAO states is sufficient to meet the ICAO standard, the FAA determines no difference exists.

Finally, the ICAO standard is applicable to passenger-carrying airplanes based on weight or seating capacity. The FAA regulations differ from the ICAO standard regarding applicability. As explained in the NPRM, ICAO provisions apply to passenger-carrying airplanes of a maximum certificated take-off mass in excess of 45,500 kg or with a passenger seating capacity greater than 60. The

FAA standard applies to all part 121 operations. U.S. aviation regulations governing airplanes operated under parts 91, 125, and 135 may be within the weight and passenger seating capacity required by the ICAO standard; however, airplanes operating under these parts are not specifically required to have a flightdeck door. We therefore find it impractical to impose a viewing requirement on airplanes operating under these parts. We also find it impracticable to impose a communication procedure requirement when there is no way to prevent access to the flightdeck.

We will carefully monitor these types of operations and if it becomes a matter of concern in the future, we will consider adopting the ICAO standard, based on weight, instead of by operating rule. In addition, if an air carrier is subject to the ICAO requirement (or foreign regulations) because of weight or seating capacity but not subject to FAA requirements, the FAA will, upon request, work with any operator to consider any approvals necessary to satisfy requirements by another civil aviation authority that an operator have approved procedures in place. We do not believe there will be any need to provide accommodation for the ICAO requirement on monitoring the area outside the flightdeck because we believe all of the reinforced flightdeck doors are already outfitted with a peephole.

The Association of European Airlines states that any final rule on flightdeck door monitoring and crew discreet alerting should not apply to non-U.S. operators to the United States. This rule does not apply to non-U.S. operators, including those operating under part 129. These operations are covered by adequate regional and international rules and standards.

E. Compliance Dates

In the NPRM, the FAA proposed to give part 121 passenger-carrying operators not already in compliance with the rule, two years to install a monitoring device to meet the proposed performance standard on the existing fleet. We also proposed a 180-day compliance date for the discreet communications procedure.

Several individual commenters, including the Air Transport Association, expressed concerns about compliance dates. These comments all stated that the compliance period was too short. Some expressed concern with the immediate effective date for operations of airplanes that already have a means to monitor the flightdeck door area, required by § 121.584(b). ATA expressed concern that two years would not be enough time to install a video surveillance system. ATA recommended a five- or six-year interval.

After further review, the FAA has determined that every part 121 passenger-carrying operator should already have a means to monitor the flightdeck door area. The FAA learned from flightdeck door manufacturers that every reinforced flightdeck door that meets the requirements of section 25.795 (required for passenger-carrying operations in part 121) has a peephole that meets the requirements of this rule. As a result of this information, the FAA has determined that there should be no retrofit of airplanes operated by part 121 carriers. Accordingly, the FAA has decided against adopting a two-year compliance period in proposed section 121.584(b). If a part 121 passenger-carrying operator does not have a means to monitor the flightdeck door area, the operator can: (1) Operate without opening the flightdeck door until the airplane is retrofitted; or (2) seek relief by applying to the FAA for exemption from this rule.

As discussed above, we are issuing this final rule with a reduced compliance period. The NPRM proposed to give operators that do not have a means to view the area outside the flightdeck door two years to install such a means. The FAA proposed to require operators that have a means to monitor the area outside the flightdeck door to comply on the effective date of the final rule. After review of the comments to the NPRM and FAA actions regarding reinforced doors, we decided to change the compliance date for all affected parts to 60 days.

First, air carriers conducting passenger-carrying operations under part 121 were required to install a reinforced door by April 9, 2003. The FAA concluded, by review of supplemental type certificates, that no airplanes operating passenger-carrying service under part 121 have a flightdeck door without a means to monitor the area outside the flightdeck door. Second, no commenter specifically stated that they were currently not in compliance with the rule. The only comment relevant to this inquiry was from ATA, which stated that if an operator chose to install video, it would take more than two years to do so.

Similarly, the FAA confirmed that part 121 passenger-carrying operators should already have an approved means in place for a cabin crew to discreetly notify the flightcrew in the event of suspicious activity or security breaches in the cabin. Therefore, the FAA removed the 180-day compliance date from § 121.582. The compliance period for the entire rule is now 60 days.

The FAA is limiting the compliance period without providing an opportunity for prior public notice and comment as is normally required by the Administrative Procedure Act (APA). See 5 U.S.C. 553. The APA authorizes agencies to dispense with certain notice and comment procedures if the agency finds good cause that notice and public procedure thereon are impracticable, unnecessary, or contrary to the public interest. See 5 U.S.C. 553(b)(3)(B). The FAA finds good cause for shortening the compliance period in this final rule because it would be contrary to the public interest not to do so. A two-year compliance period is contrary to the public interest because we determined that every operator already has equipment installed to comply with this rule. The only outstanding compliance concern could be that some operators need to develop and implement procedures to monitor the area outside the flightdeck (for example, by looking through the peephole) before opening the flightdeck door. Therefore, the FAA is allowing a 60-day compliance period, so any operator that must adopt procedures will have time to do so.

F. Miscellaneous Issues

Several commenters, including the CAPA and Air Line Pilots Association International, recommended the FAA include all-cargo operations in this rule. These commenters noted that cargo operations should be as safe and secure as passenger operations. They recommended the FAA require installation of a secure flightdeck door on part 121 cargo airlines.

While all-cargo operators may implement the requirements of this rule, they are not specifically required to do so. All-cargo flights carry only those individuals allowed under 14 CFR 121.583; all individuals carried on cargo flights are screened through TSA approved procedures. The general traveling public is not allowed onboard these flights. ICAO standards in this area reflect this awareness in that they apply only to passenger-carrying operations. In keeping with ICAO standards and security requirements, the FAA developed a performance-based approach for operations conducted under the passenger-carrying requirements of part 121. The FAA and TSA believe that security measures in place to protect the flightdecks of all-cargo operations are adequate for those operations, considering the small number of persons allowed onboard for those flights. Therefore, the FAA does

not apply this rule to all-cargo operations.

Several commenters, including the Air Transport International, L.L.C., expressed concerns about the rule's applicability to part 121 operations. They stated the rule should not apply to Combi-configured aircraft that mainly transport cargo. While these aircraft can transport up to 32 passengers, the commenters believe they have sufficient security measures in place to prevent anyone from gaining access to the flightdeck. The FAA notes that the requirements of this rule apply to passenger-carrying operations conducted under part 121. When operations are conducted that are subject to the passenger-carrying requirements of part 121, including flights carrying passengers and cargo, those operations must also meet the requirements of this rule.

Several commenters, including the Transport Workers Union of America and the Association of Professional Flight Attendants, refer to the "lessons learned" from the Operation Atlas exercise. The FAA was not a participant in this exercise to measure response and recovery efforts. Comments about the Operation Atlas exercise are outside of the scope of this rulemaking activity.

US Airways requested clarification on use of Minimum Equipment Lists (MEL) with regard to the equipment required by this rule. Since this is a rule of general applicability it does not impact an individual operator's MEL. Each individual MEL is developed by the operator and approved by its Principal Operations Inspector. Pertinent MEL relief is provided through the Master Minimum Equipment List (MMEL). Development of the MMEL is beyond the scope of this rule, especially because this rule is a performance standard. Since this rule does not require any new equipment, each air carrier should refer to its already established MEL and question its POI for further information.

II. Regulatory Notices and Analyses

Paperwork Reduction Act

In accordance with the Paperwork Reduction Act of 1995 (44 U.S.C. 3507(d)), the FAA has determined that there are no requirements for information collection associated with this rule.

Economic Assessment, Regulatory Flexibility Determination, Trade Impact Assessment, and Unfunded Mandate Assessment

Changes to Federal regulations must undergo several economic analyses. First, Executive Order 12866 directs that each Federal agency shall propose or adopt a regulation only upon a reasoned determination that the benefits of the intended regulation justify its costs. Second, the Regulatory Flexibility Act of 1980 (Pub. L. 96–354) requires agencies to analyze the economic impact of regulatory changes on small entities. Third, the Trade Agreements Act (Pub. L. 96–39) prohibits agencies from setting standards that create unnecessary obstacles to the foreign commerce of the United States. In developing U.S. standards, the Trade Act requires agencies to consider international standards and, where appropriate, that they be the basis of U.S. standards. Fourth, the Unfunded Mandates Reform Act of 1995 (Pub. L. 104–4) requires agencies to prepare a written assessment of the costs, benefits, and other effects of proposed or final rules that include a Federal mandate likely to result in the expenditure by State, local, or tribal governments, in the aggregate, or by the private sector, of $100 million or more annually (adjusted for inflation with base year of 1995). This portion of the preamble summarizes the FAA's analysis of the economic impacts of this final rule.

Department of Transportation Order DOT 2100.5 prescribes policies and procedures for simplification, analysis, and review of regulations. If the expected cost impact is so minimal that a proposed or final rule does not warrant a full evaluation, this order permits that a statement to that effect and the basis for it be included in the preamble if a full regulatory evaluation of the cost and benefits is not prepared. Such a determination has been made for this final rule. The reasoning for this determination follows:

Every reinforced cockpit door has a peephole, which meets the final rule requirement to visually identify anyone attempting to enter the flightdeck. Operators can comply by developing appropriate procedures. Most operators have already developed these procedures and we determined that there will be minimal expense to the operators that still need to develop them to meet the requirement.

Further, the final rule requirement that the crew members be able to alert the flightdeck of any cabin problems can also be met by a variety of measures such as special signals through the interphone system or modifications of existing crew notification devices or procedures. We also determined that there will be minimal expense to the operators to implement these measures.

In the NPRM, we had estimated the costs of operators installing video camera surveillance systems. As the final rule does not require such a system, the costs for an operator that chooses to install such a system are not a cost of compliance with the final rule. We received several comments on our estimated costs and these can be reviewed in the docket for this rulemaking.

In general, we believe these comments support the estimates in the NPRM after taking into account the experience of the commenters in installing such systems. While Boeing's estimate was significantly higher than ours, its system is far more sophisticated than any video system designed to minimally meet the performance standard. Since all of the costs are associated with a monitoring system that is not required by the rule and is redundant to existing, compliant systems already aboard all affected aircraft, we are not discussing the comments further.

The rule is one of a series of rulemaking actions aimed at preventing or deterring an occurrence similar to the September 11 terrorist attacks. It is designed to ensure that pilots do not open the flightdeck door and admit a potential hijacker because the pilots will be able to recognize who is trying to gain entry. It is also designed to alert the pilots to problems in the cabin through the crew discreet monitoring system and allow them to take the appropriate actions.

This rule responds to the interest of the U.S. Congress as specified in the ATSA and to the ICAO flightdeck surveillance requirement for international travel airplanes with more than 60 seats. We conclude that the benefits of this final rule will exceed the minimal costs.

The FAA has, therefore, determined that this final rule is a "significant regulatory action" as defined in section 3(f) of Executive Order 12866, and is "significant" as defined in DOT's Regulatory Policies and Procedures.

Regulatory Flexibility Determination

The Regulatory Flexibility Act (RFA) of 1980 (Pub. L. 96–354) (RFA) establishes "as a principle of regulatory issuance that agencies shall endeavor, consistent with the objectives of the rule and of applicable statutes, to fit regulatory and informational requirements to the scale of the businesses, organizations, and governmental jurisdictions subject to regulation. To achieve this principle, agencies are required to solicit and consider flexible regulatory proposals and to explain the rationale for their actions to assure that such proposals are given serious consideration." The RFA covers a wide-range of small entities,

including small businesses, not-for-profit organizations, and small governmental jurisdictions.

Agencies must perform a review to determine whether a rule will have a significant economic impact on a substantial number of small entities. If the agency determines that it will, the agency must prepare a regulatory flexibility analysis as described in the RFA.

However, if an agency determines that a rule is not expected to have a significant economic impact on a substantial number of small entities, section 605(b) of the RFA provides that the head of the agency may so certify and a regulatory flexibility analysis is not required. The certification must include a statement providing the factual basis for this determination, and the reasoning should be clear.

Due to its minimal costs, the final rule will have a minor effect upon small businesses. We also received no comments from the public on the economic impact of the proposed rule on small entities. We are sensitive to the needs of small businesses and thus have found a minimal cost solution that meets our security needs.

Therefore, as the FAA Administrator, I certify that this rule will not have a significant economic impact on a substantial number of small entities.

Trade Impact Assessment

The Trade Agreements Act of 1979 (Pub. L. 96–39) prohibits Federal agencies from establishing any standards or engaging in related activities that create unnecessary obstacles to the foreign commerce of the United States. Legitimate domestic objectives, such as safety, are not considered unnecessary obstacles. The statute also requires consideration of international standards and, where appropriate, that they be the basis for U.S. standards. The FAA has assessed the potential effect of this final rule and has determined that it will have only a domestic impact and, therefore, no affect on international trade.

Unfunded Mandates Assessment

Title II of the Unfunded Mandates Reform Act of 1995 (Pub. L. 104–4) requires each Federal agency to prepare a written statement assessing the effects of any Federal mandate in a proposed or final agency rule that may result in an expenditure of $100 million or more (adjusted annually for inflation with the base year 1995) in any one year by State, local, and tribal governments, in the aggregate, or by the private sector; such a mandate is deemed to be a "significant regulatory action." The FAA currently uses an inflation-adjusted value of $128.1 million in lieu of $100 million.

This final rule does not contain such a mandate.

Executive Order 13132, Federalism

The FAA has analyzed this final rule under the principles and criteria of Executive Order 13132, Federalism. We determined that this action will not have a substantial direct effect on the States, or the relationship between the national Government and the States, or on the distribution of power and responsibilities among the various levels of government, and therefore does not have federalism implications.

Regulations Affecting Intrastate Aviation in Alaska

Section 1205 of the FAA Reauthorization Act of 1996 (110 Stat. 3213) requires the FAA, when modifying its regulations in a manner affecting intrastate aviation in Alaska, to consider the extent to which Alaska is not served by transportation modes other than aviation, and to establish appropriate regulatory distinctions. In the NPRM, we requested comments on whether the proposed rule should apply differently to intrastate operations in Alaska. We did not receive any comments, and we have determined, based on the administrative record of this rulemaking, that there is no need to make any regulatory distinctions applicable to intrastate aviation in Alaska.

Environmental Analysis

FAA Order 1050.1E identifies FAA actions that are categorically excluded from preparation of an environmental assessment or environmental impact statement under the National Environmental Policy Act in the absence of extraordinary circumstances. The FAA has determined this rulemaking action qualifies for the categorical exclusion identified in paragraph 312f and involves no extraordinary circumstances.

Regulations that Significantly Affect Energy Supply, Distribution, or Use

The FAA has analyzed this final rule under Executive Order 13211, Actions Concerning Regulations that Significantly Affect Energy Supply, Distribution, or Use (May 18, 2001). We have determined that it is not a "significant energy action" under the executive order because it is not a "significant regulatory action" under Executive Order 12866, and it is not likely to have a significant adverse effect on the supply, distribution, or use of energy.

List of Subjects in 14 CFR Part 121

Air carriers, Aircraft, Aviation safety, Reporting and recordkeeping requirements.

The Amendment

■ In consideration of the foregoing, the Federal Aviation Administration amends 14 CFR chapter I as follows:

PART 121—OPERATING REQUIREMENTS: DOMESTIC, FLAG, AND SUPPLEMENTAL OPERATIONS

■ 1. The authority citation for part 121 is revised to read as follows:

Authority: 49 U.S.C. 106(g), 40113, 40119, 41706, 44101, 44701–44702, 44705, 44709–44711, 44713, 44716–44717, 44722, 46105.

■ 2. Section 121.313 is amended by adding paragraph (k) to read as follows:

§ 121.313 Miscellaneous equipment.

* * * * *

(k) Except for all-cargo operations as defined in § 119.3 of this chapter, for all passenger-carrying airplanes that require a lockable flightdeck door in accordance with paragraph (f) of this section, a means to monitor from the flightdeck side of the door the area outside the flightdeck door to identify persons requesting entry and to detect suspicious behavior and potential threats.

■ 3. Add § 121.582 as follows:

§ 121.582 Means to discreetly notify a flightcrew.

Except for all-cargo operations as defined in § 119.3 of this chapter, after October 15, 2007, for all passenger carrying airplanes that require a lockable flightdeck door in accordance with § 121.313(f), the certificate holder must have an approved means by which the cabin crew can discreetly notify the flightcrew in the event of suspicious activity or security breaches in the cabin.

■ 4. Add § 121.584 as follows:

§ 121.584 Requirement to view the area outside the flightdeck door.

From the time the airplane moves in order to initiate a flight segment through the end of that flight segment, no person may unlock or open the flightdeck door unless:

(a) A person authorized to be on the flightdeck uses an approved audio procedure and an approved visual device to verify that:

(1) The area outside the flightdeck door is secure, and;

(2) If someone outside the flightdeck is seeking to have the flightdeck door opened, that person is not under duress, and;

(b) After the requirements of paragraph (a) of this section have been satisfactorily accomplished, the crewmember in charge on the flightdeck authorizes the door to be unlocked and open.

Issued in Washington, DC, on August 6, 2007.

Marion C. Blakey,

Administrator.

[FR Doc. E7–16063 Filed 8–14–07; 8:45 am]

BILLING CODE 4910–13–P

DEPARTMENT OF HEALTH AND HUMAN SERVICES

Food and Drug Administration

21 CFR Part 700

Recordkeeping Requirements for Human Food and Cosmetics Manufactured From, Processed With, or Otherwise Containing, Material From Cattle

CFR Correction

In Title 21 of the Code of Federal Regulations, Parts 600 to 799, revised as of April 1, 2007, in § 700.27, on page 138, paragraph (d) is reinstated to read as follows:

§ 700.27 Use of prohibited cattle materials in cosmetic products.

* * * * *

(d) *Adulteration.* Failure of a manufacturer or processor to operate in compliance with the requirements of paragraph (b) or (c) of this section renders a cosmetic adulterated under section 601(c) of the act.

[FR Doc. 07–55510 Filed 8–14–07; 8:45 am]

BILLING CODE 1505–01–D

DEPARTMENT OF STATE

22 CFR Part 51

RIN 1400–AC23

[Public Notice: 5894]

Rule Title: Passport Procedures—Amendment to Passport Surcharge

AGENCY: Department of State.

ACTION: Interim final rule.

SUMMARY: This rule amends the Department of State's regulation implementing the requirements of the Passport Services Enhancement Act of 2005, amending the Passport Act of June 4, 1920, to authorize the Secretary of State to establish and collect a surcharge to cover the costs of meeting the increased demand for passports as a result of actions taken to comply with section 7209(b) of the Intelligence Reform and Terrorism Prevention Act of 2004 (IRTPA). The Passport Services Enhancement Act authorizes the Department of State to assess a surcharge on applicable fees for the filing of each passport application to offset its additional costs. This rule will raise the surcharge based on a current estimate of the increased passport demand due to actions taken to comply with section 7209(b) of IRTPA. The surcharge will continue to be collected from within the passport application fee and will not increase the overall current cost of the passport to the applicant.

DATES: *Effective date:* This interim rule is effective on August 15, 2007.

Comment period: The Department of State will accept written comments from interested persons up to September 14, 2007.

ADDRESSES: Interested parties may submit comments at any time by any of the following methods:

- *E-mail: PassportRules@state.gov.* You must include the Regulatory Identification Number (RIN) in the subject line of your message.
- *Mail:* (paper, disk, or CD–ROM submissions): An original and three copies of comments should be sent to: Susan Bozinko, Office of Passport Services, Legal Affairs Division, Planning and Advisory Services, 2100 Pennsylvania Ave., NW., 3rd Floor, Washington, DC 20037. 202–663–2427.
- *Fax:* 202–663–2499. You must include the Regulatory Identification Number (RIN) in the subject line of your message.

FOR FURTHER INFORMATION CONTACT: For *passport issuance policy:* Susan Bozinko, Division Chief, Office of Passport Services, Legal Affairs Division, 2100 Pennsylvania Ave., NW., 3rd Floor, Washington, DC 20037. (202) 663–2427. E-mail: *PassportRules@state.gov.* For *consular fee setting policy:* Tracy Henderson, Director of the Budget, Bureau of Consular Affairs, U.S. Department of State, Suite H1004, 2401 E St., NW., Washington, DC 20520, or by e-mail: *fees@state.gov.*

SUPPLEMENTARY INFORMATION: The Passport Services Enhancement Act (Pub. L. 109–167, January 10, 2006, 119 Stat. 3578) authorizes the Secretary of State to establish, collect, and retain a surcharge to cover the costs of meeting the increased demand for passports as a result of actions taken to comply with section 7209(b) of the Intelligence Reform and Terrorism Prevention Act of 2004 (Pub. L. 108–458, 8 U.S.C. 1185).

In March 2006, the Department of State had commissioned an independent cost of service survey to examine the resource implications of the increased demand for passports under the Western Hemisphere Travel Initiative (WHTI), the Administration's proposal to address the requirements of the IRTPA, and to determine the appropriate amount of the surcharge. That survey estimated that uncompensated WHTI-related costs borne by the Department of State would reach $289 million during the period FY2006–FY2008. It also projected that a six-dollar surcharge retained by the Department of State would enable it to meet the costs of increased passport demand during that period. Accordingly on August 15, 2006, the Department of State published an interim rule providing for a surcharge of $6 per passport application. However, the demand and costs proved to be greater than originally estimated and thus the Department now projects that uncompensated demands during the period FY2008 to FY 2010 will reach $944 million. The Department has therefore determined that to meet its increased costs, it will need to retain $20 per passport application. Pursuant to the authority granted to the Secretary of State under the Passport Services Enhancement Act of 2005, this rule will allow the Department of State to establish, collect, and retain a twenty-dollar surcharge on applicable fees for the filing of each application for a passport, in order to address the resource implications of section 7209(b) of the IRTPA. That surcharge will be embedded in the passport application fee and will be deposited as an offsetting collection to the appropriate Department of State appropriation account. The non-surcharge portion of the passport application fee will be remitted to the general fund of the Treasury. The overall cost of the passport to the public will not increase by virtue of this action.

The Department of State considers the enactment of this rule as a matter of urgency to help provide the funds to meet the demand created by the legislation for universal international traveler nationality and identity documentation. The Department is in the process of increasing its overall production capacity, improving efficiency of production and adjudication processes, as well as enhancing anti-fraud measures. The Department is also currently developing a less expensive card format passport for use at land border crossings.

Cockpit Access

Q. What are the U.S. rules that apply when pilots leave the cockpit?

A. U.S. airlines have to develop procedures that the FAA approves. Those procedures include a requirement that, when one of the pilots exits the cockpit for any reason, another qualified crew member must lock the door and remain on the flight deck until the pilot returns to his or her station. A qualified crew member could be a flight attendant or a relief pilot serving as part of the crew.

Q. What does a foreign pilot have to do to get an FAA private pilot certificate.

A. In general, if a foreign pilot has the equivalent of a valid private pilot certificate or higher from a foreign Civil Aviation Authority, he or she can apply to receive an FAA private pilot certificate. The FAA has established procedures for evaluating such requests.

http://ecfr.gpoaccess.gov/cgi/t/text/text-idx?c=ecfr&sid=213c3a6a3c490067c088b5f938b49cf6&rgn=div5&view=text&node=14:2.0.1.1.5&idno=14

Rules that apply to cockpit doors

http://www.ecfr.gov/cgi-bin/text-idx?SID=69e55a5004138afc961fd6f3c79fef4b&node=se14.3.121_1587&rgn=div8

§121.587 Closing and locking of flightcrew compartment door.

(a) Except as provided in paragraph (b) of this section, a pilot in command of an airplane that has a lockable flightcrew compartment door in accordance with §121.313 and that is carrying passengers shall ensure that the door separating the flightcrew compartment from the passenger compartment is closed and locked at all times when the aircraft is being operated.

(b) The provisions of paragraph (a) of this section do not apply at any time when it is necessary to permit access and egress by persons authorized in accordance with §121.547 and provided the part 119 operator complies with FAA approved procedures regarding the opening, closing and locking of the flightdeck doors.

[Doc. No. FAA-2001-11032, 67 FR 2128, Jan. 15, 2002]

3-47 PROCEDURES FOR OPENING, CLOSING, AND LOCKING FLIGHT DECK DOORS.

A. Background.

1) On January 15, 2002, § 25.772, was amended to require an emergency means to enable a Flight Attendant (F/A) to enter the flight deck should the flightcrew become incapacitated. This change applies to airplanes that are newly certificated under part 25 and was not retroactive to existing airplanes. The operational requirements found in § 121.313 were also amended on January 15, 2002, to require each operator to establish methods that enable an F/A to enter the

flight deck in the event that a flightcrew member becomes incapacitated. As with § 25.772(c), these methods are intended for use under emergency conditions and not for routine access to the flight deck. As such, aircraft electronic keypads or electronic pushbuttons installed in the cabin must be used only in emergency situations. (The only time the crew may use the emergency flight deck access procedure during normal operations is when the aircraft is on the ground, the flight deck door is closed and locked, and the flight deck is unoccupied.) Additionally, § 121.313(g) states, in part, "...no person other than a person who is assigned to perform duty on the flight deck may have a key to the flight deck door." Therefore, any keys in the possession of cabin crewmembers that are used for opening bins or containers in the cabin cannot be capable of unlocking the flight deck door.

2) Unless an air carrier has FAA-approved procedures under § 121.587(b), the flight deck door must remain closed during flight time. In order to operate the flight deck door during flight time and permit flight deck access by persons authorized in accordance with § 121.547, part 121 certificate holders must develop and use FAA-approved procedures regarding the opening, closing, and locking of the flight deck door. These FAA approved procedures should be included in the operators' operations and F/A manuals. Additionally,
§ 121.313 requires any associated signal or identity confirmation system to be easily detectible and operable by each flightcrew member from his or her duty station. To meet security needs of accomplishing an audio and visual identification, one person on the flight deck is required to visually identify the person seeking access through the viewing port or viewing device.

B. Certificate Holders' Procedures. Certificate holders' procedures must include at least the following:
1) Normal procedures for opening flightcrew compartment doors to include:
a) Who is authorized to have access to the flight deck.
b) How a crewmember verifies the identity of a person requesting access to the flight deck. This process must include a positive means for flightcrew members to identify persons requesting entry to the flight deck and to detect suspicious behavior or a potential threat before unlocking the flight deck door. To meet security needs of accomplishing an audio and visual identification, one person on the flight deck is required to identify visually the person seeking access through the viewing port or viewing device.
c) How flight deck door keypad access codes are disseminated (e.g., flight deck door keypad access codes may be disseminated through the certificate holder's normal manual process).
d) F/A procedures to verify that there are no passengers in any forward lavatory, and that no passengers are standing in the area surrounding the flight deck door.
e) F/A procedures for blocking the passenger aisle when the flight deck door is opened.
f) Procedures for two person flightcrews, when one flightcrew member leaves the flight deck (i.e., a F/A must lock the door and remain on the flight deck until the flightcrew member returns to his or her station).
2) Emergency electronic keypad or emergency pushbutton procedures to include:
a) Events requiring the use of emergency procedures (i.e., pilot alerts).
b) Determining when the flightcrew is, or is suspected of being, incapacitated, or there is no response from the flight deck.
c) Keeping the flight deck door locked until an audio and visual verification of the person requesting entry is made.

d) How to determine whether a person requesting access is under duress.
e) How to determine when the flight deck door locking system may be taken out of the deny access position.
f) Flight deck crew procedures to follow when an electronic keypad or pushbutton is being used to gain unauthorized access to the flight deck.
g) When the flightcrew must take immediate action to deny access to the flight deck.
3) Crewmember training programs should include these procedures, associated crewmember duties and responsibilities, crew coordination, and emergency situation training modules in appropriate curriculum segments.

C. POI Approval Process. To comply with § 121.587(b), POIs are to review and approve their assigned certificate holders' procedures in accordance with the current approval process found in this order and the guidance provided in this paragraph.

14 CFR 121.587 requires procedures for closing and locking of flightcrew compartment door. Those procedures are located in **FAA Order 8900.1, Volume 3, Chapter 2, Section 1,** Paragraph 3-47.

U.S. airlines have to develop cockpit procedures that the FAA approves. Those procedures include a requirement that, when one of the pilots exits the cockpit for any reason, another qualified crew member must lock the door and remain on the flight deck until the pilot returns to his or her station. A qualified crew member could be a flight attendant or a relief pilot serving as part of the crew. To meet security needs of accomplishing an audio and visual identification, one person on the flight deck is required to visually identify the person seeking access through the viewing port or viewing device.

§121.587 Closing and locking of flightcrew compartment door.

(a) Except as provided in paragraph (b) of this section, a pilot in command of an airplane that has a lockable flightcrew compartment door in accordance with §121.313 and that is carrying passengers shall ensure that the door separating the flightcrew compartment from the passenger compartment is closed and locked at all times when the aircraft is being operated.

(b) The provisions of paragraph (a) of this section do not apply at any time when it is necessary to permit access and egress by persons authorized in accordance with §121.547 and provided the part 119 operator complies with FAA approved procedures regarding the opening, closing and locking of the flightdeck doors.

§ 121.584 Requirement to view the area outside the flightdeck door.

From the time the airplane moves in order to initiate a flight segment through the end of that flight segment, no person may unlock or open the flightdeck door unless:

(a) A person authorized to be on the flightdeck uses an approved audio procedure and an approved visual device to verify that:

(1) The area outside the flightdeck door is secure, and;

(2) If someone outside the flightdeck is seeking to have the flightdeck door opened, that person is not under duress,

and;

(b) After the requirements of paragraph (a) of this section have been satisfactorily accomplished, the crewmember in charge on the flightdeck authorizes the door to be unlocked and open.

3-47 PROCEDURES FOR OPENING, CLOSING, AND LOCKING FLIGHT DECK DOORS.

A. Background.

1) On January 15, 2002, § 25.772, was amended to require an emergency means to enable a Flight Attendant (F/A) to enter the flight deck should the flightcrew become incapacitated. This change applies to airplanes that are newly certificated under part 25 and was not retroactive to existing airplanes. The operational requirements found in § 121.313 were also amended on January 15, 2002, to require each operator to establish methods that enable an F/A to enter the flight deck in the event that a flightcrew member becomes incapacitated. As with § 25.772(c), these methods are intended for use under emergency conditions and not for routine access to the flight deck. As such, aircraft electronic keypads or electronic pushbuttons installed in the cabin must be used only in emergency situations. (The only time the crew may use the emergency flight deck access procedure during normal operations is when the aircraft is on the ground, the flight deck door is closed and locked, and the flight deck is unoccupied.) Additionally, § 121.313(g) states, in part, "...no person other than a person who is assigned to perform duty on the flight deck may have a key to the flight deck door." Therefore, any keys in the possession of cabin crewmembers that are used for opening bins or containers in the cabin cannot be capable of unlocking the flight deck door.

2) Unless an air carrier has FAA-approved procedures under § 121.587(b), the flight deck door must remain closed during flight time. In order to operate the flight deck door during flight time and permit flight deck access by persons authorized in accordance with § 121.547, part 121 certificate holders must develop and use FAA-approved procedures regarding the opening, closing, and locking of the flight deck door. These FAA-approved procedures should be included in the operators' operations and F/A manuals. Additionally, § 121.313 requires any associated signal or identity confirmation system to be easily detectible and operable by each flightcrew member from his or her duty station. To meet security needs of accomplishing an audio and visual identification, one person on the flight deck is required to visually identify the person seeking access through the viewing port or viewing device.

B. Certificate Holders' Procedures. Certificate holders' procedures must include at least the following:

1) Normal procedures for opening flightcrew compartment doors to include:

a) Who is authorized to have access to the flight deck.

b) How a crewmember verifies the identity of a person requesting access to the flight deck. This process must include a positive means for flightcrew members to identify persons requesting entry to the flight deck and to detect suspicious behavior or a potential threat before unlocking the flight deck door. To meet security needs of accomplishing an audio and visual identification, one person on the flight deck is required to identify visually the person seeking access through the viewing port or viewing device.

c) How flight deck door keypad access codes are disseminated (e.g., flight deck door keypad access codes may be disseminated through the certificate holder's normal manual process).

d) F/A procedures to verify that there are no passengers in any forward lavatory, and that no passengers are standing in the area surrounding the flight deck door.

e) F/A procedures for blocking the passenger aisle when the flight deck door is opened.

f) Procedures for two person flightcrews, when one flightcrew member leaves the flight deck (i.e., a F/A must lock the door and remain on the flight deck until the flightcrew member returns to his or her station).

2) Emergency electronic keypad or emergency pushbutton procedures to include:

a) Events requiring the use of emergency procedures (i.e., pilot alerts).

b) Determining when the flightcrew is, or is suspected of being, incapacitated, or there is no response from the flight deck.

c) Keeping the flight deck door locked until an audio and visual verification of the person requesting entry is made.

d) How to determine whether a person requesting access is under duress.

e) How to determine when the flight deck door locking system may be taken out of the deny access position.

f) Flight deck crew procedures to follow when an electronic keypad or pushbutton is being used to gain unauthorized access to the flight deck.

g) When the flightcrew must take immediate action to deny access to the flight deck.

3) Crewmember training programs should include these procedures, associated crewmember duties and responsibilities, crew coordination, and emergency situation training modules in appropriate curriculum segments.

C. POI Approval Process. To comply with § 121.587(b), POIs are to review and approve their assigned certificate holders' procedures in accordance with the current approval process found in this order and the guidance provided in this paragraph.

ATTACHMENT 4

MEMORANDUM OF INTERVIEW OR ACTIVITY

Type of Activity:	Date and Time:
☐ Personal Interview ☒ Telephone Interview ☐ Records Review ☐ Other	February 9, 2018 10:17 AM
Activity or Interview of: [redacted] Supervisory Federal Air Marshal (SFAM) Law Enforcement Liaison Section-Air Carrier Unit (ACU) Transportation Security Administration (TSA)	Conducted by Special Agent [redacted] Location of Interview/Activity: [redacted]

Subject Matter/Remarks

On Friday, February 9, 2018, SFAM [redacted] responded to a request for information related to his contact with Federal Air Marshal (FAM) Robert Maclean in December 2015. Specifically, SFAM [redacted] was asked to provide a copy of the email exchange and any related data he provided to FAM Maclean regarding flight deck doors and secondary barriers. SFAM [redacted] said that he recalled the exchange. Subsequently, he provided copies of the email exchanges he had with FAM Maclean on December 7, 2015, and again on December 9, 2015. SFAM [redacted] stated that he contacted [redacted], Aerospace Engineer, Federal Aviation Administration (FAA), to provide answers to FAM Maclean. SFAM [redacted] provided a copy of the email and data he received from [redacted] on December 4, 2015, and used to respond to FAM Maclean. To the extent the emails are relevant, they are summarized below.

SFAM [redacted] explained via email that during a case in which the cabin pressure in the main cabin or the cockpit changes, the doors need to vent to ensure that the pressure remains the same in both cabins. If this does not occur, it can affect the structural integrity of the bulkhead and cause a catastrophic failure of the aircraft. Due to the size of the flight deck and placement of the bulkhead, it

is necessary for some of the doors to open inward. SFAM [redacted] further explained that according to the FAA, there is currently no requirement to have a secondary barrier for the flight deck door.

SFAM [redacted] detailed how the normal process worked for handling perceived violations of security related policy when observed by a FAM. SFAM [redacted] said that issues would be addressed directly with the air carrier involved by a member of FAMS Air Carrier Unit (ACU) and assigned to the Principal Security Inspector for the air carrier in TSA's Office of Security Policy and Industry Engagement (OSPIE). SFAM [redacted] said that this has only happened once during his tenure in ACU, and the air carrier counseled their employee as a result of the information provided.

ATTACHMENT 5

MEMORANDUM OF INTERVIEW OR ACTIVITY

Type of Activity:	Date and Time:
☒ Personal Interview ☐ Telephone Interview ☒ Records Review ☐ Other	February 12, 2018 9:31 AM
Activity or Interview of: [redacted] Aviation Safety Inspector (ASI) Air Carrier Operations Branch Federal Aviation Administration (FAA)	Conducted By: Special Agent [redacted] Location of Interview/Activity: [redacted]

Subject Matter/Remarks

On Monday, February 12, 2018, based on a recommendation from Deputy Director [redacted] Transportation Security Administration (TSA), the reporting agent contacted Aviation Safety Inspector (ASI) [redacted], Federal Aviation Administration (FAA), in order to set up an interview and obtain additional information related to the two whistleblower disclosures outlined in the U.S. Office of Special Counsel's transmittal letter:

1. TSA failed to require aircraft operators to strengthen and implement flight deck doors that open outward and away from the flight deck; and
2. TSA failed to require aircraft operators to install secondary barriers which function as a second layer of protection between the passenger area and the flight deck.

ASI [redacted] indicated that he is the FAA's subject matter expert (SME) regarding flight deck door access and that he could provide pertinent information regarding these issues. ASI [redacted] provided emails and documents to the reporting agent. To the extent they are relevant, they are summarized below.

Case Number:	Case Title:
I180099	Whistleblower Disclosure - Flight Deck Issues

MEMORANDUM OF INTERVIEW OR ACTIVITY (continuation sheet)

ASI [redacted] provided the current FAA policy that addresses flight deck door operation, which is attached (3-47 PROCEDURES FOR OPENING, CLOSING, AND LOCKING FLIGHT DECK DOORS). A Principal Operations Inspector (POI) assigned to a particular air carrier reviews the air carrier's procedures for opening, closing, and operating their flight deck doors and evaluates it using the FAA policy. If the air carrier's procedures do not comply with the FAA policy, the submission is disapproved and corrections are made and resubmitted. Should the air carrier's policy not address these requirements, they are not allowed to open their flight deck doors during flight time. These procedures are required by Title I4 § CFR I2I.587.

ASI [redacted] provided the text of the regulation:

§ I2I.587 Closing and locking of flightcrew compartment door.

(a) Except as provided in paragraph (b) of this section, a pilot in command of an airplane that has a lockable flightcrew compartment door in accordance with § I2I.3I3 and that is carrying passengers shall ensure that the door separating the flightcrew compartment from the passenger compartment is closed and locked at all times when the aircraft is being operated.

(b) The provisions of paragraph (a) of this section do not apply at any time when it is necessary to permit access and egress by persons authorized in accordance with § I2I.547 and provided the part II9 operator complies with FAA approved procedures regarding the opening, closing and locking of the flightdeck doors.

[Doc. No. FAA-200I-II032, 67 FR 2I28, Jan. I5, 2002]

ASI [redacted] stated that both issues being investigated were flight safety issues, regulated by the FAA. He explained that the FAA/TSA relationship was worked out shortly after TSA was created. When FAA would promulgate a new rule, FAA may coordinate with TSA and include a TSA representative in the rulemaking team. ASI [redacted] stated that TSA was included in the promulgation of I4 CFR §§ I2I.582 and I2I.584, for a rulemaking project entitled "Flightdeck Door Monitoring and Crew Discreet Alerting Systems."

On Thursday, February 15, 2018, ASI [redacted] met with the reporting agent. ASI [redacted] provided contact information for FAA employee, [redacted], who was more familiar with the secondary barrier issue. ASI [redacted] stated multiple times, both in his email correspondence and in person, that both

the flight deck door issue, including door transition, and the secondary barrier issue are regulated by the FAA. ASI [redacted] reviewed some of the supporting documents provided by the whistleblower in this investigation and ASI [redacted] said that "once the flight time begins, the FAA alone is the regulator. This typically begins when the cabin doors are closed."

ASI [redacted] said that there are regular discussions on issues related to flight deck security. He was unaware of any new proposals to change the existing policy.

3-47 PROCEDURES FOR OPENING, CLOSING, AND LOCKING FLIGHT DECK DOORS.

A. Background.

1) On January 15, 2002, § 25.772 was amended to require an emergency means to enable a flight attendant (F/A) to enter the flight deck should the flightcrew become incapacitated. This change applies to airplanes that are newly certificated under part 25 and was not retroactive to existing airplanes. The operational requirements found in § 121.313 were also amended on January 15, 2002, to require each operator to establish methods that enable an F/A to enter the flight deck in the event that a flightcrew member becomes incapacitated. As with § 25.772(c), these methods are intended for use under emergency conditions and not for routine access to the flight deck. As such, aircraft electronic keypads or electronic pushbuttons installed in the cabin must be used only in emergency situations. (The only time the crew may use the emergency flight deck access procedure during normal operations is when the aircraft is on the ground, the flight deck door is closed and locked, and the flight deck is unoccupied.) Additionally, § 121.313(g) states, in part, "...no person other than a person who is assigned to perform duty on the flight deck may have a key to the flight deck door." Therefore, any keys in the possession of cabin crewmembers that are used for opening bins or containers in the cabin cannot be capable of unlocking the flight deck door.

2) Unless an air carrier has FAA-approved procedures under § 121.587(b), the flight deck door must remain closed during flight time. In order to operate the flight deck door during flight time and permit flight deck access by persons authorized in accordance with § 121.547, part 121 certificate holders must develop and use FAA-approved procedures regarding the opening, closing, and locking of the flight deck door. These FAA-approved procedures should be included in the operators' operations and F/A manuals. Additionally, § 121.313 requires any associated signal or identity confirmation system to be easily detectable and operable by each flightcrew member from his or her duty station. To meet security needs of accomplishing an audio and visual identification, one person on the flight deck is required to visually identify the person seeking access through the viewing port or viewing device.

B. Certificate Holders' Procedures. Certificate holders' procedures must include at least the following:

1) Normal procedures for opening flightcrew compartment doors, to include:

a) Who is authorized to have access to the flight deck.

b) How a crewmember verifies the identity of a person requesting access to the flight deck. This process must include a positive means for flightcrew members to identify persons requesting entry to the flight deck and to detect suspicious behavior or a potential threat before unlocking the flight deck door. To meet security needs of accomplishing an audio and visual identification, one person on the flight deck is required to identify visually the person seeking access through the viewing port or viewing device.

c) How flight deck door keypad access codes are disseminated (e.g., flight deck door keypad access codes may be disseminated through the certificate holder's normal manual process).

d) F/A procedures to verify that there are no passengers in any forward lavatory, and that no passengers are standing in the area surrounding the flight deck door.

e) F/A procedures for blocking the passenger aisle when the flight deck door is opened.

f) Procedures to ensure two persons are always on the flight deck. For two-person flightcrews, this means when one flightcrew member leaves the flight deck, another individual that is qualified in accordance with § 121.547(a)(1)–(3), such as an F/A, must be present to lock the door and remain on the flight deck until the flightcrew member returns to his or her station.

2) Emergency electronic keypad or emergency pushbutton procedures, to include:

a) Events requiring the use of emergency procedures (e.g., pilot alerts).

b) Determining when the flightcrew is, or is suspected of being, incapacitated, or there is no response from the flight deck.

c) Keeping the flight deck door locked until an audio and visual verification of the person requesting entry is made.

d) How to determine whether a person requesting access is under duress.

e) How to determine when the flight deck door locking system may be taken out of the deny access position.

f) Flight deck crew procedures to follow when an electronic keypad or pushbutton is being used to gain unauthorized access to the flight deck.

g) When the flightcrew must take immediate action to deny access to the flight deck.

3) Crewmember training programs should include these procedures, associated crewmember duties and responsibilities, crew coordination, and emergency situation training modules in appropriate curriculum segments.

C. POI Approval Process. To comply with § 121.587(b), POIs are to review and approve their assigned certificate holders' procedures in accordance with the current approval process found in this order and the guidance provided in this paragraph.

NOTICE

U.S. DEPARTMENT OF TRANSPORTATION
FEDERAL AVIATION ADMINISTRATION

N 8400.51

9/17/03

Cancellation
Date: 9/17/04

SUBJ: PROCEDURES FOR OPENING, CLOSING, AND LOCKING OF FLIGHTCREW COMPARTMENT DOORS

1. PURPOSE. This notice provides guidance to operators with aircraft equipped with Phase II flight deck doors as required by Title 14 of the Code of Federal Regulations (14 CFR) part 121. This notice will assist the operator in developing procedures for opening, closing, and locking of Phase II flight deck doors.

2. DISTRIBUTION. This notice is distributed electronically to all regional Flight Standards divisions and district offices. A printed copy will be distributed to the branch level in the regional Flight Standards divisions, to Flight Standards District Offices, to the division level in the Flight Standards Service in Washington headquarters, and to the Regulatory Standards Division at the Mike Monroney Aeronautical Center. This information is also available on the Federal Aviation Administration's (FAA) Web site at: http://www.faa.gov/avr/afs/notices/8400/N840051.htm.

3. BACKGROUND.

a. As a result of the events of September 11, 2001, the FAA published Special Federal Aviation Regulation (SFAR) 92-5, which states, in part, that no "key to the flightcrew compartment shall be available to any crewmember during flight, except for flight crewmembers, unless an internal flight deck locking device such as a deadbolt or bar is installed, operative, and in use."

b. On January 15, 2002, 14 CFR part 25, section 25.772, and part 121, section 121.313, were amended to require each operator to establish a method to enable a flight attendant to enter the flight deck should the flightcrew become incapacitated. Such means are intended to be used only in an emergency situation, and would require complementary emergency flight deck access procedures to facilitate their use. As such, aircraft electronic keypads or electronic pushbuttons installed in the cabin must be used only in emergency situations. (The only time the crew may use the emergency flight deck access procedure, during normal operations, is when the aircraft is on the ground, the flight deck door is closed and locked, and the flight deck is unoccupied.)

c. Additionally, part 121, section 121.313, requires any associated signal or identity confirmation system to be easily detectible and operable by each flight crewmember from his/her duty station. To meet security needs of accomplishing an audio and visual

identification, one person on the flight deck is required to visually identify the person seeking access through the viewing port or viewing device.

d. On January 15, 2002, the FAA amended part 121, section 121.587, to require authorized persons seeking access and egress to the flight deck to comply with FAA-approved procedures regarding the opening, closing, and locking of the flightcrew compartment doors. Additionally, the FAA amended part 121, section 121.547, specifying those persons who may be admitted to the flight deck.

4. ACTION.

a. Federal air marshals and aviation safety inspectors have recently expressed concerns that some flightcrews may be not be adhering to flightcrew compartment door security procedures published by their employer. When an operator's procedures are not followed, flightcrew compartment security is lessened, presenting an unacceptable risk to flightcrew compartment security during in-flight operations. Principal operations inspectors (POI) and/or cabin safety inspectors (CSI) will provide the information in this notice to their respective operators by providing them with a copy of this notice or referring them to the Web site indicated in paragraph 2 and ensure that the operators have approved procedures.

b. Certificate holders must have approved procedures for opening, closing, and locking flightcrew compartment doors. These procedures should be included in the operators' operations and flight attendant manuals, and must include at least the following:

(1) Normal procedures for opening flightcrew compartment doors to include:

(a) Who is authorized to have access to the flight deck.

(b) How a crewmember verifies the identity of a person requesting access to the flight deck.

(c) An identity confirmation process for granting access to the flight deck. This process should provide a positive means for flight crewmembers to identify persons requesting entry to the flight deck and to detect suspicious behavior or a potential threat prior to unlocking the flightcrew compartment door. While not presently required, the FAA recommends that operators incorporate a visual component in their process of monitoring the area outside of the flightcrew compartment door.

(d) How cockpit door keypad access codes are disseminated.

(e) Flight attendant procedures to verify there are no passengers in any forward lavatory, and no passengers are standing in the area surrounding the flight deck door.

(f) Flight attendant procedures for blocking the passenger aisle when the flight deck door is opened.

(g) Procedures for two-person flightcrews, when one flight crewmember leaves the flight deck (i.e., a flight attendant or other designated person must lock the door and remain on the flight deck).

(2) Emergency electronic keypad or emergency pushbutton procedures to include:

(a) Events requiring the use of emergency procedures (i.e., pilot alerts, etc.).

(b) Determining when a flight deck crew is, or is suspected of being, incapacitated, or there is no response from the flight deck.

(c) Keeping the flight deck door locked until an audio and visual verification of the person requesting entry is made.

(d) How to determine whether a person requesting access is under duress.

(e) How to determine when the flight deck locking system may be taken out of the deny-access position.

(f) Flight deck crew procedures to follow when an electronic keypad or pushbutton is being used to gain unauthorized access to the flight deck.

(g) When a flightcrew must take immediate action to deny access to the flight deck.

c. Flightcrew and flight attendant training programs should include these procedures, including crewmember duties and responsibilities, crew coordination, and emergency situation training modules, according to the recommendations and information in this notice. Air carriers should ensure all crewmembers adhere to published procedures.

d. POIs of certificate holders under the Air Transportation Oversight System (ATOS) and CSIs should assess the air carrier's response to the recommendations cited and the information in this notice. An air carrier's failure to implement an effective response could result in increased levels of risk in several areas. The POI and CSI should determine if additional surveillance is required or further action is necessary to address any areas with potentially increased levels of risk (i.e., special emphasis inspections, reevaluating air carrier approvals or programs, convening a System Analysis Team, or retargeting the Comprehensive Surveillance Plan to include accomplishing appropriate Safety Attribute Inspections or Element Performance Inspections).

5. TRACKING.

a. Document the conveyance of the information contained in this notice for each air carrier affected:

(1) Use Program Tracking and Subsystem (PTRS) code 1307.

(2) Enter "**N840051**" in the "National Use" field (without quotes).

(3) Once the above information has been provided to the air carrier, close out the PTRS.

b. ATOS POIs use the reporting procedures in Order 8400.10, Air Transportation Operations Inspector's Handbook, Appendix 6, for the "other Observation DOR" function, including the information below, to record the actions directed by this notice:

(1) Select System: *3.0 Flight Operations.*

(2) Select Subsystem: *3.1 Air Carrier Programs and Procedures.*

(3) Enter "**N840051**" in the "Local/Regional/National Use" field (without quotes).

6. DISPOSITION. This notice will be incorporated into Order 8400.10. Questions concerning the opening, closing, and locking of flightcrew compartment doors should be directed to Joe Keenan, AFS-220, Air Transportation Division, at (202) 267-9579.

/s/ Steve W. Douglas for
James J. Ballough
Director, Flight Standards Service

ATTACHMENT 6

MEMORANDUM OF INTERVIEW OR ACTIVITY

Type of Activity:	Date and Time:
☐ Personal Interview ☐ Telephone Interview ☐ Records Review ☒ Other	February 13, 2018 6:49 AM
Activity or Interview of: [redacted] Senior Technical Specialist (STS) Aircraft Cabin Security and Survivability Federal Aviation Administration (FAA)	Conducted By: Special Agent [redacted] Location of Interview/Activity: [redacted]

Subject Matter/Remarks

On Tuesday, February 13, 2018, Senior Technical Specialist (STS) [redacted], Federal Aviation Administration (FAA), responded to the reporting agent's request for information. STS [redacted] stated that he is a subject matter expert regarding standards and compliance regarding flight deck doors. STS [redacted] was asked to comment on the two whistleblower disclosures regarding:

1. Transportation Security Administration (TSA) failed to require aircraft operators to strengthen and implement flight deck doors that open outward and away from the flight deck; and
2. TSA failed to require aircraft operators to install secondary barriers which function as a second layer of protection between the passenger area and the flight deck.

STS [redacted] responded that neither of these issues are TSA requirements. The requirements for the flight deck door are found in 14 CFR 121.313 and 14 CFR 25.795. 14 CFR are regulations proposed by and maintained by FAA.

[redacted] stated that FAA rules do not specify which way the flight deck door opens, as there are other considerations besides just security. He stated that decompression, egress, rescue, and geometric limitations must be taken into consideration when designing flight deck doors. Many flight deck doors

open away from the flight deck; however, some aircraft manufactured by Airbus and the Boeing 767 open inward toward the flight deck. These are engineering issues that are necessary to meet other safety criteria for commercial aircraft. STS [redacted] stated that the FAA has not required secondary barriers for flight deck door areas, although some air carriers, (e.g. United Airlines), have voluntarily tested a secondary barrier system. There is not a current plan by the FAA to create a requirement for secondary barrier systems for commercial aircraft.

requirements of §25.856 of this chapter, effective September 2, 2003.

[Doc. No. 28154, 60 FR 65930, Dec. 20, 1995, as amended by Amdt. 121-301, 68 FR 45083, July 31, 2003; Amdt. 121-320, 70 FR 77752, Dec. 30, 2005; Amdt. 121-330, 72 FR 1442, Jan. 12, 2007]

§121.313 Miscellaneous equipment.

No person may conduct any operation unless the following equipment is installed in the airplane:

(a) If protective fuses are installed on an airplane, the number of spare fuses approved for that airplane and appropriately described in the certificate holder's manual.

(b) A windshield wiper or equivalent for each pilot station.

(c) A power supply and distribution system that meets the requirements of §§25.1309, 25.1331, 25.1351(a) and (b)(1) through (4), 25.1353, 25.1355, and 25.1431(b) or that is able to produce and distribute the load for the required instruments and equipment, with use of an external power supply if any one power source or component of the power distribution system fails. The use of common elements in the system may be approved if the Administrator finds that they are designed to be reasonably protected against malfunctioning. Engine-driven sources of energy, when used, must be on separate engines.

(d) A means for indicating the adequacy of the power being supplied to required flight instruments.

(e) Two independent static pressure systems, vented to the outside atmospheric pressure so that they will be least affected by air flow variation or moisture or other foreign matter, and installed so as to be airtight except for the vent. When a means is provided for transferring an instrument from its primary operating system to an alternate system, the means must include a positive positioning control and must be marked to indicate clearly which system is being used.

(f) A door between the passenger and pilot compartments (i.e., flightdeck door), with a locking means to prevent passengers from opening it without the pilot's permission, except that non-transport category airplanes certificated after December 31, 1964, are not required to comply with this paragraph. For airplanes equipped with a crew rest area having separate entries from the flightdeck and the passenger compartment, a door with such a locking means must be provided between the crew rest area and the passenger compartment.

(g) A key for each door that separates a passenger compartment from another compartment that has emergency exit provisions. Except for flightdeck doors, a key must be readily available for each crewmember. Except as provided below, no person other than a person who is assigned to perform duty on the flightdeck may have a key to the flightdeck door. Before April 22, 2003, any crewmember may have a key to the flightdeck door but only if the flightdeck door has an internal flightdeck locking device installed, operative, and in use. Such "internal flightdeck locking device" has to be designed so that it can only be unlocked from inside the flightdeck.

(h) A placard on each door that is the means of access to a required passenger emergency exit, to indicate that it must be open during takeoff and landing.

(i) A means for the crew, in an emergency to unlock each door that leads to a compartment that is normally accessible to passengers and that can be locked by passengers.

(j) After April 9, 2003, for airplanes required by paragraph (f) of this section to have a door between the passenger and pilot or crew rest compartments, and for transport category, all-cargo airplanes that have a door installed between the pilot compartment and any other occupied compartment on January 15, 2002;

(1) After April 9, 2003, for airplanes required by paragraph (f) of this section to have a door between the passenger and pilot or crew rest compartments,

(i) Each such door must meet the requirements of §25.795(a)(1) and (2) in effect on January 15, 2002; and

(ii) Each operator must establish methods to enable a flight attendant to enter the pilot compartment in the event that a flightcrew member becomes incapacitated. Any associated signal or confirmation system must be operable by each flightcrew member

from that flightcrew member's duty station.

(2) After October 1, 2003, for transport category, all-cargo airplanes that had a door installed between the pilot compartment and any other occupied compartment on or after January 15, 2002, each such door must meet the requirements of §25.795(a)(1) and (2) in effect on January 15, 2002; or the operator must implement a security program approved by the Transportation Security Administration (TSA) for the operation of all airplanes in that operator's fleet.

(k) Except for all-cargo operations as defined in §119.3 of this chapter, for all passenger-carrying airplanes that require a lockable flightdeck door in accordance with paragraph (f) of this section, a means to monitor from the flightdeck side of the door the area outside the flightdeck door to identify persons requesting entry and to detect suspicious behavior and potential threats.

[Doc. No. 6258, 29 FR 19205, Dec. 31, 1964, as amended by Amdt. 121–5, 30 FR 6113, Apr. 30, 1965; Amdt. 121–251, 60 FR 65931, Dec. 20, 1995; Amdt. 121–288, 67 FR 2127, Jan. 15, 2002; Amdt. 121–299, 68 FR 42861, July 18, 2003; Amdt. 121–334, 72 FR 45635, Aug. 15, 2007]

§121.314 Cargo and baggage compartments.

For each transport category airplane type certificated after January 1, 1958:

(a) Each Class C or Class D compartment, as defined in §25.857 of this Chapter in effect on June 16, 1986 (see Appendix L to this part), that is greater than 200 cubic feet in volume must have ceiling and sidewall liner panels which are constructed of:

(1) Glass fiber reinforced resin;

(2) Materials which meet the test requirements of part 25, appendix F, part III of this chapter; or

(3) In the case of liner installations approved prior to March 20, 1989, aluminum.

(b) For compliance with paragraph (a) of this section, the term "liner" includes any design feature, such as a joint or fastener, which would affect the capability of the liner to safely contain a fire.

(c) After March 19, 2001, each Class D compartment, regardless of volume, must meet the standards of §§25.857(c) and 25.858 of this Chapter for a Class C compartment unless the operation is an all-cargo operation in which case each Class D compartment may meet the standards in §25.857(e) for a Class E compartment.

(d) *Reports of conversions and retrofits.* (1) Until such time as all Class D compartments in aircraft operated under this part by the certificate have been converted or retrofitted with appropriate detection and suppression systems, each certificate holder must submit written progress reports to the FAA that contain the information specified below.

(i) The serial number of each airplane listed in the operations specifications issued to the certificate holder for operation under this part in which all Class D compartments have been converted to Class C or Class E compartments;

(ii) The serial number of each airplane listed in the operations specification issued to the certificate holder for operation under this part, in which all Class D compartments have been retrofitted to meet the fire detection and suppression requirements for Class C or the fire detection requirements for Class E; and

(iii) The serial number of each airplane listed in the operations specifications issued to the certificate holder for operation under this part that has at least one Class D compartment that has not been converted or retrofitted.

(2) The written report must be submitted to the Certificate Holding District Office by July 1, 1998, and at each three-month interval thereafter.

[Doc. No. 28937, 63 FR 8049, Feb. 17, 1998]

§121.315 Cockpit check procedure.

(a) Each certificate holder shall provide an approved cockpit check procedure for each type of aircraft.

(b) The approved procedures must include each item necessary for flight crewmembers to check for safety before starting engines, taking off, or landing, and in engine and systems emergencies. The procedures must be designed so that a flight crewmember will not need to rely upon his memory for items to be checked.

and ground load conditions, and to the emergency landing conditions of §25.561(b).

(b) Each interphone restraint system must be designed so that when subjected to the load factors specified in §25.561(b)(3), the interphone will remain in its stowed position.

[Amdt. 25-32, 37 FR 3969, Feb. 24, 1972, as amended by Amdt. 25-46, 43 FR 50596, Oct. 30, 1978]

§25.791 Passenger information signs and placards.

(a) If smoking is to be prohibited, there must be at least one placard so stating that is legible to each person seated in the cabin. If smoking is to be allowed, and if the crew compartment is separated from the passenger compartment, there must be at least one sign notifying when smoking is prohibited. Signs which notify when smoking is prohibited must be operable by a member of the flightcrew and, when illuminated, must be legible under all probable conditions of cabin illumination to each person seated in the cabin.

(b) Signs that notify when seat belts should be fastened and that are installed to comply with the operating rules of this chapter must be operable by a member of the flightcrew and, when illuminated, must be legible under all probable conditions of cabin illumination to each person seated in the cabin.

(c) A placard must be located on or adjacent to the door of each receptacle used for the disposal of flammable waste materials to indicate that use of the receptacle for disposal of cigarettes, etc., is prohibited.

(d) Lavatories must have "No Smoking" or "No Smoking in Lavatory" placards conspicuously located on or adjacent to each side of the entry door.

(e) Symbols that clearly express the intent of the sign or placard may be used in lieu of letters.

[Amdt. 25-72, 55 FR 29780, July 20, 1990]

§25.793 Floor surfaces.

The floor surface of all areas which are likely to become wet in service must have slip resistant properties.

[Amdt. 25-51, 45 FR 7755, Feb. 4, 1980]

§25.795 Security considerations.

(a) *Protection of flightcrew compartment.* If a flightdeck door is required by operating rules:

(1) The bulkhead, door, and any other accessible boundary separating the flightcrew compartment from occupied areas must be designed to resist forcible intrusion by unauthorized persons and be capable of withstanding impacts of 300 joules (221.3 foot pounds).

(2) The bulkhead, door, and any other accessible boundary separating the flightcrew compartment from occupied areas must be designed to resist a constant 250 pound (1,113 Newtons) tensile load on accessible handholds, including the doorknob or handle.

(3) The bulkhead, door, and any other boundary separating the flightcrew compartment from any occupied areas must be designed to resist penetration by small arms fire and fragmentation devices to a level equivalent to level IIIa of the National Institute of Justice (NIJ) Standard 0101.04.

(b) Airplanes with a maximum certificated passenger seating capacity of more than 60 persons or a maximum certificated takeoff gross weight of over 100,000 pounds (45,359 Kilograms) must be designed to limit the effects of an explosive or incendiary device as follows:

(1) *Flightdeck smoke protection.* Means must be provided to limit entry of smoke, fumes, and noxious gases into the flightdeck.

(2) *Passenger cabin smoke protection.* Means must be provided to prevent passenger incapacitation in the cabin resulting from smoke, fumes, and noxious gases as represented by the initial combined volumetric concentrations of 0.59% carbon monoxide and 1.23% carbon dioxide.

(3) *Cargo compartment fire suppression.* An extinguishing agent must be capable of suppressing a fire. All cargo-compartment fire suppression systems must be designed to withstand the following effects, including support structure displacements or adjacent materials displacing against the distribution system:

(i) Impact or damage from a 0.5-inch diameter aluminum sphere traveling at 430 feet per second (131.1 meters per second);

(ii) A 15-pound per square-inch (103.4 kPa) pressure load if the projected surface area of the component is greater than 4 square feet. Any single dimension greater than 4 feet (1.22 meters) may be assumed to be 4 feet (1.22 meters) in length; and

(iii) A 6-inch (0.152 meters) displacement, except where limited by the fuselage contour, from a single point force applied anywhere along the distribution system where relative movement between the system and its attachment can occur.

(iv) Paragraphs (b)(3)(i) through (iii) of this section do not apply to components that are redundant and separated in accordance with paragraph (c)(2) of this section or are installed remotely from the cargo compartment.

(c) An airplane with a maximum certificated passenger seating capacity of more than 60 persons or a maximum certificated takeoff gross weight of over 100,000 pounds (45,359 Kilograms) must comply with the following:

(1) *Least risk bomb location.* An airplane must be designed with a designated location where a bomb or other explosive device could be placed to best protect flight-critical structures and systems from damage in the case of detonation.

(2) *Survivability of systems.* (i) Except where impracticable, redundant airplane systems necessary for continued safe flight and landing must be physically separated, at a minimum, by an amount equal to a sphere of diameter

$$D = 2\sqrt{(H_0/\pi)}$$

(where H_0 is defined under §25.365(e)(2) of this part and D need not exceed 5.05 feet (1.54 meters)). The sphere is applied everywhere within the fuselage—limited by the forward bulkhead and the aft bulkhead of the passenger cabin and cargo compartment beyond which only one-half the sphere is applied.

(ii) Where compliance with paragraph (c)(2)(i) of this section is impracticable, other design precautions must be taken to maximize the survivability of those systems.

(3) *Interior design to facilitate searches.* Design features must be incorporated that will deter concealment or promote discovery of weapons, explosives, or other objects from a simple inspection in the following areas of the airplane cabin:

(i) Areas above the overhead bins must be designed to prevent objects from being hidden from view in a simple search from the aisle. Designs that prevent concealment of objects with volumes 20 cubic inches and greater satisfy this requirement.

(ii) Toilets must be designed to prevent the passage of solid objects greater than 2.0 inches in diameter.

(iii) Life preservers or their storage locations must be designed so that tampering is evident.

(d) *Exceptions.* Airplanes used solely to transport cargo only need to meet the requirements of paragraphs (b)(1), (b)(3), and (c)(2) of this section.

(e) *Material Incorporated by Reference.* You must use National Institute of Justice (NIJ) Standard 0101.04, Ballistic Resistance of Personal Body Armor, June 2001, Revision A, to establish ballistic resistance as required by paragraph (a)(3) of this section.

(1) The Director of the Federal Register approved the incorporation by reference of this document under 5 U.S.C. 552(a) and 1 CFR part 51.

(2) You may review copies of NIJ Standard 0101.04 at the:

(i) FAA Transport Airplane Directorate, 1601 Lind Avenue, SW., Renton, Washington 98055;

(ii) National Institute of Justice (NIJ), *http://www.ojp.usdoj.gov/nij*, telephone (202) 307–2942; or

(iii) National Archives and Records Administration (NARA). For information on the availability of this material at NARA go to *http://www.archives.gov/federal_register/code_of_federal_regulations/ibr_locations.html* or call (202) 741–6030.

(3) You may obtain copies of NIJ Standard 0101.04 from the National Criminal Justice Reference Service, P.O. Box 6000, Rockville, MD 20849–6000, telephone (800) 851–3420.

[Amdt. Nos. 25–127; 121–341, 73 FR 63879, Oct. 28, 2008, as amended at 74 FR 22819, May 15, 2009]

EMERGENCY PROVISIONS

§ 25.801 Ditching.

(a) If certification with ditching provisions is requested, the airplane must meet the requirements of this section and §§ 25.807(e), 25.1411, and 25.1415(a).

(b) Each practicable design measure, compatible with the general characteristics of the airplane, must be taken to minimize the probability that in an emergency landing on water, the behavior of the airplane would cause immediate injury to the occupants or would make it impossible for them to escape.

(c) The probable behavior of the airplane in a water landing must be investigated by model tests or by comparison with airplanes of similar configuration for which the ditching characteristics are known. Scoops, flaps, projections, and any other factor likely to affect the hydrodynamic characteristics of the airplane, must be considered.

(d) It must be shown that, under reasonably probable water conditions, the flotation time and trim of the airplane will allow the occupants to leave the airplane and enter the liferafts required by § 25.1415. If compliance with this provision is shown by buoyancy and trim computations, appropriate allowances must be made for probable structural damage and leakage. If the airplane has fuel tanks (with fuel jettisoning provisions) that can reasonably be expected to withstand a ditching without leakage, the jettisonable volume of fuel may be considered as buoyancy volume.

(e) Unless the effects of the collapse of external doors and windows are accounted for in the investigation of the probable behavior of the airplane in a water landing (as prescribed in paragraphs (c) and (d) of this section), the external doors and windows must be designed to withstand the probable maximum local pressures.

[Doc. No. 5066, 29 FR 18291, Dec. 24, 1964, as amended by Amdt. 25-72, 55 FR 29781, July 20, 1990]

§ 25.803 Emergency evacuation.

(a) Each crew and passenger area must have emergency means to allow rapid evacuation in crash landings, with the landing gear extended as well as with the landing gear retracted, considering the possibility of the airplane being on fire.

(b) [Reserved]

(c) For airplanes having a seating capacity of more than 44 passengers, it must be shown that the maximum seating capacity, including the number of crewmembers required by the operating rules for which certification is requested, can be evacuated from the airplane to the ground under simulated emergency conditions within 90 seconds. Compliance with this requirement must be shown by actual demonstration using the test criteria outlined in appendix J of this part unless the Administrator finds that a combination of analysis and testing will provide data equivalent to that which would be obtained by actual demonstration.

(d)-(e) [Reserved]

[Doc. No. 24344, 55 FR 29781, July 20, 1990]

§ 25.807 Emergency exits.

(a) *Type.* For the purpose of this part, the types of exits are defined as follows:

(1) *Type I.* This type is a floor-level exit with a rectangular opening of not less than 24 inches wide by 48 inches high, with corner radii not greater than eight inches.

(2) *Type II.* This type is a rectangular opening of not less than 20 inches wide by 44 inches high, with corner radii not greater than seven inches. Type II exits must be floor-level exits unless located over the wing, in which case they must not have a step-up inside the airplane of more than 10 inches nor a step-down outside the airplane of more than 17 inches.

(3) *Type III.* This type is a rectangular opening of not less than 20 inches wide by 36 inches high with corner radii not greater than seven inches, and with a step-up inside the airplane of not more than 20 inches. If the exit is located over the wing, the step-down outside the airplane may not exceed 27 inches.

(4) *Type IV.* This type is a rectangular opening of not less than 19 inches wide by 26 inches high, with corner radii not greater than 6.3 inches, located over the wing, with a step-up inside the airplane of not more than 29

ATTACHMENT 7

MEMORANDUM OF INTERVIEW OR ACTIVITY

Type of Activity:	Date and Time:
☐ Personal Interview ☐ Telephone Interview ☒ Records Review ☐ Other	February 15, 2018 7:44 AM
Activity or Interview of: [redacted] Federal Aviation Administration (FAA) Safety Standards Air Transportation Division (ATD) Air Carrier Operations Branch	Conducted By: Special Agent [redacted] Location of Interview/Activity: [redacted]

Subject Matter/Remarks

On Thursday, February 15, 2018, based on a recommendation from Aviation Safety Inspector (ASI) [redacted], the reporting agent contacted Federal Aviation Administration (FAA) Inspector [redacted] in order to set up an interview and obtain additional information related to the secondary barrier issues outlined in the U.S. Office of Special Counsel's transmittal letter:

1. TSA failed to require aircraft operators to strengthen and implement flight deck doors that open outward and away from the flight deck; and
2. TSA failed to require aircraft operators to install secondary barriers which function as a second layer of protection between the passenger area and the flight deck.

Inspector [redacted] stated that secondary barriers are regulated by the FAA, and are not regulated by the Transportation Security Administration (TSA). Inspector [redacted] provided a copy of the RTCA DO-329 report, dated September 28, 2011, and stated that this report was well known within the FAA and that everyone who worked on the secondary barrier issue within the FAA was familiar with the work done by RTCA in producing the report. She also provided a copy of the FAA Advisory Circular (AC) 120-110, Subject: Aircraft Secondary Barriers and Alternate Flight Deck Security Procedures, dated April 14, 2015. Inspector [redacted] stated that this document states that U.S. air carriers are to present

objective evidence of compliance with the FAA's Principal Operations Inspector for approval. To the best of her knowledge, all U.S. air carriers have complied with this advisory. She also stated that if TSA employees are seeing anything that seems unsafe or degrades security as described in FAA policy, her office would like to made aware of that information.

ATTACHMENT 8

U.S. Department of Homeland Security
Dallas Field Office
8615 N. Freeport Pkwy, #200
Irving, TX 75063

Transportation Security Administration

MEMORANDUM FOR: File

FROM: [redacted]
Special Agent in Charge
Investigations Division
Dallas Field Office

DATE: April 2, 2018

SUBJECT: Response to Follow-Up Questions
Whistleblower Disclosure - Flight Deck Issues
Case Number: I180099

The Investigations Division (INV) received the list of follow-up questions (Supplemental Attachment 1), after the Office of Chief Counsel's (OCC) review of INV's Report of Investigation (ROI) concerning the Whistleblower Disclosure – Flight Deck Issues.

On Friday, March 23, 2018, the first page of follow-up questions was sent to Deputy Director – Aviation [redacted], Office of Office of Security Policy and Industry Engagement (OSPIE). Deputy Director [redacted] responded the same day (Supplemental Attachment 2). Please note that these answers may also be found in ROI Attachment 3.

On Friday, March 23, 2018, the second page of follow-up questions was sent to Senior Technical Specialist (STS) [redacted], Aviation Safety Inspector (ASI) [redacted] and ASI [redacted], all employees of the Federal Aviation Administration (FAA).

On Friday, March 23, 2018, STS [redacted] responded to the follow-up questions (Supplemental Attachment 3).

On Monday, March 26, 2018, ASI [redacted] responded to the follow-up questions (Supplemental Attachment 4).

On Tuesday, March 27, 2018, ASI [redacted] responded to the follow-up questions. He stated that he had read the responses provided by STS [redacted] and ASI [redacted] and believed that they had addressed the follow-up questions adequately. For this reason, ASI [redacted] declined to provide his own responses to the follow-up questions (Supplemental Attachment 5).

SUPPLEMENTAL ATTACHMENT 1

Follow-up Questions for [redacted]:

1. Which agency has primary regulatory responsibility for the two issues raised in the subject whistleblower complaint (adequacy of flight deck doors and secondary barriers)?

2. Is there a statute which established primary regulatory responsibility regarding these two issues and if so, what is the statute imposing the regulatory mandate for these two issues?

3. If yes, has the agency acted on the statutorily imposed regulatory responsibility addressing these issues? When? How?

4. If so, please summarize the content of the rules?

5. If TSA is not the agency with primary regulatory responsibility, what role does TSA play in addressing these issues?

Follow-up Questions for FAA Subject Matter Experts:

Please respond to each question. If the question falls outside of your area of expertise, please state so in your response and, if possible, provide the name of someone who may have the necessary expertise.

1. In reaching the decision not to specify by regulation which direction flight deck doors must open (inward or outward), based on factors such as decompression, egress, rescue, and geometric limitations, did the FAA rely upon studies or other documentation?

2. If so, please summarize the contents of this material.

3. In Advisory Circular AC No. 120-110, in which the FAA provided guidance on ways to achieve effective protection of the flight deck as required by 14 CFR 121.584(a)(1), the FAA listed three acceptable methods of secondary flight deck security: installation of physical secondary barriers (IPSB); use of improvised non-installed secondary barriers (INSB); and human secondary barriers (flightcrew members). How did the FAA reach the conclusion that the use of either human secondary barriers or INSB was commensurate with the use of IPSB?

4. If the FAA relied upon studies or other documentation in reaching the determination to recommend all three methods of flight deck protection as effective, please summarize the contents of this material.

5. Does the FAA have documentation supporting its determination that all U.S. commercial aircraft operators have adopted secondary barrier procedures in accordance with the recommendations in the Advisory Circular?

6. If so, please provide or summarize.

SUPPLEMENTAL ATTACHMENT 2

Follow-up Questions for [redacted]:

1. Which agency has primary regulatory responsibility for the two issues raised in the subject whistleblower complaint (adequacy of flight deck doors and secondary barriers)?

2. Is there a statute which established primary regulatory responsibility regarding these two issues and if so, what is the statute imposing the regulatory mandate for these two issues?

3. If yes, has the agency acted on the statutorily imposed regulatory responsibility addressing these issues? When? How?

4. If so, please summarize the content of the rules?

5. If TSA is not the agency with primary regulatory responsibility, what role does TSA play in addressing these issues?

[redacted]

Subject: FW: Securing the Flightdeck
Attachments: RE: Request for meeting ; RE: Request for meeting ; RE: Request for meeting ; RE: Request for meeting

From: [redacted]
Date: Friday, Mar 23, 2018, 11:29 AM
To: [redacted]
Subject: Securing the Flightdeck

[redacted]

Answers are contained in all of the attached email.

1. Which agency has primary regulatory responsibility for the two issues raised in the subject whistleblower complaint (adequacy of flight deck doors and secondary barriers)? **FAA**

2. Is there a statute which established primary regulatory responsibility regarding these two issues and if so, what is the statute imposing the regulatory mandate for these two issues?

ATSA Section 104, Improve Flight Deck Integrity Measures, requires actions by the FAA Administrator. (attached)

3. If yes, has the agency acted on the statutorily imposed regulatory responsibility addressing these issues? When? How? **(attached)**

14 CFR Part 121
[Docket No. FAA–2005–22449; Amendment
No. 121–334]
RIN 2120–AI16
Flightdeck Door Monitoring and Crew
Discreet Alerting Systems

Regulations governing "hardened cockpit doors" on transport category aircraft reside with the FAA, specifically under Title 14, CFR 129.28 (Flight Deck Security) & Title 14, CFR 121.313 (Misc Equipment) & Title 14, CFR 25.795 (Design & Construction). These references are attached.
§ 25.795 Security considerations.
4. If so, please summarize the content of the rules?

Regulations governing "hardened cockpit doors" on transport category aircraft reside with the FAA, specifically under Title 14, CFR 129.28 (Flight Deck Security) & Title 14, CFR 121.313 (Misc Equipment) & Title 14, CFR 25.795 (Design & Construction). These references are attached.

1.) All US Aircraft Operators conducting passenger operations with a seating capacity of 20 seats or greater must have a hardened cockpit door.

2.) All Foreign Air Carriers conducting passenger operations with a seating capacity of 20 seats or greater, flying to, from and within the United States must have a hardened cockpit door. Foreign Air Carrier over-flights are not included in this rule.

3.) General Aviation is not included in this rule.

14 CFR 121.313(f) - A door between the passenger and pilot compartments (i.e., flightdeck door), with a locking means to prevent passengers from opening it without the pilot's permission, except that non-transport category airplanes certificated after December 31, 1964, are not required to comply with this paragraph.

(a) *Protection of flightcrew compartment.* If a flightdeck door is required by operating rules (14 CFR 121.313(f)) referenced above:
(1) The bulkhead, door, and any other accessible boundary separating the flightcrew compartment from occupied areas must be designed to resist forcible intrusion by unauthorized persons and be capable of withstanding impacts of 300 joules (221.3 foot pounds).
(2) The bulkhead, door, and any other accessible boundary separating the flightcrew compartment from occupied areas must be designed to resist a constant 250 pound (1,113 Newtons) tensile load on accessible handholds, including the doorknob or handle.

Transport category is a category of airworthiness applicable to large civil airplanes and large civil helicopters. Any aircraft's airworthiness category is shown on its airworthiness certificate. The name "transport category" is used in the USA, Canada, Europe and many other countries.

Transport airplanes are either:

- Jets with 10 or more seats or a Maximum Takeoff Weight (MTOW) greater than 12,500lb; or
- Propeller-driven airplanes with greater than 19 seats or a MTOW greater than 19,000lb.

http://www.faa.gov/aircraft/air_cert/design_approvals/transport/

14 CFR 121.587 requires procedures for closing and locking of flightcrew compartment door. Those procedures are located in **FAA Order 8900.1, Volume 3, Chapter 2, Section 1,** Paragraph 3-47.

U.S. airlines must develop cockpit procedures that the FAA approves. Those procedures include a requirement that, when one of the pilots exits the cockpit for any reason, another qualified crew member must lock the door and remain on the flight deck until the pilot returns to his or her station. A qualified crew member could be a flight attendant or a relief pilot serving as part of the crew. To meet security needs of accomplishing an audio and visual identification, one person on the flight deck is required to visually identify the person seeking access through the viewing port or viewing device.

§121.587 Closing and locking of flightcrew compartment door.

(a) Except as provided in paragraph (b) of this section, a pilot in command of an airplane that has a lockable flightcrew compartment door in accordance with §121.313 and that is carrying passengers shall ensure that the door separating the flightcrew compartment from the passenger compartment is closed and locked at all times when the aircraft is being operated.

(b) The provisions of paragraph (a) of this section do not apply at any time when it is necessary to permit access and egress by persons authorized in accordance with §121.547 and provided the part 119 operator complies with FAA approved procedures regarding the opening, closing and locking of the flightdeck doors.

§ 121.584 Requirement to view the area outside the flightdeck door.

From the time the airplane moves in order to initiate a flight segment through the end of that flight segment, no person may unlock or open the flightdeck door unless:

(a) A person authorized to be on the flightdeck uses an approved audio procedure and an approved visual device to verify that:

(1) The area outside the flightdeck door is secure, and;

(2) If someone outside the flightdeck is seeking to have the flightdeck door opened, that person is not under duress,
and;

(b) After the requirements of paragraph (a) of this section have been satisfactorily accomplished, the crewmember in charge on the flightdeck authorizes the door to be unlocked and open.

5. If TSA is not the agency with primary regulatory responsibility, what role does TSA play in addressing these issues?

In addition to FAA regulations that identify who may occupy the flightdeck jumpseat, TSA has implemented additional security measures restricting access to the flightdeck.

SUPPLEMENTAL ATTACHMENT 3

Follow-up Questions for FAA Subject Matter Experts:

Please respond to each question. If the question falls outside of your area of expertise, please state so in your response and, if possible, provide the name of someone who may have the necessary expertise.

1. In reaching the decision not to specify by regulation which direction flight deck doors must open (inward or outward), based on factors such as decompression, egress, rescue, and geometric limitations, did the FAA rely upon studies or other documentation?

2. If so, please summarize the contents of this material.

3. In Advisory Circular AC No. 120-110, in which the FAA provided guidance on ways to achieve effective protection of the flight deck as required by 14 CFR 121.584(a)(1), the FAA listed three acceptable methods of secondary flight deck security: installation of physical secondary barriers (IPSB); use of improvised non-installed secondary barriers (INSB); and human secondary barriers (flightcrew members). How did the FAA reach the conclusion that the use of either human secondary barriers or INSB was commensurate with the use of IPSB?

4. If the FAA relied upon studies or other documentation in reaching the determination to recommend all three methods of flight deck protection as effective, please summarize the contents of this material.

5. Does the FAA have documentation supporting its determination that all U.S. commercial aircraft operators have adopted secondary barrier procedures in accordance with the recommendations in the Advisory Circular?

6. If so, please provide or summarize.

[redacted]

Subject: FW: Request for follow up information

From: [redacted]
Date: Friday, Mar 23, 2018, 2:56 PM
To: [redacted]
Subject: RE: Request for follow up information

[redacted] I've pasted in the two questions that I can address. The rest I will defer to my colleagues in Flight Standards.
[redacted]

1. In reaching the decision not to specify by regulation which direction flight deck doors must open (inward or outward), based on factors such as decompression, egress, rescue, and geometric limitations, did the FAA rely upon studies or other documentation?

A. The FAA requirements are, to the extent practical, based on performance, rather than prescription. In this case, as long as all the relevant requirements can be met, there is no regulatory reason to specify which direction the door opens.

2. If so, please summarize the contents of this material.

A. There is no such documentation, since there was never a question of specifying the direction the door should open.

From: [redacted]
Sent: Friday, March 23, 2018 10:06 AM
To: [redacted]
Subject: Request for follow up information

After submitting my report several weeks ago, I was sent a series of follow up questions for you to address. Please take a look at the attached document and respond to each of the questions to the best of your ability. If you have questions please contact me.

I would like to move this as quickly as possible but need your responses no later than Friday, next week, March 30, 2018.

Thank you for your assistance.

[redacted]
Special Agent
Office of Inspection
Transportation Security Administration
[redacted]

SUPPLEMENTAL ATTACHMENT 4

Follow-up Questions for FAA Subject Matter Experts:

Please respond to each question. If the question falls outside of your area of expertise, please state so in your response and, if possible, provide the name of someone who may have the necessary expertise.

1. In reaching the decision not to specify by regulation which direction flight deck doors must open (inward or outward), based on factors such as decompression, egress, rescue, and geometric limitations, did the FAA rely upon studies or other documentation?

2. If so, please summarize the contents of this material.

3. In Advisory Circular AC No. 120-110, in which the FAA provided guidance on ways to achieve effective protection of the flight deck as required by 14 CFR 121.584(a)(1), the FAA listed three acceptable methods of secondary flight deck security: installation of physical secondary barriers (IPSB); use of improvised non-installed secondary barriers (INSB); and human secondary barriers (flightcrew members). How did the FAA reach the conclusion that the use of either human secondary barriers or INSB was commensurate with the use of IPSB?

4. If the FAA relied upon studies or other documentation in reaching the determination to recommend all three methods of flight deck protection as effective, please summarize the contents of this material.

5. Does the FAA have documentation supporting its determination that all U.S. commercial aircraft operators have adopted secondary barrier procedures in accordance with the recommendations in the Advisory Circular?

6. If so, please provide or summarize.

[redacted]

Subject: FW: Request for follow up information
Attachments: FAA follow up questions.doc

From: [redacted]
Date: Monday, Mar 26, 2018, 1:32 PM
To: [redacted]
Cc: [redacted]
Subject: RE: Request for follow up information

Hi [redacted]

I saw where Jeff answered questions 1 and 2. I will attempt to help with answers for questions 3 & 4 and maybe 5.

3. In Advisory Circular AC No. 120-110, in which the FAA provided guidance on ways to achieve effective protection of the flight deck as required by 14 CFR 121.584(a)(1), the FAA listed three acceptable methods of secondary flight deck security: installation of physical secondary barriers (IPSB); use of improvised non-installed secondary barriers (INSB); and human secondary barriers (flightcrew members). How did the FAA reach the conclusion that the use of either human secondary barriers or INSB was commensurate with the use of IPSB?

This conclusion was reached by the recommendations of the document RTCA/DO-329, which describes an acceptable means but not the only means to comply with 14 CFR 121.584 (1)(a). That document provides information from a lengthy study using data driven information obtained from actual testing in cooperation with the TSA Federal Air Marshall Service.

4. If the FAA relied upon studies or other documentation in reaching the determination to recommend all three methods of flight deck protection as effective, please summarize the contents of this material.

Yes, as stated above the FAA relied upon the in-depth study conducted by RTCA. This document is RTCA/DO-329, dated September 28, 2011 and can be obtained from RTCA, Inc. 1150 18th Street NW, Suite 910, Washington DC. This document presents the compliance methods for 121.584 and outlines those three different methods addressed in question 3.

5. Does the FAA have documentation supporting its determination that all U.S. commercial aircraft operators have adopted secondary barrier procedures in accordance with the recommendations in the Advisory Circular?

Yes, we have our surveillance system, titled SAS. If you need any additional information about where that documentation is located, we will have to refer you to the Safety Analysis & Promotion Division, AFS-900.

Thank you.

[redacted]

[redacted]
FAA Safety Standards
Air Transportation Division
AFS-220, Part 121 Air Carrier Operations Branch

Remote Office PHX.CMO, [redacted]

From: [redacted]
Sent: Friday, March 23, 2018 10:06 AM
To [redacted]
Subject: Request for follow up information

After submitting my report several weeks ago, I was sent a series of follow up questions for you to address. Please take a look at the attached document and respond to each of the questions to the best of your ability. If you have questions please contact me.

I would like to move this as quickly as possible but need your responses no later than Friday, next week, March 30, 2018.

Thank you for your assistance.

[redacted]
Special Agent
Office of Inspection
Transportation Security Administration
[redacted]

SUPPLEMENTAL ATTACHMENT 5

Follow-up Questions for FAA Subject Matter Experts:

Please respond to each question. If the question falls outside of your area of expertise, please state so in your response and, if possible, provide the name of someone who may have the necessary expertise.

1. In reaching the decision not to specify by regulation which direction flight deck doors must open (inward or outward), based on factors such as decompression, egress, rescue, and geometric limitations, did the FAA rely upon studies or other documentation?

2. If so, please summarize the contents of this material.

3. In Advisory Circular AC No. 120-110, in which the FAA provided guidance on ways to achieve effective protection of the flight deck as required by 14 CFR 121.584(a)(1), the FAA listed three acceptable methods of secondary flight deck security: installation of physical secondary barriers (IPSB); use of improvised non-installed secondary barriers (INSB); and human secondary barriers (flightcrew members). How did the FAA reach the conclusion that the use of either human secondary barriers or INSB was commensurate with the use of IPSB?

4. If the FAA relied upon studies or other documentation in reaching the determination to recommend all three methods of flight deck protection as effective, please summarize the contents of this material.

5. Does the FAA have documentation supporting its determination that all U.S. commercial aircraft operators have adopted secondary barrier procedures in accordance with the recommendations in the Advisory Circular?

6. If so, please provide or summarize.

[redacted]

Subject: FW: Request for follow up information

From: [redacted]
Date: Tuesday, Mar 27, 2018, 1:56 PM
To: [redacted]
Subject: RE: Request for follow up information

[redacted]

I hope all is going well for you. I'm trying to catch up with a bunch of things and wanted to see if you have what you need with this. I've read the replies from [redacted] and [redacted] They have replied with the level of detail that should be more than adequate. There isn't anything I can add to their remarks, however, if you need anything else, please let me know.

Have a great day,

[redacted]
Aviation Safety Inspector, Operations
Air Carrier Operations, AFS-220
[redacted]

From: [redacted]
Sent: Friday, March 23, 2018 1:06 PM
To: [redacted]

Subject: Request for follow up information

After submitting my report several weeks ago, I was sent a series of follow up questions for you to address. Please take a look at the attached document and respond to each of the questions to the best of your ability. If you have questions please contact me.

I would like to move this as quickly as possible but need your responses no later than Friday, next week, March 30, 2018.

Thank you for your assistance.

[redacted]
Special Agent
Office of Inspection
Transportation Security Administration
[redacted]

Supplemental Attachment 6

~~SENSITIVE SECURITY INFORMATION~~

MEMORANDUM OF INTERVIEW OR ACTIVITY

Type of Activity:	Date and Time:
☐ Personal Interview ☒ Telephone Interview ☐ Records Review ☐ Other	August 27-September 6, 2018
Activity or Interview of: Deputy [redacted] Security Policy and Industry Engagement	**Conducted by** SA [redacted] **Location of Interview/Activity:** Freedom Center

Subject Matter/Remarks

In a follow up interview, [redacted] was asked to comment on the following questions:

1. Are we aware of discussions or written communications (emails, notes) between TSA and FAA regarding implementing ATSA section 104 (Improved Flight Deck Integrity Measures) and how FAA would address TSA security concerns if any, during implementation. Did TSA affirmatively decide no further action was necessary? Why or why not?

2. Did anyone at TSA determine TSA did not need to take additional action under its own authority? If so, who?

3. FAA issued Amendment 121-288 to 14 CFR Part 121, requiring carries to install reinforced flight deck door. Are you aware of the process by which TSA determined FAA adequately addressed the requirements? Under what circumstances, if any, would TSA have decided to use its own authority to address cockpit security?

Case Number	Case Title:
I180099	Whistleblower Disclosure – Flight Deck Issues

4. FAA issued a final rule in 2007. [redacted] advised TSA was included in the rulemaking which resulted in 14 CFR 121.582 - .584. Are you aware of the role TSA played in the rulemaking, and is there any documentation?

5. FAA issued the circular in 2015 with guidance to carriers for protection of the flight deck via three acceptable methods, including the human secondary barrier (flight crew and carts). Are you aware of how TSA determined FAA guidance adequately addressed the issue of secondary barriers and concluded TSA did not need to impose requirements under its own authority? Under what circumstances, if any, would TSA have decided it needed to use its own authority to address secondary barriers?

DD [redacted] provided a word document with a summary of the statutory requirements imposed on FAA and TSA, which showed that hardening of cockpit doors and secondary barriers was an FAA responsibility (attachment). In light of this, DD [redacted] said that the questions posed were not within the purview of his office. He said that the Federal Air Marshals, however, did have as their mission the protection of the flight deck, and suggested I speak with their office on these issues.

DD [redacted] also stated that TSA interfaces with the various airline industry groups, and that these groups requested Administrator [redacted] to address the secondary barrier issue. DD [redacted] provided an action memo from the Administrator to the Charmian of the Aviation Security Advisory Committee (ASAC), requesting an assessment of Secondary Barriers on Commercial Aircraft
(attachment).

Federal Aviation Administration (FAA) Authority

The FAA is statutorily charged with taking certain actions related to strengthening the cockpit door. Specifically, section 104 of the Aviation and Transportation Security Act, titled Improved Flight Deck Integrity Measures," mandated that the FAA issue an order requiring the strengthening of the flight deck door. The statute also authorized the FAA to develop and implement methods allowing the flightcrew to visually or otherwise monitor the cabin and door area outside the flight deck. In response to this mandate, the FAA issued a final rule on August 15, 2007 (Flightdeck Door Monitoring and Crew Discreet Alerting Systems), requiring a means for flight crews to visually monitor the door area outside the flight deck and requiring that flight attendants have a means to discreetly notify the flight crew of suspicious activity or security breaches in the cabin. See 72 FR 45629; Title 14 Code of Federal Regulations (CFR) part 121. The regulation does not specify which direction flight deck doors must open (inward or outward). See 14 CFR 121.582 and 121.584.

Although the statutory mandate does not address secondary barriers for flight deck security, the FAA issued an Advisory Circular (AC) on April 14, 2015 (AC No. 120-110), entitled "Aircraft Secondary Barriers and Alternate Flight Deck Security Procedures." In this AC, the FAA provided guidance to carriers on ways to achieve effective protection of the flight deck as required by 14 CFR 121.584(a)(1), and listed three acceptable methods of secondary flight deck security: installation of physical secondary barriers (IPSB); use of improvised non-installed secondary barriers (INSB); and human secondary barriers (flightcrew members).

AVIATION AND TRANSPORTATION SECURITY ACT:

SEC. 104. IMPROVED FLIGHT DECK INTEGRITY MEASURES.

(a) IN GENERAL. —As soon as possible after the date of enactment of this Act, the Administrator of the **Federal Aviation Administration** shall:

(1) issue an order (without regard to the provisions of chapter 5 of title 5, United States Code)—

(A) prohibiting access to the flight deck of aircraft engaged in passenger air transportation or intrastate air transportation that are required to have a door between the passenger and pilot compartments under title 14, Code of Federal Regulations, except to authorized persons;

(B) requiring the strengthening of the flight deck door and locks on any such aircraft operating in air transportation or intrastate air transportation that has a rigid door in a bulkhead between the flight deck and the passenger area to ensure that the door cannot be forced open from the passenger compartment;

(C) requiring that such flight deck doors remain locked while any such aircraft is in flight except when necessary to permit access and egress by authorized persons; and

(D) prohibiting the possession of a key to any such flight deck door by any member of the flight crew who is not assigned to the flight deck; and

(2) take such other action, including modification of safety and security procedures and flight deck redesign, as may be necessary to ensure the safety and security of the aircraft.

(b) IMPLEMENTATION OF OTHER METHODS. —As soon as possible after such date of enactment, the Administrator of the Federal Aviation Administration may develop and implement methods—

(1) to use video monitors or other devices to alert pilots in the flight deck to activity in the cabin, except that the use of such monitors or devices shall be subject to nondisclosure requirements applicable to cockpit video recordings under section 1114(c);

(2) to ensure continuous operation of an aircraft transponder in the event of an emergency; and

(3) to revise the procedures by which cabin crews of aircraft can notify flight deck crews of security breaches and other emergencies, including providing for the installation of switches or other devices or methods in an aircraft cabin to enable flight crews to discreetly notify the pilots in the case of a security breach occurring in the cabin.

(c) COMMUTER AIRCRAFT. —The Administrator shall investigate means of securing the flight deck of scheduled passenger aircraft operating in air transportation or intrastate air transportation that do not have a rigid fixed door with a lock between the passenger compartment and the flight deck and issue such an order as the Administrator deems appropriate to ensure the inaccessibility, to the greatest extent feasible, of the flight deck while the aircraft is so operating, taking into consideration such aircraft operating in regions where there is minimal threat to aviation security or national security.

FAA Regulations:

PROCEDURES FOR OPENING, CLOSING, AND LOCKING FLIGHT DECK DOORS

FAA Authorities: 14 CFR 25.772, 14 CFR 25.795, 14 CFR 121.313, 14 CFR 121.584, 14 CFR 121.587

A. Background.

1) Since September 11, 2001, the Federal Aviation Administration (FAA), has issued a series of new standards to protect flight decks from intrusion and penetration by small-arms fire 14 CFR 25.795. These have resulted in the installation of reinforced flight deck doors. On many flights the flight deck door cannot remain closed for the entire duration of the flight. On longer flights the flight deck door must be opened for crewmembers to access lavatory facilities, to transfer meals to aircrew, and also to switch crew positions on longer flights for crew rest purposes. The FAA has defined supplemental procedures in 14 CFR 121.584(a)(1), no one may unlock the flight deck door unless, "The area outside the flight deck door is secure."

2) On January 15, 2002, 14 CFR 25.772 was amended to require an emergency means to enable a flight attendant (F/A) to enter the flight deck should the flightcrew become incapacitated. The operational requirements found in 14 CFR 121.313(j)(1)(ii) were also amended on January 15, 2002, to require each operator to establish methods that enable an F/A to enter the flight deck in the event that a flightcrew member becomes incapacitated. As with 14

CFR 25.772, these methods are intended for use under emergency conditions and not for routine access to the flight deck. As such, aircraft electronic keypads or electronic pushbuttons installed in the cabin must be used only in emergency situations. (The only time the crew may use the emergency flight deck access procedure during normal operations is when the aircraft is on the ground, the flight deck door is closed and locked, and the flight deck is unoccupied.) Additionally, 14 CFR 121.313(g) states, in part, "...no person other than a person who is assigned to perform duty on the flight deck may have a key to the flight deck door." Therefore, any keys in the possession of cabin crewmembers that are used for opening bins or containers in the cabin cannot be capable of unlocking the flight deck door.

3) The flightdeck door must remain closed and locked, as required in 14 CFR 121.587(a); however, 14 CFR 121.587(b) allows the door to be opened under certain circumstances. FAA regulation 14 CFR 121.587 specifies requirements related to the closing and locking of the flight crew compartment door:

A. Except as provided in paragraph (b) of this section, a pilot in command of an airplane that has a lockable flight crew compartment door in accordance with 14 CFR 121.313(f) and that is **carrying passengers** shall ensure that the door separating the flight crew compartment from the passenger compartment is closed and locked at all times when the aircraft is being operated.

B. The provisions of paragraph (a) of this section do not apply at any time when it is necessary to permit access and egress by persons authorized in accordance with 14 CFR Part 121.547 and provided the 14 CFR Part 119 operator complies with FAA approved procedures regarding the opening, closing and locking of the flight deck doors.

4) Unless an air carrier has FAA-approved procedures under 14 CFR 121.587(b), the flight deck door must remain closed during flight time. In order to operate the flight deck door during flight time and permit flight deck access by persons authorized in accordance with 14 CFR Part 121.547, part 121 certificate holders must develop and use FAA-approved procedures regarding the opening, closing, and locking of the flight deck door. These FAA-approved procedures should be included in the operators' operations and F/A manuals. Additionally, 14 CFR 121.313 requires any associated signal or identity confirmation system to be easily detectable and operable by each flightcrew member from his or her duty station. To meet security needs of accomplishing an audio and visual identification, one person on the flight deck is required to visually identify the person seeking access through the viewing port or viewing device.

B. Certificate Holders' Procedures. Certificate holders' procedures must include at least the following:

1) Normal procedures for opening flightcrew compartment doors, to include:

a) Who is authorized to have access to the flight deck.

b) How a crewmember verifies the identity of a person requesting access to the flight deck. This process must include a positive means for flightcrew members to identify persons requesting entry to the flight deck and to detect suspicious behavior or a potential threat before unlocking the flight deck door. To meet security needs of accomplishing an audio and

visual identification, one person on the flight deck is required to identify visually the person seeking access through the viewing port or viewing device.

c) How flight deck door keypad access codes are disseminated (e.g., flight deck door keypad access codes may be disseminated through the certificate holder's normal manual process).

d) F/A procedures to verify that there are no passengers in any forward lavatory, and that no passengers are standing in the area surrounding the flight deck door.

e) F/A procedures for blocking the passenger aisle when the flight deck door is opened.

f) Procedures to ensure two persons are always on the flight deck. For two-person flightcrews, this means when one flightcrew member leaves the flight deck, another individual that is qualified in accordance with 14 CFR Part 121.547(a)(1)-(3), such as an F/A, must be present to lock the door and remain on the flight deck until the flightcrew member returns to his or her station.

2) Emergency electronic keypad or emergency pushbutton procedures, to include:

a) Events requiring the use of emergency procedures (e.g., pilot alerts).

b) Determining when the flightcrew is, or is suspected of being, incapacitated, or there is no response from the flight deck.

c) Keeping the flight deck door locked until an audio and visual verification of the person requesting entry is made.

d) How to determine whether a person requesting access is under duress.

e) How to determine when the flight deck door locking system may be taken out of the deny access position.

f) Flight deck crew procedures to follow when an electronic keypad or pushbutton is being used to gain unauthorized access to the flight deck.

g) When the flightcrew must take immediate action to deny access to the flight deck.

3) Crewmember training programs should include these procedures, associated crewmember duties and responsibilities, crew coordination, and emergency situation training modules in appropriate curriculum segments.

C. Principal Operating Inspector (POI) Approval Process. To comply with 14 CFR 121.587(b), POIs are to review and approve their assigned certificate holders' procedures in accordance with the current approval process found in this order and the guidance provided in this paragraph.

TSA Authority

Congress has not imposed any statutory mandate upon TSA relating to strengthening of the cockpit door or installation of secondary barriers as an added layer of protection between passengers and the flight deck. Rather, statutory authorities provided under the Aviation and

Transportation Security Act (ATSA) place broad responsibility on the TSA Administrator to address transportation security in all modes of transportation. See Title 49 United States Code (U.S.C.) 114(d). For example, the TSA Administrator is empowered to develop policies, strategies, and plans for dealing with threats to all modes of transportation. See 49 U.S.C. 114(f)(3). The Administrator also has general authority issue, rescind, and revise such regulations as are necessary to carry out TSA functions. 49 U.S.C.114(l)(1). Regarding coordinating with the FAA, ATSA provides that the TSA Administrator is required "to work in conjunction with the FAA Administrator with respect to actions or activities that may affect aviation security or air carrier operations." 49 U.S.C. 114(f)(13).

TSA Regulations

49 CFR § 1544.237 Flight deck privileges.

(a) For each aircraft that has a door to the flight deck, each aircraft operator must restrict access to the flight deck as provided in its security program.

(b) This section does not restrict access for an FAA air carrier inspector, an authorized representative of the National Transportation Safety Board, or for an Agent of the United States Secret Service, under 14 CFR parts 121, 125, or 135. This section does not restrict access for a Federal Air Marshal under this part.

U.S. Department of Homeland Security
601 South 12th Street
Arlington, VA 20598-6028

Transportation Security Administration

JUL 15 2018

ACTION

MEMORANDUM FOR: [redacted]
Administrator

THROUGH: [redacted]
Deputy Administrator

[redacted] /s/
Executive Assistant Administrator
Operations Support

FROM: [redacted] /s/
Assistant Administrator
Security Policy and Industry Engagement

SUBJECT: Letter to ASAC Chairman Requesting Assessment of Secondary Barriers on Commercial Aircraft

Purpose

To obtain your signature on the attached letter to the Chairman of the Aviation Security Advisory Committee (ASAC) requesting the committee assess the landscape of existing information on secondary barriers on commercial aircraft.

Background

The Aviation and Transportation Security Act, Section 104 (a)(1) required the Federal Aviation Administration (FAA), the lead Federal agency for flight deck security, to strengthen flight deck doors and locks and prohibit access to the flight deck.

Congress proposed legislation in 2013 requiring secondary cockpit barriers on all commercial aircraft. These barriers are placed in front of opened cockpit doors to prevent terrorists from rushing the flight deck and taking control of passenger aircraft when pilots open flight deck doors for operational needs, such as crew coordination or meal service. Since that time, the Transportation Security Administration (TSA) has partnered with the FAA to improve overall aircraft safety and security, including authorizing armed pilots, enhancing passenger screening, and deploying additional Federal Air Marshals on flights.

Discussion

Congressman Brian Fitzpatrick recently discussed with you his intention to draft legislation requiring secondary barriers on commercial aircrafts. You subsequently offered to task the ASAC with conducting an assessment including the advantages and disadvantages to help inform decisions on secondary barriers. To that end, the attached letter requests ASAC to complete and report the following by September 30, 2018:

- review existing documents and literature (e.g., circulars, white papers, reports) on secondary barriers;
- evaluate the types of secondary barriers that currently exist;
- evaluate the cost of adding such barriers; and
- include the number of airlines currently using or considering the use of secondary barriers and the selected method of secondary barrier security.

Your intention to ask the ASAC to review and evaluate certain issues related to secondary barriers has been coordinated with the FAA, who have no concerns about the review.

Recommendation:

Request you sign the attached letter to the Chairman of the ASAC.

Approve [redacted] 15th July 2018 Disapprove _____
Date Date

Modify _____ Needs more discussion _____
Date Date

Attachment:

Letter to ASAC Chairman Stephen A. Alterman

U.S. Department of Homeland Security
601 South 12th Street
Arlington, VA 20598

Transportation Security Administration

JUL 15 2018

Mr. Stephen A. Alterman
Chairman
Aviation Security Advisory Committee
c/o Cargo Airline Association
1620 L Street, NW
Washington, DC 20036

Dear Mr. Alterman:

I am writing to request the Aviation Security Advisory Committee (ASAC) assess the landscape of existing information on the issue of secondary barriers on commercial passenger aircraft.

As you know, in 2001, the Aviation and Transportation Security Act (ATSA), Section 104(a)(1) required the Federal Aviation Administration (FAA) to strengthen flight deck doors and locks and prohibit access to the flight deck. The statute also authorized the FAA to develop and implement methods allowing the flightcrew to visually or otherwise monitor the cabin and door area outside the flight deck. In response to this mandate, the FAA issued a final rule on August 15, 2007 (Flightdeck Door Monitoring and Crew Discreet Alerting Systems. *See* 72 FR 45629; Title 14 Code of Federal Regulations (CFR) part 121).

Although Congress has not imposed any statutory mandate on TSA relating to strengthening of the cockpit door or installation of secondary barriers, ATSA requires that the TSA Administrator "work in conjunction with the FAA Administrator with respect to actions or activities that may affect aviation security or air carrier operations." 49 U.S.C. 114(f)(13). Under ATSA, TSA also has general authority to address transportation security in all modes of transportation. 49 U.S.C. 114(d).

Since 2001, in partnership with the FAA as the lead Federal agency for flight deck security, TSA has taken steps to improve overall aircraft safety and security, including requiring reinforced cockpit doors, authorizing armed pilots, enhancing passenger screening, and deploying additional Federal Air Marshals on flights. Notwithstanding these efforts, the flight deck doors must still be opened during flights to provide pilots with access to the restroom, crew coordination, meal service, and for operational requirements related to safety.

In 2013, Congress proposed legislation requiring secondary cockpit barriers on all commercial aircraft. The secondary barriers would be placed in front of opened cockpit doors to prevent terrorists from rushing the flight deck and taking control of passenger aircraft while the flight deck door is unsecured during flight.

In 2015, the FAA published an Advisory Circular (Administration, 2015) addressing the issue with industry by developing guidance on onboard procedures to safeguard the flight deck when the flight deck door is unsecured during flight. The Advisory Circular listed three acceptable methods of secondary flight deck security: installation of physical secondary barriers (IPSB); use of improvised non-installed secondary barriers (INSB); and human secondary barriers (flightcrew members). TSA has coordinated with the FAA concerning my request to the ACAS below, and the FAA has no concerns.

I am requesting ASAC, in its assessment of secondary barriers:

- consult with the FAA with respect to activities or actions taken concerning air carrier operations that may affect the ASAC's assessment;

- review the attached documents and literature on secondary barriers (e.g., circulars, white papers, reports);

- evaluate the types of secondary barriers that are currently installed and in use onboard commercial passenger aircraft and/or are available to install onboard aircraft;

  evaluate the security risk of not having a secondary barrier and provide a cost benefit analysis should such barriers be required; and

- include the number of passenger airlines currently using a secondary barrier or are considering the use of secondary barrier onboard their aircraft.

Please provide your report to me by September 30, 2018. TSA's point of contact for this initiative is Ms. Victoria Newhouse, ASAC Executive Sponsor. She may be reached by telephone at (571) 227-2986, or via email at Victoria.Newhouse@tsa.dhs.gov. I appreciate your cooperation and look forward to your insights on this important issue.

Sincerely yours,

Administrator

Attachments:

1. U.S. Department of Transportation Office of Inspector General Report AV2017063
2. Secondary Barriers Advisory Circular 120-110
3. RTCA Aircraft Secondary Barriers and Alternative Flight Deck Security Procedures
4. Airline Pilots Association Secondary Fight Deck Barriers and Flight Deck Access Procedures

Supplemental Attachment 7

MEMORANDUM OF INTERVIEW OR ACTIVITY

Type of Activity:	Date and Time:
☐ Personal Interview ☒ Telephone Interview ☐ Records Review ☐ Other	September 7-12, 2018
Activity or Interview of: Supervisory Air Marshal in Charge (SAC) [redacted] TSA Training Center, Atlantic City, NJ	**Conducted by** SA [redacted] **Location of Interview/Activity:** Freedom Center

Subject Matter/Remarks

SAC [redacted] said that the Federal Air Marshal Service (FAMS) routinely works with the FAA on the issue of secondary barriers, providing advice and insights regarding threats to the flight deck, but that these discussions are seldom memorialized in written form. He said that the best example of this collaboration that was documented was the FAMS participation in the Requirements and Technical Concepts for Aviation (RTCA) Special Committee (AC) 221, formed to examine secondary barriers. SC 221 was a Federal Advisory Committee, chartered by the FAA, which issued a report in 2011 that eventually led to the issuance of FAA Advisory Circular #120-110, *Aircraft Secondary Barriers and Alternate Flight Deck Security Procedures*, in 2015. SAC [redacted] said that he led a group of FAM subject matter experts on this committee. He said that during the committee's tenure, TSA comments and concerns were well received and included in the decision making process.

Case Number	Case Title:
I180099	Whistleblower Disclosure – Flight Deck Issues

U.S. DEPARTMENT OF HOMELAND SECURITY

TRANSPORTATION SECURITY ADMINISTRATION

REPORT OF INVESTIGATION

CASE NUMBER: I18 0099 (Re-Opened) **OPR CASE:** NA

TITLE: Whistleblower Disclosure – Flight Deck Issues

CROSS REFERENCED CASES: OSC File No. DI-16-2046

SUBJECT(S): N/A

Name:
Duty title:
Pay band:
Duty location:
EOD:
Administrative Status:

ALLEGATION(S): OSC Whistleblower Disclosure

PERIOD OF INVESTIGATION: 04/13/2020 – 05/18/2020

CASE STATUS: Closed

INVESTIGATED BY: Special Agent [redacted]

REPORT BY: Special Agent [redacted]

June 2, 2020

[redacted] _____ _____

Date

Special Agent in Charge
Field Operations Branch
TSA Investigations

cc: ☐**Director, Professional Responsibility**

X **Chief Counsel**

☐ **Executive Assistant Administrator/Director, Federal Air Marshal Service**

☐ **Executive Assistant Administrator, Security Operations**

☐ **Chief, Personnel Security Section, Security Services and Assessment Division**

X **File**

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Executive Summary:

On October 11, 2018, TSA provided the Office of Special Counsel (OSC) its report in response to Federal Air Marshal (FAM) [redacted] disclosures. OSC characterized FAM [redacted] disclosures as follows: TSA failed to require aircraft operators to (1) strengthen and implement flight deck doors that open outward and away from the flight deck and (2) install secondary barriers, which function as a second layer of protection between the passenger area and the flight deck. On April 9, 2020, OSC requested a supplemental report to clarify information contained in the previously submitted report.

OSC requested clarification on the following:

1. *In the cover letter of the report, it states that the "AC[1] provided the three acceptable methods of secondary flight deck security listed in the RTCA study[2] . . . To date, all aircraft carriers are in compliance with the AC by utilizing one of the three methods of secondary flight deck security." See Cover letter, page 2, para 2.*
   - *What information is DHS relying on in making the latter statement regarding all aircraft carriers being in compliance?*
   - *The report states that according to an "FAA Inspector who was interviewed, to the best of her knowledge, all U.S. air carriers are in compliance with the AC." See Report, page 6, "Finding #2."*
     - *Is this inspector's testimony the only basis for the agency asserting that "To date, all aircraft carriers are in compliance with the AC by utilizing one of the three methods of secondary flight deck security?"*
     - *If yes, please explain why DHS is solely relying on this inspector's statement as evidence of industry compliance.*

The Federal Aviation Administration (FAA) provided additional detail regarding air carrier compliance with secondary flight deck security. Air carriers are required to comply with an FAA regulation, which states that the area outside the cabin door must be secure during flight (14 CFR. § 121.584). Advisory Circular (AC) 120-110 describes three acceptable methods of secondary flight security. These methods are an acceptable means, but not the only means, for an air carrier to comply with pertinent regulatory requirements.

[1] Federal Aviation Administration Advisory Circular 120-110, entitled *Aircraft Secondary Barriers and Alternate Flight Deck Security Procedures*, dated April 14, 2015. This AC is not mandatory and does not constitute a regulation. It describes an acceptable means, but not the only means, to achieve protection of the flight deck as required in 14 § CFR 121.584. This AC is contained as part of Attachment 3 in TSA's 2018 report.
[2] RTCA Document (RTCA/DO-329) *Aircraft Secondary Barriers and Alternative Flight Deck Procedures*, dated September 28, 2011. AC 120-110 identifies RTCA/DO-329 as a means of compliance to 14 § CFR 121.584(1)(a).

An FAA inspector provided that compliance with regulations is verified by FAA Aviation Safety Inspectors. The FAA conducts inspections of air carriers' written manuals and procedures, to confirm that the air carrier has established procedures to ensure compliance with FAA regulations (namely, procedures to confirm that the area outside the flightdeck door is secure). The FAA similarly conducts field observations and inspections to confirm that the air carrier is following its approved procedure for unlocking the cockpit door while the aircraft is being operated.

An FAA Supervisory Aviation Inspector advised that all air carriers are in compliance with 14 CFR § 121.584. All air carriers are in compliance with the requirement to have written procedures in place, and air carriers that were observed during onsite inspections not to be following their written procedures have been corrected.

2. *In the cover letter of the report, it states that TSA sought guidance in 2018 from the Aviation Security Advisory Committee[3] regarding the effectiveness of secondary barriers. It noted that the report was not finished at that time. See Cover letter, page 2, para 3.*
   - *Has the report been completed? If not, what is the status and the expected completion date?*
   - *If the report has been completed, we ask that the agency provide OSC with a copy of the report, its findings, and a summary of any actions taken in response to that report.*

The Report of the Aviation Security Advisory Committee (ASAC), titled *Secondary Barriers on Commercial Passenger Aircraft*, was completed in December 2018. While the working group found consensus on the need for some type of secondary barrier system to protect against cockpit intrusions, it did not come to a consensus on the need for *installed* physical secondary barriers.

A TSA Liaison to FAA reported that TSA and FAA engaged in discussions at the conclusion of the working group sessions. The two agencies concurred that no further action would be taken as a result of the report, as the working group did not reach consensus. TSA concurred with the FAA that creation of a regulatory requirement for airlines to design/install secondary barriers in existing aircraft was not seen as a benefit that outweighed the burden and cost to the industry, in light of the layered security measures already in place.

[3] In July 2018, the TSA Administrator asked the Aviation Security Advisory Committee (ASAC) to "assess the landscape" of secondary barriers on commercial passenger aircraft. In response to this request, ASAC created an *ad hoc* Secondary Barriers Working Group comprised of government and industry experts. TSA's original request to the ASAC Chairman is contained in Supplemental Attachment 6 of TSA's 2018 report. ASAC's December 2018 report is contained in Attachment 2a of this report.

ORIGIN OF CASE:

On January 18, 2018, the Office of Special Counsel (OSC) notified the Department of Homeland Security (DHS) Secretary of a whistleblower disclosure. The DHS Office of Inspector General (OIG) declined to investigate in lieu of an investigation conducted by TSA. On February 5, 2018, TSA's Office of Chief Counsel (OCC), provided the following information to the Office of Inspection (OOI): Federal Air Marshal (FAM) [redacted] alleged two whistleblower disclosures which might affect aviation security:

1. TSA failed to require aircraft operators to strengthen and implement flight deck doors that open outward and away from the flight deck; and

2. TSA failed to require aircraft operators to install secondary barriers which function as a second layer of protection between the passenger area and the flight deck.

A Report of Investigation (ROI) was completed on September 26, 2018, and provided to the Office of Special Counsel (OSC) on October 11, 2018.

On April 9, 2020, OSC notified OCC of supplemental questions based on the previously provided report.

Supplemental Question #1:

In the cover letter of the report, it states that the "AC provided the three acceptable methods of secondary flight deck security listed in the RTCA study . . . To date, all aircraft carriers are in compliance with the AC by utilizing one of the three methods of secondary flight deck security." See Cover letter, page 2, para 2.

- What information is DHS relying on in making the latter statement regarding all aircraft carriers being in compliance?
- The report states that according to an "FAA Inspector who was interviewed, to the best of her knowledge, all U.S. air carriers are in compliance with the AC." See Report, page 6, "Finding #2."
  - Is this inspector's testimony the only basis for the agency asserting that "To date, all aircraft carriers are in compliance with the AC by utilizing one of the three methods of secondary flight deck security?"
  - If yes, please explain why DHS is solely relying on this inspector's statement as evidence of industry compliance.

Finding #1:

Additional information was provided by FAA regarding the statement that all airlines are in compliance with flight deck security regulations. (Attachment 1) Aircraft operators are required to comply with an FAA regulation (14 CFR § 121.584). The regulation provides in relevant part that "no person may unlock or open the flightdeck door unless the area outside the flightdeck door is secure." AC 120-110 provides guidance to air carriers and conveys three effective and acceptable methods to best protect the flight deck during door transition, but these methods are not mandatory. Airlines that are using these methods do so because they have been recognized by FAA as acceptable means of complying with the regulation.

The FAA clarified that compliance with 14 CFR § 121.584 is verified by the FAA through reviews of airline manuals and in-person inspections of procedures. FAA reviews and inspections have determined that all airlines have manuals and written procedures that provide adequate protection of the flight deck during the opening of the cabin door during flight. FAA onsite inspections that have resulted in findings of airlines not following their procedures have been corrected. All airlines are currently in compliance with regulation 14 CFR § 121.584.

Supplemental Question #2:

In the cover letter of the report, it states that TSA sought guidance in 2018 from the Aviation Security Advisory Committee (ASAC) regarding the effectiveness of secondary barriers. It noted that the report was not finished at that time. See Cover letter, page 2, para 3.

- Has the report been completed? If not, what is the status and the expected completion date?
- If the report has been completed, we ask that the agency provide OSC with a copy of the report, its findings, and a summary of any actions taken in response to that report.

FINDING #2:

The ASAC report entitled *Secondary Barriers on Commercial Passenger Aircraft* was completed in December 2018. (Attachment 2a) The report relayed that the working group, comprised of government and industry security experts, found consensus on the need for some type of secondary barrier system to protect against cockpit intrusions when the hardened door is opened. However, the working group did not reach a consensus on the issue of installing secondary barriers on existing aircraft. The report also stated that Congress passed a law in 2018 directing FAA to ensure future aircraft are constructed with secondary barriers.

The TSA liaison to FAA reported that TSA and FAA engaged in discussions at the conclusion of the working group sessions and determined no further action was necessary. This was based on two main factors: (1) the working group failing to reach

consensus on a recommendation and (2) Congress' passing of legislation requiring only *future* aircraft to install secondary barriers. A TSA Industry Engagement Manager reported that internal discussions within TSA and FAA ultimately ended in concurrence, and the belief that existing measures (primary cockpit reinforced doors, Federal Flight Deck Officer (FFDO) program, Common Strategy training, etc.) sufficiently addressed the concern of secondary barriers in existing aircraft. He also reported that the creation of a regulatory requirement for airlines to design/install secondary barriers in existing aircraft was not seen as a benefit that outweighed the burden and cost to the industry, in light of the layered security measures already in place.

ATTACHMENTS	
Attachment Number	**Description**
1	MOI of Interviews with FAA Inspectors; dated April 13 – May 7, 2020
2	MOI of Interview with TSA Policy, Plans and Engagement personnel and receipt of ASAC report on *Secondary Barriers on Commercial Passenger Aircraft*; dated May 18, 2020

Attachment #1

MEMORANDUM OF INTERVIEW OR ACTIVITY

Type of Activity:	Date and Time:
☐ Personal Interview ☒ Telephone Interview ☐ Records Review ☐ Other	April 13 to May 7, 2020
Activity or Interview of: [redacted], Inspector Air Transportation Division [redacted], Inspector Safety Analysis and Promotion Division [redacted] Supervisory Aviation Inspector Assistant Program Office Manager, Continual Improvement Program Office Safety Analysis and Promotion Division	Conducted by SA [redacted] Location of Interview/Activity: [redacted] COVID-19 Telework Procedures

Subject Matter/Remarks

The following question was received from the Office of Special Counsel (OSC) in regards to the previously submitted Report of Investigation under this file number:

In the cover letter of the report, it states that the "AC provided the three acceptable methods of secondary flight deck security listed in the RTCA study . . . To date, all aircraft carriers are in compliance with the AC by utilizing one of the three methods of secondary flight deck security."

- What information is DHS relying on in making the latter statement regarding all aircraft carriers being in compliance?
- The report states that according to an "FAA Inspector who was interviewed, to the best of her knowledge, all U.S. air carriers are in compliance with the AC."
    - Is this inspector's testimony the only basis for the agency asserting that "To date, all aircraft carriers are in compliance with the AC by utilizing one of the three methods of secondary flight deck security?"
    - If yes, please explain why DHS is solely relying on this inspector's statement as evidence of industry compliance.

Additional investigation regarding this issue was conducted in response to the OSC questions. The following FAA procedures provide greater detail regarding the statement that aircraft carriers are in compliance with the requirement to protect the area around the flight deck door during flight.

Inspector [redacted] was re-interviewed on April 13 and May 5, 2020 and provided a more in-depth explanation of Advisory Circulars and Regulations. [redacted] stated that (AC) 120-110, Subject: Aircraft Secondary Barriers and Alternate Flight Deck Security Procedures, dated April 14, 2015 was an Advisory Circular that provided the airlines with guidance to achieve effective protection of the flight deck, as required by Title 14 of the Code of Federal Regulations (14 CFR) part 121.584(1)(a). This AC is not mandatory and does not constitute a regulation. It describes an acceptable means, but not the only means, to comply with pertinent regulatory requirements. It is guidance for what is required by regulation (14 CFR) part 121.584(1)(a).

This mandatory regulation, (14 CFR) part 121.584(1)(a), includes:

The requirement to view the area outside the flight deck door, and

From the time the airplane moves in order to initiate a flight segment through the end of that flight segment, no person may unlock or open the flight deck door unless:

> *(a) A person authorized to be on the flight deck uses an approved audio procedure and an approved visual device to verify that:*
>
> > *(1) The area outside the flight deck door is secure, and;*
> >
> > *(2) If someone outside the flight deck is seeking to have the flight deck door opened, that person is not under duress…;*

In regards to how FAA verifies that airlines are in compliance with the regulation, [redacted] provided the name of [redacted] Aviation Safety Inspector (Cabin Safety), Aviation Safety, Safety Analysis and Promotion Division, AFS-910, Continual Improvement Program Office, Technical Support Team.

Inspector [redacted] was interviewed on April 29 and May 5, 2020, and provided information that compliance with regulations is verified by FAA Aviation Safety Inspectors (ASI) through Element Design Data Collection Tools (ED DCT) and Element Performance Data Collection Tools (EP DCT). Element Design Data Collection Tools (ED DCT) are inspections of the certificate holder's written manuals and procedures. These tools measure a certificate holder's operating system manuals to confirm that the certificate holder has established procedures to ensure compliance with FAA regulations. Data collected through field inspections using the Element Performance Data Collection Tools (EP DCT) confirms the certificate holder is following its procedures and producing the intended result.

Inspector [redacted] provided the following ED DCT questions that are asked in regards to regulation (14 CFR) part 121.584(1)(a). (Note that AC-120-110 is also referenced in the question, as guidance for the regulation):

QID 2485
Do the procedures specify that, from the time the airplane moves to initiate a flight segment through the end of that flight segment, a person may not unlock or open the flight deck door unless a person authorized to be on the flight deck uses an approved audio procedure and an approved visual device to verify that:
#1 The area outside the flight deck door is secure;
#2 If someone outside the flight deck is seeking to have the flight deck door opened, that person is not under duress; and
#3 After these requirements have been satisfactorily accomplished, the crewmember in charge on the flight deck authorizes the door to be unlocked and open?

REFERENCES: 121.584, 121.584(a), 121.584(b), AC-120-110

Inspector [redacted] provided the following EP DCT question, used during field observations/inspections, to confirm the certificate holder is following regulation (14 CFR) part 121.584(1)(a) procedures and producing the intended result (Note that AC-120-110 is also referenced in the question, as guidance for the regulation):

QID 12886
Did the flight crewmembers follow the approved procedure for unlocking or opening the cockpit door while the aircraft was operated?
REFERENCES: 121.584, AC-120-110

If it is determined via inspections using the ED DCT and EP DCT process that airlines (certificate holders) are not in compliance with the required regulation, the FAA employs either Compliance Actions or Enforcement Actions to correct the problem. A 'Compliance Action' is a method used to correct unintentional deviations or noncompliance that arise from factors such as flawed procedures, simple mistakes, lack of understanding, or diminished skills. 'Enforcement Actions' are either administrative enforcement actions, and include streamlined actions, warning notices, or letters of correction; or legal enforcement actions that include sanctions.

FAA Supervisory Aviation Inspector [redacted] was interviewed on May 5 and 7, 2020 regarding current compliance with regulation (14 CFR) part 121.584. [redacted] stated that if there are negative findings on any of the responses to the above questions the inspector must take an action to rectify the issue. He said that after review of the historical surveillance safety data available in FAA records, it was determined there are no 14 CFR part 121 certificate holders (airlines) that are not in compliance with 14 CFR part 121.584. He said there have been several instances of airline personnel not following their approved procedures for flight deck door transitions. In each case, the airline subsequently completed the required compliance actions, verified by the FAA Certificate Management Team, and the airlines remained in compliance.

Attachment #2

MEMORANDUM OF INTERVIEW OR ACTIVITY

Type of Activity:	Date and Time:
☐ Personal Interview ☒ Telephone Interview ☐ Records Review ☒ Other	April 15 to May 18, 2020
Activity or Interview of: [redacted] Acting Deputy Executive Director – Aviation Policy, Plans, and Engagement [redacted] Industry Engagement Manager - Aviation Division Policy, Plans, and Engagement [redacted] TSA Liaison to FAA Policy, Plans, and Engagement	Conducted by SA [redacted] Location of Interview/Activity: Teleworking COVID-19 Telework Procedures

Subject Matter/Remarks

The following question was forwarded from the Office of Special Counsel (OSC) in regards to the previously submitted Report of Investigation under this file number:

In the cover letter of the report, it states that TSA sought guidance in 2018 from the Aviation Security Advisory Committee (ASAC) regarding the effectiveness of secondary barriers. It noted that the report was not finished at that time.

a. Has the report been completed? If not, what is the status and the expected completion date?

b. If the report has been completed, we ask that the agency provide OSC with a copy of the report, its findings, and a summary of any actions taken in response to that report.

On April 22, 2020, [redacted] provided a copy of the ASAC report titled 'Secondary Barriers on Commercial Passenger Aircraft', dated December 2018, which states the working group found consensus on the need for some type of secondary barrier system to protect against cockpit intrusions, but it did not come to a consensus on the need for installed physical secondary barriers. (Attachment) The report noted that Congress passed a law in 2018 directing FAA to ensure future aircraft are constructed with secondary barriers.

On April 23, 2020, [redacted] stated that the report was received by the TSA Administrator in December 2018. He said that between the ASAC report and input from a variety of stakeholders, there was no consensus on a way forward in regard to secondary barriers. As a result, no additional taskings were received by his office.

On May 13, 2020, [redacted] stated that internal discussions within TSA and FAA ultimately ended in concurrence and the belief that existing measures (primary cockpit reinforced doors, FFDO program, Common Strategy training, etc.) sufficiently addressed the concern. The creation of a regulatory requirement for airlines to design/install secondary barriers in existing aircraft was not seen as a benefit that outweighed the burden and cost to the industry, in light of the layered security measures already in place.

[redacted] also provided the following language from H.R.302 - FAA Reauthorization Act of 2018, which was passed into law in October 2018:

SEC. 336. <<NOTE: Saracini Aviation Safety Act of 2018.>>
SECONDARY COCKPIT BARRIERS.

(a) <<NOTE: 49 USC 44903 note.>> Short Title.--This section may be cited as the ``Saracini Aviation Safety Act of 2018".

(b) Requirement. -- Not later than 1 year after the date of the enactment of this Act, the Administrator of the Federal Aviation Administration shall issue an order requiring installation of a secondary cockpit barrier on each new aircraft that is manufactured for delivery to a passenger air carrier in the United States operating under the provisions of part 121 of title 14, Code of Federal Regulations.

[redacted] stated that TSA liaison to FAA, [redacted] could possibly provide additional information.

On May 15, 2020, [redacted] said that the Chairman of the ASAC committee on Secondary Barriers, [redacted], stated the following in his transmittal email of the report to the working group:

"Attached is the Final Report of the Secondary Barrier Working Group. As you will note, in view of a lack of consensus among the Working Group members, the report is simply informational, with no recommendations and with Working Group members advancing their own opinions on whether installed secondary barriers should be required on commercial passenger aircraft."

[redacted] also said that the discussions between TSA and FAA, concurring that no additional action would be taken regarding existing aircraft, occurred at the conclusion of the working group sessions. He said these decisions were made when it was clear that the Secondary Barrier Working Group was not going to come to a consensus regarding a recommendation, and after Congress passed legislation requiring only future aircraft to include secondary barriers. He said that those involved in these discussions included himself, [redacted] (former TSA Deputy Director of Aviation), and members of the FAA providing support to the Working Group, [redacted], [redacted], and [redacted].

REPORT OF THE AVIATION SECURITY ADVISORY COMMITTEE

SECONDARY BARRIERS ON COMMERCIAL PASSENGER AIRCRAFT

DECEMBER 2018

Executive Summary

Protection of the aircraft flight deck is a primary goal of numerous layers of aviation security. In recognition of that fact, and shortly following the attacks of 9/11, Congress required the Federal Aviation Administration (FAA) to strengthen flight deck doors and locks and prohibit access to the flight deck. Congress also called on FAA to implement methods of securing the area in front of the flight deck door.

In July 2018, the TSA administrator asked the Aviation Security Advisory Committee (ASAC) to "assess the landscape" of secondary barriers on commercial passenger aircraft. In response to this request, ASAC created an *ad hoc* Secondary Barriers Working Group (the WG). This working group, composed of government and industry security experts, has reviewed extensive documentation and presents its findings in this report.

Subsequent to the ASAC receiving the TSA's tasking, Congress took the additional step in October 2018 of mandating that FAA issue an order requiring installation of a secondary cockpit barrier on each new aircraft that is manufactured for delivery to a 14 CFR 121 U.S. passenger air carrier.

The WG found consensus on the need for some type of secondary barrier system (SBS) to protect against cockpit intrusions when the hardened door is opened. This consensus is also reflected in current FAA regulations. However, the group does not have consensus on the need for *installed* physical secondary barriers (IPSBs). A survey of airlines shows that two U.S. air carriers have installed IPSBs on some aircraft, but no others currently have plans to equip their fleets with them.

Due to the lack of consensus concerning the need for costs and benefits of IPSBs, each organization was invited to express its own views and rationale for either supporting or not supporting IPSB equipage, and to provide other relevant information in support of their respective positions. This approach should provide TSA with a well-rounded understanding of all proffered viewpoints and arguments, both pro and con, in addition to the other information requested.

I. Background

By letter dated July 15, 2018, TSA Administrator [redacted] requested that the ASAC "assess the landscape of existing information on the issue of secondary barriers on commercial passenger aircraft." Following are the specific requests listed in the administrator's letter:

1. Consult with the FAA with respect to activities or actions taken concerning air carrier operations that may affect the ASAC's assessment;
2. Review documents and literature attached to the letter (Advisory Circulars, white papers, reports, etc.);
3. Evaluate the types of secondary barriers that are currently installed and in use onboard commercial passenger aircraft and/or are available to install onboard aircraft;
4. Evaluate the security risk of not having a secondary barrier and provide a cost-benefit analysis should such barriers be required; and
5. Include the number of passenger airlines currently using a secondary barrier or are considering the use of secondary barriers onboard their aircraft.

In response, ASAC convened an *ad hoc* Secondary Barrier WG (the WG) to review the administrator's request and provide the subject-matter expertise needed to answer the various questions presented. The WG was co-chaired by ASAC Chairman [redacted] and TSA Federal Aviation Administration (FAA) Liaison [redacted] and included pilots, flight attendants, aircraft mechanics, air carriers, general aviation, aircraft manufacturers, and the FAA and met in Washington, D.C., on September 6, 2018. A complete list of WG participants is included as Appendix A, which includes TSA and FAA support personnel.

The WG has assembled a great deal of data and positions on the issue of flight deck protection on commercial passenger aircraft, not all of which was discussed during the meeting on September 6. Airline labor interests argue that the installation of secondary barriers is necessary for flight deck protection, while manufacturers and aircraft operators contend that existing protections are adequate. The FAA also continues to maintain that existing procedures provide adequate flight deck protection.

In a significant development that occurred after the TSA's tasking to ASAC, on October 5, 2018, the president signed the FAA Reauthorization Act of 2018 (Public Law 115-254). Section 336(b) of this law provides that:

> Not later than 1 year after the date of the enactment of this Act, the Administrator of the Federal Aviation Administration shall issue an order requiring installation of a secondary cockpit barrier on each new aircraft that is manufactured for delivery to a passenger air carrier in the United States operating under the provisions of part 121 of title 14, Code of Federal Regulations.

Accordingly, installed secondary barriers will be required equipment on new passenger aircraft in the future. The legislation does not, however, address whether they should or will be installed on aircraft currently in the fleet.

A. Defining the Scope

The first issue arising out of the tasking letter concerned the definition of "secondary barrier" within the context of the questions raised by TSA. Several WG members submitted that the scope should be limited to installed physical secondary barriers and believe that is the TSA's intent within the tasking. Others argued that the definition should be broader and should include improvised barriers and human secondary barriers. The WG did not reach consensus on this question, as is explained in further detail in this report. However, a discussion of the perceived advantages and disadvantages of IPSBs necessarily includes a comparison between them and other measures used to protect the flight deck. The WG representatives provided their views on the scope issue during the meeting and within their respective sections of this report.

B. Current Practice

Federal Aviation Regulation 14 CFR §121.584 provides in relevant part that "no person may unlock or open the flightdeck door unless the area outside the flightdeck door is secure." FAA Advisory Circular (AC) 120-110, "Aircraft Secondary Barriers and Alternate Flight Deck Security Procedures," sets forth three means of compliance with §121.584, all of which are referenced in RTCA DO-329, Section 2:

1. Installation of an installed physical secondary barrier (IPSB)
2. Use of an Improvised non-installed secondary barrier (INSB)
3. Use of human secondary barriers (i.e., flightcrew members)

Air carriers must "present the method and objective evidence of compliance" to their FAA principal operations inspector (POI) for approval. FAA has informed the WG that it believes that any of the methods described above are adequate and that the cost of mandating IPSBs outweighs any safety or security benefits obtained thereby.

II. Answers to Taskings

Following are the WG's responses to the specific questions included in the administrator's tasking letter:

1. Consult with the FAA with respect to activities or actions taken concerning air carrier operations that may affect the ASAC's assessment.

- The FAA has been consulted and has been made a participant of the Secondary Barrier WG. Representatives of both the FAA Flight Standards and Aircraft Certification Services participated.

2. Review documents and literature attached to the letter (Advisory Circulars, white papers, reports, etc.).
   - The WG has reviewed the documents attached to the tasking letter and the contents of these documents have been used in the WG's deliberations.

3. Evaluate the types of secondary barriers that are currently installed and in use onboard commercial passenger aircraft and/or are available to install onboard aircraft.
   - Airlines for America (A4A) conducted a survey of U.S. passenger airlines in response to this task. The survey, provided as Appendix B, reveals that two U.S. passenger airlines are using IPSBs and that they are equipment on only a portion of their fleets. A4A states that the direct cost of the barriers used by these airlines ranged from $15,000 to $55,000, but the direct costs could be greater for other types of aircraft. No other carriers indicated that they are planning to install secondary barriers in the future.
4. Evaluate the security risk of not having a secondary barrier and provide a cost benefit analysis should such barriers be required.
   - The WG does not have a consensus position on this question. The views of the WG members on this question are contained in Section III, as they have chosen to provide them.

5. Include the number of passenger airlines currently using a secondary barrier or are considering the use of secondary barriers onboard their aircraft.
   - This is answered in question number 3 above and in Appendix B.

III. Responses to Tasking Number 4

As stated above, the responses to tasking number 4 vary considerably among the members of the WG—there is *no* consensus. To provide TSA with the clearest picture of these differing views, and to permit the members to express themselves as they wished, it was determined that the report should include responses to this tasking as proffered by "blocs" of organizations, specifically:

1. Aircraft manufacturers
2. Air carriers

3. Airline pilots
4. Airline flight attendants and aircraft mechanics

Following are the responses to tasking number 4 from these differing viewpoints:

1. Aircraft Manufacturers

A. Reply to Assigned Action Item

To assess the financial impact of any requirement to install IPSBs, the manufacturer members of the WG (i.e., Airbus, Boeing, Embraer, Bombardier, and GAMA) were tasked with an action item to provide a description of the cost drivers involved in the installation of secondary barriers in passenger aircraft. The following items should be considered as part of a cost-benefit analysis:

- Establishing a requirement for IPSBs for commercial airplanes in 14 CFR Part 121 service introduces several additional costs. The costs identified in the TSA's report to Congress[i] significantly underestimated the overall cost of IPSBs.
- Unlike the secure, hardened cockpit door—for which certain funds were made available by Congress—the cost of IPSBs is expected to be borne by industry (i.e., operators and manufacturers).
- There is currently a lack of clarity about existing secondary barrier guidance. The lack of clarity calls into question exactly which pathways to compliance would be acceptable to the regulatory bodies. The lack of clear guidance will drive additional costs into the certification process unless further addressed by Federal Aviation Administration (FAA). However, specific cost drivers that should be considered as part of any cost-benefit analysis that would accompany an FAA regulation requiring installed secondary barriers include aircraft design changes, operator costs, and additional considerations, as explained below.

Aircraft Design Changes

Configuration—The potential impact on aircraft and monument structure must be considered, which depend on the aircraft type and cabin layout.[ii] As an example, structure and monuments may have to be reinforced to ensure that the secondary barrier can be attached and meet certain standards (e.g., imparted energy identified in RTCA DO-329, Section 2.1.3) and existing regulations. Unlike when the requirement was introduced for hardened flight deck doors (i.e., 14 CFR 25.795), where existing bulkheads and door structures were in place and simply modified, an IPSB would require additional aircraft design layout changes beyond the installation of a device.

Interior configurations without monuments on either side of the aisle or a single monument on only one side of the aisle involve still more very significant design layout changes to accommodate secondary barriers.

The DO-329 standard does not specify with accuracy the distance from the reinforced cockpit door to the barrier. The specification is subjective (e.g., "adequate area"). An inadequate interpretation of this "adequate area" could prevent the creation of a safe zone for the pilots (see next item).

On some aircraft interior configurations, (i.e., regional aircraft and single-aisle aircraft with narrow flight deck door approach aisles), the restricted area outside of the cockpit door is not large enough to effectively isolate the vestibule area created by the secondary barrier from the cabin while the flight deck door is opened.

Additionally, flight crew accessibility to emergency equipment may become restricted for regional carriers in narrow-aisle aircraft. In some configurations, the emergency equipment is installed in the forward wardrobe (e.g., megaphone, fire extinguisher bottles, etc.). This is needed due to the lack of alternate locations in some higher-capacity configurations or for safe storage. The wardrobe could end up forward of the installed secondary barrier system location and the installed emergency equipment could then become inaccessible to the cabin crew in an emergency situation. For some aircraft configurations, even in the standard forward cabin installation locations, required emergency equipment may ultimately be separated from cabin crew by a secondary barrier.

Establishing a requirement for an IPSB that conforms to the current DO-329 definition would limit the ability to use high-density cabin configurations and likely reduce the number of possible seats, because of requirements to have a distance between the hardened flight deck door and the IPSB. This could directly impact the operator's revenue opportunity.

Certification—Current Supplemental Type Certificate (STC) solutions were certified with safety, not security, performance objectives and would require recertification under any new requirements. The engineering development costs are not a single event for the aircraft OEM or third-party provider, but would be required for each airplane model and cabin configuration. *One size will not fit all.* In addition to the engineering development cost, each installation would drive additional certification costs between the applicant and the FAA including the changes that would be required to be approved by the FAA, such as the Aircraft Flight Manual (AFM) and other procedure documents. Considerations in this regard include the following:

- Any new or retrofit design for an IPSB must demonstrate compliance with the existing governing regulations (i.e., flight and cabin crew flight deck egress and ingress, rescue crew ingress, decompression, structural loads, electrical [if required], intended function, etc.).

- Review of existing evacuation certification for each aircraft configuration including flight crew egress to ensure continued compliance.
- Review of other existing certifications for each aircraft configuration including decompression, structural loads, rescue crew ingress, etc., to ensure continued compliance.
- Review of existing evacuation certification for each aircraft configuration including potential flammability considerations (e.g., if netting is utilized) to ensure continued compliance.
- The costs for new airplane design compared to retrofit solutions would vary greatly.
- Other document revisions and certification (e.g., MMEL, FOM)[iii]

Operator Costs—Aircraft operators will experience additional costs related to the carriage and maintenance of IPSBs, including the following:

- Weight penalty, including required additional fuel. Estimates from A4A of the overall weight are approximately 75 pounds on current installations for cables and nets that use existing monuments. Secondary barrier requirements that establish a need to reinforce aircraft structure would significantly increase the weight penalty on the operator.
- Maintenance
- Spares
- Failure and associated out of service/dispatch costs (e.g., MMEL, DDG)
- Crew and pilot training
- Aircraft manuals (e.g., AFM, AOM)
- Need for additional equipment
- Need for part number re-identification and new installation number
- Interior interchangeability

Additional Considerations—There are other considerations that would need to be addressed should the government require IPSBs, including the following:

- The rulemaking process and associated standards would need to be harmonized among international regulatory authorities (i.e., FAA/EASA/TCCA and ANAC).
- The data approval required for compliance will need to be defined, and the applicability according to an aircraft's airworthiness characteristics (i.e., regional commercial aircraft, single-aisle commercial, or wide-body commercial aircraft).

- Consideration should be given to the FAMS' requirement [redacted]
- Cabin crew workload

B. Background and Discussion

Following the attacks on 9/11, the secretary of transportation formed a Rapid Response Team (RRT) on Aircraft Security which made a number of recommendations to immediately enhance aircraft security, one of which concerned flight deck protection:

> Recommendation 1: We recommend that some appropriate barrier device be approved, and installation begin within 30 days. Installation throughout the entire U.S. fleet should be completed in 90 days. We recommend that FAA enable the installation of these devices through urgent regulatory action that provides the airlines with a simple, expedited method for approval and installation.

The intent of this recommendation was instituted in SFAR 92, published in October 2001, which allowed the airlines to immediately install normally noncertifiable devices (e.g., Katy Bars) that essentially barricaded the flight deck door while giving relief to certain regulations until enhanced security flight deck doors could be developed, tested, certified, and deployed for new airplanes and retrofit kits. This action satisfied this RRT recommendation. This recommendation did not refer to secondary barriers directly.

Another recommendation led to the creation of 14 CFR 121.584 in 2007 through Amendment 121-334. The NPRM summary states in part, "The FAA also proposed to add the new Sec. 121.584. This would prohibit unlocking or opening the flightdeck door unless a person authorized to be on the flightdeck uses an approved audio procedure and an approved visual device to verify that: (1) The area outside the flightdeck door is secure; and (2) if someone outside the flightdeck door is seeking to have the flightdeck door opened, that person is not under duress."

Neither the RRT recommendation, SFAR 92, nor the changes resulting from Amendment 121-334 lead directly to a mandatory requirement for an installed physical secondary barrier. However, they did lead to the FAA establishing the three acceptable methods of securing the area outside the secure flight deck door to demonstrate compliance to 14 CFR 121.584; an IPSB, an INSB or the use of human secondary barriers (i.e., flightcrew members), all of which are actively used in the industry today, singly or in combination, which allow the airlines flexibility in establishing effective FAA-accepted security programs and procedures.

It should be noted that in a survey conducted by A4A (see Section III.2), only two of the domestic airlines contacted indicated that they are installing or have installed IPSBs. Of those, the one carrier's design that is often cited as an inexpensive design in TSA's report to Congress in response to the Intelligence Reform and Terrorism Prevention Act of 2004 and other reports including those provided to the participants of this meeting, was only installed on 52 of that carrier's airplanes and is no longer being installed due to increasing costs of materials and an absence of the need for it due to other approved procedures. Further, these designs were not qualified to the proposed RTCA DO-329 requirements, which was not published until much later. In-house estimates by the manufacturers show that the actual costs associated with full qualification of a representative IPSB design using these requirements are many magnitudes higher than this oft-quoted proposed low-cost solution.

The FAA-accepted methods, along with the other layers of security in a multi-layer security approach as exists today in the industry, have demonstrated that they provide the industry with flexibility and are effective as demonstrated by the fact that no breaches of the flight deck have occurred domestically since their institution. Mandated IPSBs will essentially remove that flexibility which could, in fact, increase the security risk, not lessen it.

C. RTCA DO-329

There is concern among the manufacturers that the RTCA DO-329 contains prescriptive requirements with unclear objectives, methods, and justifications. This document is described as being based on testing conducted by a working group by security experts with unknown backgrounds in actual testing of this type. The resulting requirements raise questions about how representative the results are to real-world conditions. What number of tests were run, and was it enough to statistically confirm results? What were the test conditions and how were those determined (i.e., is this representative and objective?). What was the basis for these conditions and what is the supporting data? How many participants were there and were they statistically representative, and accounting for a quick learning curve? What were the statues of the participants, and were they statistically representative? What were the skill levels, physical condition, and knowledge of aircraft systems of the participants, and were they statistically representative?

According to the document, federal air marshals served in the roles of attackers and flight attendants in these tests. By definition, these people are very skilled, in good physical shape, and very knowledgeable of the aircraft systems related to the flight deck door and the security procedures. Objectively, this is probably not representative of the general population.

Tests were conducted on two single-aisle airplanes, a 757 and a 727 of unknown configurations, and a twin-aisle aircraft, the L-1011. This airplane model was not retrofitted with an enhanced security flight deck door under FAA mandate. As the only twin-aisle model, how does this configuration compare to active twin-aisle airplane models that were retrofitted or are in production with enhanced security doors systems? How representative were any of these test airplanes to current production and in-service commercial passenger aircraft?

It is our understanding from the WG meeting that the FAA has reservations with some of the requirements of the RTCA DO-329 document. They indicated that they do not agree with the document's conclusions that the barrier method of using blocking crewmembers is not acceptable and that a barrier must delay an attempt at breaching for five seconds. They also indicated that they have issues with the document's conclusions regarding the space requirements between an attacker and the flight deck door and the conclusions on crew complacency.

D. Disadvantages of Installed Secondary Barriers

The aircraft manufacturers (i.e., GAMA, Airbus, Bombardier, Boeing, and Embraer) appreciate the opportunity to comment on this subject and we strongly support the position that IPSBs should not be mandated for commercial passenger aircraft, as we have stated in position letters signed by Boeing, Airbus, Embraer, and Bombardier, which were submitted in 2018 to both the House and the Senate with regards to House Bill H.R. 4 and Senate Bill S. 1405. We argue that current practices of securing the area outside of the secure flight deck door during transitions as administered by the FAA are not only sufficient but preferable, as they provide options to adapt to differing operational conditions and evolving security threats. In addition to the cost-drivers outlined above, we submit the following disadvantages, as were presented at the meeting, associated with a mandatory IPSB:

- Human complacency and physical limitations were identified as causal factors in the 2006 hijacking of Turkish Airlines Flight 1476 in which an individual was able to forcefully enter the flight deck inflight with a package described as an improvised explosive device. The individual was able to enter the flight deck because the pilots and flight attendants were talking with the flight deck door open, which is a violation of operational policies. An IPSB could create a false sense of security and complacency, and could cause crews to neglect opening and closing the secure flight deck door quickly or properly ensuring that the area aft of the secure flight deck door is clear of threats before opening the door.
- An IPSB, by definition, creates a vestibule between it and the flight deck door. A breach and subsequent relocking of an IPSB could provide a nefarious person more uninterrupted time to breach the flight deck door and/or reduce

the effectiveness of federal air marshals if they are onboard as this would be an impediment for them to have to overcome to be able to subdue a person quickly.

- For smaller aircraft, the vestibule created by an IPSB will be so close to the secure flight deck door that a nefarious person could potentially reach through and either hold the secure flight deck door open or grab a crewmember in the space or both. Allowing other secondary barrier methods could mitigate this problem.
- For smaller aircraft, an IPSB close to the secure flight deck door may act as a barrier to cabin/flight crew, impeding or restricting their access to emergency equipment.
- Because U.S. carriers are required to swap a crewmember (i.e., flight attendant) into the flight deck when one of the pilots leaves, the size of the vestibule may preclude actually allowing the secure flight deck door from opening and letting two people exchange places.
- The current FAA evaluation of each air carrier's compliance with 14 CFR Part 121.584 allows that agency the discretion to appropriately review which type of SBS (i.e., IPSB, INSP, or human barrier) is effective for each air carrier's specific configurations. Forcing only a single type of barrier, the IPSB, unnecessarily narrows barrier options and creates unintended consequences.

E. Costs

The manufacturers believe that the cost benefit analysis tasking is not within the scope of the WG and that it should be the responsibility of the FAA. They also believe that the analysis should be risk based and the time to perform a complete and proper cost benefit analysis would be significantly more than what is available prior to submittal of this report. However, we would like to comment on two documents provided to the WG for review: the TSA's report to Congress in response to the Intelligence Reform and Terrorism Prevention Act of 2004 and the "Cost-Benefit Analysis of Aviation Security: Installed Physical Secondary Barriers (IPSB), Federal Air Marshal Service (FAMS), and Federal Flight Deck Officer (FFDO) Program" report dated December 2011 by Mark G. Stewart and John Mueller.

In the TSA's report, cost data was cited that is discussed above. This is data from several years ago and the barrier design used as the basis it was not certified to the RTCA DO-329 standards that are now being recommended for secondary barriers. Actual costs will be magnitudes higher, therefore these costs are not representative. The TSA seems to recognize this, as evidenced from this statement from their recommendation:

> TSA's recommendation to not mandate the use of a secondary flight deck barrier by the airlines is based on the delicate balance of the cost of engineering and installation that would be incurred by the commercial pas-

> senger aircraft operators to retrofit additional barrier systems versus the measurable gain in aircraft security the secondary barrier would provide.

In the research report, "Cost-Benefit Analysis of Aviation Security: Installed Physical Secondary Barriers (IPSB), Federal Air Marshal Service (FAMS), and Federal Flight Deck Officer (FFDO) Program" dated December 2011 by Mark G. Stewart and John Mueller, the authors perform a cost-benefit analysis of the various secondary barrier types alone and in combination with not just the other types, but also considering the influence of the FAMS and FFDOs in these combinations. The two authors also wrote the books, *Are We Safe Enough?* and *Terror, Security, and Money*. While we have not had the opportunity to review these books, we assume that they are based on the analysis the authors documented in the research report. The authors use data that, again, is based on an IPSB that was designed and installed on a limited number of aircraft soon after the 9/11 events and prior to the publication of RTCA DO-329, and therefore their initial estimates for the IPSB are extremely underestimated which will skew any conclusions as to the real costs and benefits of a particular design or combination.

The authors also, by necessity, make some assumptions due to lack of data that will also influence the outcomes. It is interesting to note that their conclusion of the effectiveness of the addition of an IPSB with the secure flight deck door, the probability of, ". . . a hijacking being foiled, deterred or disrupted . . ." increase from 93.4% to 98.3%. This slight increase in effectiveness must be balanced against the costs to achieve it, and as the costs used in this analysis are low, the conclusions of this analysis are suspect. The authors do acknowledge that this analysis can be used as a basis for further work, and thereby also knowledge that data used and assumptions can probably be improved. They state at the end of the paper (Section 4.5):

> A more detailed and comprehensive study is required to properly model the complex interactions and interdependencies in aviation security. This paper provides a starting point for this type of analysis. The assumptions and quantifications made here can be queried, and alternate hypotheses can be tested in a manner which over time will minimize subjectivity and parameter uncertainty inherent in an analysis for which there are little accurate data. This should lead to more widespread understanding and agreement about the relative cost effectiveness of aviation and other counter terrorism security measures.

Lastly, a document was distributed during the meeting, titled "FAA Position on Secondary Barriers" in which the FAA made the following statements regarding the need for specific requirements and a cost benefit analysis (italics added for emphasis):

> "Currently, all passenger-carrying aircraft have a reinforced cockpit door and crew procedures to secure the cockpit. The reinforced cockpit doors and procedures were enacted after September 11, 2001.
> Today, secondary cockpit doors can be added as optional equipment should an operator desire to do so. Since secondary cockpit doors are optional equipment *there are no specific functional requirements for a secondary door. If legislation directs installation of secondary barriers, the requirements would have to be established to mandate it for all aircraft. This would require engineering analysis and evaluation to determine the effect on the airframe. The expense to air carriers and loss of aircraft time would likely have a significant economic impact*.
>
> A mandate for secondary barriers would be implemented by the rulemaking process, to establish the required performance standards and mandate installation. Rulemaking is normally a 3–5 year process and *requires a cost benefit. Since passenger-carrying aircraft already have reinforced cockpit doors, we believe that the benefit of mitigating the remaining risk with a secondary cockpit door would not outweigh the cost of requiring secondary doors across the commercial fleet*.

F. Conclusion

The decision to install secondary cockpit barriers should—consistent with TSA's dynamic, risk-based approach to security—remain with individual carriers, and not result from a one-size-fits-all federal mandate that does not take into account the operational complexity of the U.S. aviation system and the variations of fleet configuration. Threat analysis, facts, and data should drive policy decisions on the security of aircraft. Aircraft manufacturers and air carriers actively communicate and collaborate with both government and industry partners to continually review and revise emerging threats and intelligence. TSA and industry stakeholders should focus their resources on further enhancing risk-based security programs and deploying more sophisticated technology based on situational facts and intelligence.

The manufacturers agree that safety and security come first, but mandating that an IPSB design be installed in aircraft that provides little security benefit beyond existing policies will come with significant costs and could have unintended consequences.

2. Air Carriers

The air carrier representatives were asked to provide data on the effects of a requirement to install IPSBs in passenger aircraft. Following are the data supplied:

From January 2002 through December 2017, U.S. aircraft operators flew 169.231 million domestic and international flights and conducted 11.830 billion passenger enplanements with zero attempts by terrorists to commandeer an aircraft for use in an attack of mass destruction like September 11, 2001.[iv] Since those attacks, TSA, U.S. airlines and airports have implemented and continuously improved a multilayered approach to security.[v] This multilayered, risk-based approach has proven successful to counter multiple terrorist attack paths and methods to include preventing the breach of a flight deck door and subsequent hijacking of a U.S. commercial aircraft.

The risk of a flight deck door breach remains very low, and current regulations already require an IPSB, INSB, or a human secondary barrier. These effective alternative and equivalent measures are important components of a risk-based system. In recent years, the probability of attack based on the historical flight data identified above is extremely low. Vulnerability is also very low given the randomness of when the flight deck door is opened and the ability of pilots and flight attendants to follow the prescribed security measures for opening and transitioning the flight deck door while in flight. Indeed, the lack of mandated uniformity provides an additional security benefit by varying the security measures aboard aircraft and eliminating certainty about the specific measures employed on any particular aircraft. Recent intelligence reports have underscored the need for carriers to maintain the ability to employ a random and unpredictable security strategy. The multilayered security measures currently in place have continuously been improved and should be considered a very high deterrent.

Regarding the administrator's request to conduct a cost-benefit analysis, A4A recommends reviewing the stringent requirements defined in RTCA DO-329. These requirements would cause a significant change in aircraft configuration requirements and some aircraft interior designs may lose vital first-class seats to accommodate an IPSB, which would impact revenue opportunity for the airlines. IPSBs would also create ongoing costs associated with additional fuel and maintenance. Further, this would place the U.S. airlines at an economic disadvantage compared to foreign airlines that are not required to purchase aircraft with these costly airframe modifications. It is critical that such costs are only incurred when there is a clear security benefit.

A4A conducted a request for information with our members and members of the Regional Airline Association (RAA) and the National Air Carrier Association (NACA) to determine the current use of secondary barriers and projected use of IPSBs. Of those airlines that responded, it was determined that two major U.S. airlines currently use IPSBs on some aircraft, and all U.S. airlines use a combination of INSBs and human secondary barriers. Some airlines expressed interest in moving from a human secondary barrier to an INSB.

The two U.S. airlines that have installed IPSBs did so on select fleet types based on operational necessity. The first airline to install them did so because of employee

concerns post 9/11. This airline was directly involved in the events of 9/11, lost two aircraft and numerous passengers and crew, and thus worked with the manufacturer to design and test IPSBs to address crew concerns. Beginning in 2004, this airline modified a total of 52 aircraft in its fleet but does not have plans to install any additional IPSBs. The second airline to install IPSBs did so to improve customer service on wide-body aircraft used for international flights, as the INSBs blocked both lavatories in the front of the aircraft. The airline chose to install an IPSB on the bulkhead near the flight deck door to allow one of the two lavatories to remain open for the use of first-class passengers. This airline does not plan to install any additional IPSBs.

Considering the information above, A4A recommends that FAA and TSA consider crewmember training and techniques that assist crewmembers with developing the proper mindset and mental focus required to accomplish the task of a quick transition while the flight deck door is opened during flight. RTCA DO-329 offers two suggestions for a verbal mantra and a five-second pause designed to develop awareness of the situation, prepare mental focus, and establish a proper mindset prior to performing a task. These recommendations could easily be incorporated into current crewmember training and would help reduce crew complacency often cited as a concern during flight deck door transitions.

A4A appreciates the opportunity to provide comments in response to the TSA administrator's request to review secondary barriers. The safety and security of our passengers and crew has been and will continue to be our highest priority. The decision to implement IPSBs should—consistent with TSA's dynamic, risk-based approach to security—remain with individual carriers and not result from a one-size-fits-all mandate which does not consider the operational complexity of the U.S. aviation system and variations of fleet configurations. A potential mandate for IPSBs would also add undue costs without a clear security benefit. We strongly believe current regulations, industry standards, and secondary barrier options provide aircraft operators enough choice to develop a robust security plan that best fits their operational needs.

3. Airline Pilots

The Air Line Pilots Association, Int'l (ALPA) and the Coalition of Airline Pilots Associations (CAPA) are very appreciative to the TSA administrator for calling on the ASAC to examine the subject of secondary barriers on commercial passenger aircraft. ALPA and CAPA stand together in firm support of the installation of IPSBs. Both organizations are longtime proponents of IPSBs on passenger aircraft because we have seen firsthand that their performance exceeds other inferior methods of protecting the flight deck. (We also believe that secondary barriers should be installed on all-cargo aircraft but understand that issue is outside the scope of this report.) Accordingly, we have urged U.S. legislators for a requirement for IPSBs, which was partly realized within the recently signed FAA Reauthorization Act of 2018, P.L. 115-254. The law

mandates that FAA issue an order requiring IPSBs on each new aircraft manufactured for delivery to a passenger air carrier operating under FAR Part 121.

With respect to tasking number 4, we believe that answering the following questions addresses the TSA's inquiry:

1. Is there a security need to create an SBS in front of the flight deck?
2. What options are available to create an SBS?
3. Are all SBS options equal or is one superior to the others?
4. What is the cost-benefit ratio of the superior SBS option?

Is there a security need to create an SBS in front of the flight deck door?
Shortly after the attacks of 9/11, then-DOT Secretary Norman Mineta created a Rapid Response Team (RRT) on Aircraft Security, and another such team on airport security. The three principals on the RRT, who were aided by other aviation stakeholder members and senior DOT and FAA experts, were: [redacted], vice chairman of American Airlines; [redacted], recently retired Boeing vice president of engineering and technology; and Capt. [redacted], president of ALPA. The RRT produced 17 recommendations, the first of which concerned flight deck protection, as follows:

> Recommendation 1: We recommend that some appropriate barrier device be approved, and installation begin within 30 days. Installation throughout the entire U.S. fleet should be completed in 90 days. We recommend that FAA enable the installation of these devices through urgent regulatory action that provides the airlines with a simple, expedited method for approval and installation.

This recommendation has yet to be implemented, but as stated above, Congress recently included a requirement for IPSBs on new aircraft within P.L. 115-254.

In 2001, Congress passed P.L. 107-21, The Aviation and Transportation Security Act of 2001, which called on FAA to require that, "flight deck doors remain locked while any such aircraft is in flight except when necessary to permit access and egress by authorized persons; and . . . take such other action, including modification of safety and security procedures and flight deck redesign, as may be necessary to ensure the safety and security of the aircraft." In 2005, FAA published a notice of proposed rulemaking (NPRM) to comply with the congressional mandate. The final rule was published in 2007 and included new regulation 14 CFR §121.584 which provides that, "no person may unlock or open the flightdeck door unless the area outside the flightdeck door is secure." It is clear from this chain of events that the U.S. government, airline industry, and labor are in strong agreement that the area in front of the flight deck door must be secured before the door is unlocked and opened.

In addition to the regulatory requirement, FAA also added additional components to airline procedures specific to when the flight deck door is opened. FAA Notice 8400.10 states, in part, that airlines must have:

- Flight attendant procedures to verify there are no passengers in any forward lavatory, and no passengers are standing in the area surrounding the flight deck door.
- Flight attendant procedures for blocking the passenger aisle when the flight deck door is opened.[vi]

Airlines are given leeway to determine the type of SBS to be used for blocking access to the flight deck on their respective aircraft, and such measures are instituted with the approval of the FAA's principal operations inspectors. The requirement for such procedures demonstrates that merely having this area vacated by passengers is inadequate. When the door is opened, there must also be some type of additional physical barrier between passengers and the flight deck. As the FAA states in AC 120-110, "The opening and closing of the flight deck door (referred to as "door transition"), reduces the protective anti-intrusion/anti-penetration benefits of the reinforced door, if crewmembers do not properly use established procedures and/or equipment. During this door transition, the flight deck is vulnerable."

According to the Department of Homeland Security's (DHS's) September 14, 2018, National Terrorism Advisory System Bulletin, "[we] continue to face one of the most challenging threat environments since 9/11, as foreign terrorist organizations exploit the Internet to inspire, enable, or direct individuals already here in the homeland to commit terrorist acts." Terrorism analysts inform us that according to current intelligence, aviation continues to be the "gold standard" target of terrorist groups. While there are certainly more and better layers of security protecting the flight deck than prior to 9/11, terrorists have a demonstrated pattern of returning to what has worked in the past. ALPA believes that the flight deck continues to be an attractive terrorist target and all reasonable efforts should be made to protect it.

Based on these facts, it is unmistakably clear that there is presently a security need to have an SBS in front of the hardened flight deck door before it is unlocked and opened in flight.

What options are available to create an SBS?

In 2003, ALPA was asked by representatives of a U.S. legacy airline to receive a briefing on their implementation of what they referred to as "secondary barriers." ALPA met with the airline representatives and learned that several dozen of their aircraft had been equipped with lightweight, inexpensive (i.e., a few thousand dollars) barriers composed of stainless-steel cables strung horizontally between two vertical steel bars on a monument(s) situated on the cabin side of the hardened flight deck door. A picture of such a barrier is provided at Appendix

C. It was explained that the purpose of these barriers was to deter a rapid cockpit breach when the flight deck door was opened in flight. It was further noted that the air carrier was equipping the aircraft with the barriers during overnight maintenance so that they were not taken out of service. The carrier representatives described their timeline for equipping the entire fleet of their aircraft and solicited ALPA's support for the barriers. ALPA agreed with the airline on the need for them, because it was clear that they capably addressed an ongoing security threat related to the potential for able-bodied terrorists to overcome the flight crew when the hardened door was opened in flight. Another obvious benefit of the barriers when closed is that they can identify someone, who through their overt actions against the IPSB, is intent on attacking the flight deck.

FAA amended FAR 121.587 in 2002 to require authorized persons seeking access and egress to the flight deck to comply with FAA-approved procedures regarding the opening, closing, and locking of the flightcrew compartment doors. About this same time, FAA published the above-referenced Notice N8400.51, Procedures for Opening, Closing, and Locking of Flightcrew Compartment Doors, which addresses air carrier procedures to open the flight deck door during flight operations and addresses the intent of the ICAO standards for monitoring the area outside the flight deck door. In 2015, FAA clarified via Advisory Circular 120-110, as stated above, that three types of SBS are acceptable to the agency: IPSBs, INSBs, and human secondary barriers.

Are all SBS options equal or is one superior to the others?

In 2008, FAA called on RTCA, then a Federal Advisory Committee, to "Review the existing procedures of various carriers in order to develop a set of standards to determine compliance with FAR 121.584. Determine what methodologies should be employed to comply with FAR 121.584 today." In response, RTCA established SC-221, "Aircraft Secondary Barriers and Alternative Flight Deck Procedures," which was co-chaired by representatives of United Airlines and Boeing. As directed by FAA, SC-221 leadership invited and received participation from regulators, industry, and other applicable parties, including TSA, federal air marshals, aircraft manufacturers, equipment manufacturers, airlines, modification centers, pilots, flight attendants, and other trade associations.

SC-221 established a working group composed of security experts who tested all three types of SBS. Demonstrations of the ability of these SBSs to protect the flight deck were conducted on a B-757, B-727, and L1011 using able-bodied persons who charged all three types, which were placed in front of the cockpit door. Federal air marshals served in the roles of attackers and flight attendants in these tests.

Based on the tests and its deliberations, SC-221 concluded in its report, RTCA DO-329, that SBS effectiveness should be "judged by its demonstrated ability to delay an attempted breach for at least 5 seconds. The demonstration can be accomplished by test and/or analysis. The SBS shall maintain its integrity to the extent

that access to the flight deck is denied for at least 5 seconds starting from the point when the SBS is first engaged or touched."

SC-221 recorded the results of these tests and that information was provided to FAA's Office of Flight Standards (AFS-007) as sensitive security information (SSI). SC-221 was not asked to, nor did it, include the results of those tests in its public report (i.e., RTCA DO-329) nor did it make recommendations concerning SBS equipage/use to comply with FAR 121.584. The report states in part, however, that "using blocking crewmembers without additional equipment did not produce satisfactory results." Despite this outcome, FAA has deemed that use of blocking crewmembers, aka human secondary barriers, is one of the three satisfactory SBS methods.

Based on our participation on SC-221, we have firsthand knowledge that the IPSB is demonstrably superior to the other types of SBS. If not done already, we believe that TSA should consult with the FAA and obtain the actual SSI test results of all three SBS types so that the agency has a better understanding of their performance.

Because of SC-221's tests, we know that:

- Only IPSBs provide a confirmation to the hostile intent of a perpetrator and give crewmembers the necessary reactionary gap to defend the flight deck. The use of ramming devices and/or multiple attackers are examples of threats that are best mitigated by IPSBs.
- Only IPSBs are "force multipliers" for flight attendants working the cabin of passenger aircraft, especially those aircraft in which only a single flight attendant is present. Other barrier methods could require up to three flight attendants, thereby distracting them from other important safety and service duties.
- IPSBs can mitigate human complacency and physical limitations. These were identified as causal factors in the 2006 hijacking of Turkish Airlines Flight 1476 in which an individual was able to forcefully enter the cockpit inflight with a package described as an explosive.
- IPSBs do not require the human performance element for success that INSBs and human barriers do, other than the simple act of connecting the barrier, which also significantly reduces the exposure of flight attendants to injury. Also, only IPSBs counter reduced threat mitigation time due to such factors as fatigue, stress and vigilance.

What is the cost-benefit ratio of the superior SBS option?

As discussed above, the superior option of the three SBS is the IPSB. The cost-benefit of the IPSB obviously depends on such factors as its installed cost, maintenance costs, and weight, in addition to its ability to mitigate the security vulnerability created by the opened cockpit door. The IPSB installed on United's B-757 was reported

in 2003 to cost a few thousand dollars and weigh a few pounds (i.e., approximately 10 pounds). TSA's report to Congress in response to the Intelligence Reform and Terrorism Prevention Act of 2004 (P.L. 108-458), cited an average cost of $9,000 per aircraft for a retrofitting program and design engineering costs for each aircraft type of $60–75,000. The agency noted that the need to engineer a bulkhead or design a different type of barrier from the one installed by United could create additional, unknown costs. IPSBs installed on new aircraft by the manufacturer could be expected to cost and weigh considerably more than those installed by the air carrier or its contractor.

Two accomplished researchers and authors, Mark Stewart and John Mueller, have done a considerable amount of work on the cost-benefit of aviation security measures. Stewart is a professor of civil engineering and director of the Centre for Infrastructure Performance and Reliability at the University of Newcastle in Australia. Mueller is a senior research scientist at the Mershon Center for International Security Studies and professor of political science at Ohio State University, and a senior fellow at the Cato Institute. A 2018 book co-authored by these individuals, *Are We Safe Enough?*, goes into considerable depth and detail about aviation security threats and the costs and benefits of countermeasures, including a section on IPSBs. Following are a few relevant highlights from the book:

- Good security is expensive. The inflation-adjusted cost of screening passengers when performed by the airlines' contractors in 2000 was about $835 million in 2015 dollars. TSA's expenditures for the equivalent services cost more than six times that amount in FY 2016, at $5.436 billion.[vii]
- Aviation security measures in the aggregate badly fail a cost-benefit analysis. The U.S. spends over $10 billion annually to deter, disrupt, or protect commercial aviation against attacks. If each life saved by these measures is valued at $15 million, it would be necessary for aviation countermeasures to have prevented or protected against 600–700 aviation terrorism-related deaths in the U.S. each year. The total number of people killed worldwide by terrorist attacks on aircraft is fewer than 22 per year.[viii]
- The IPSB weighs about 10 pounds and costs less than $10,000, with some estimates as low as $3,500. Equipping 6,000 commercial aircraft in the U.S. with an IPSB which costs $10,000 would cost no more than $60 million. Annualizing this cost over 15–20 years with a 3% discount rate, the cost equals $5 million per year for the entire fleet.[ix]
- If the hardened cockpit door is enhanced by an IPSB, the door's deterrence against a hijacking is increased from 25% to 75%.[x]
- The IPSBs benefit-to-cost ratio is 75 and the hardened cockpit door's ratio is slightly higher at 82. In comparison, Checkpoint/Transportation Security officers and travel document checkers score only 0.10.[xi]

Summary—The most vocal proponents of IPSBs are the pilots who have actually flown with them. There have been no reported operational or security issues from these pilots about IPSBs, and their biggest concern stems from the fact that airlines are removing them from their aircraft, retiring aircraft with them installed, and/or are not making plans to retrofit them on the current fleet. Accordingly, ALPA and CAPA believe that a strong case is made for requiring commercial passenger aircraft to be equipped with IPSBs.

4. Airline Flight Attendants and Aircraft Mechanics

One of the currently approved methods of flight deck protection is the use of flight crew personnel as a secondary barrier. Flight attendant aircraft-defense training is long overdue for a paradigm shift in order to effectively "prepare the crew members for potential threat conditions," (see 49 USC 44918(a)(1), et seq.). The Association of Flight Attendants-CWA, AFL-CIO (AFA) takes the position that it is time for the TSA and FAA to ensure that statutory program elements for such training are mandated by security program regulation. This is particularly important for those operations in which flight attendant crew must defend the flight deck with no IPSB to slow down an attack to breach the flight deck door. AFA also recommends, as explained below, that additional flight attendants be required in certain aircraft to provide the necessary flight deck protection. The Aircraft Mechanics Fraternal Association (AMFA) concurs with the AFA position.

AFA has been involved with the discussions and considerations regarding secondary barriers on commercial aircraft since the attacks of September 11, 2001. AFA was a member of the Secretary of Transportation's Rapid Response Team on Aircraft Security, which issued a series of security recommendations on October 1, 2001, including a call for installation of a barrier device to protect the flight deck on the U.S. aircraft fleet. Furthermore, AFA has been a member of the Transportation Security Administration (TSA) Aviation Security Advisory Committee (ASAC) since its inception at the FAA in 1989.

A. Introduction

AFA is in general agreement with most of the recommendations of RTCA DO-329. However, due to the limitations inherent in each of these SBSs and the corresponding risks to both the flight and cabin crew personnel, AFA believes that additional cabin crew staffing and training are necessary.

B. Need for Additional Staffing

Taking the available research and analysis into consideration, AFA believes that for flights with only one flight attendant, current cabin crew minimum staffing requirements need to be increased by "plus one."

All flight attendants work in the cabin to ensure the safety, health, and security of people on commercial passenger airplane flights. They do this despite chronic understaffing, which has grown significantly since the tragic events of 9/11/2001, due in no small measure to expanded security duties and ever-increasing passenger seat occupancy rates.[xii] This is especially true when there is only one flight attendant on duty. In terms of defense of the flight deck, there should be a second flight attendant crewmember required on planes with 20 to 50 passenger seats. AFA bases this recommendation on the following analysis:

> A regional aircraft with 20 to 50 passenger seats is only required to have one flight attendant. If a pilot chooses to or needs to leave the flight deck for whatever reason, the cabin is left unattended by a flight attendant. This is due to the current U.S. requirement that two authorized persons must always be in the flight deck. This usually means that a flight attendant must replace that pilot on the flight deck. If the pilot leaving the flight deck needs to use the lavatory, which on some regional aircraft such as the CRJ-200 with a 50-seat configuration is in the extreme aft position of the cabin, this pilot is not only extremely vulnerable, but it leaves the SBS unmanned and the flight deck door completely unprotected. AFA strongly believes that this is unacceptable. This scenario creates a much higher risk that the flight deck can be breached and is completely counter to the spirit and intent of Common Strategy guidelines, which are always to protect the flight deck and at all costs. This clearly cannot be done with only one flight attendant. This places all crewmembers and passengers in a much more precarious position against a myriad of other potential threats on the aircraft.

Furthermore, to ensure the two-person flight deck requirement is met when an IPSB is installed in the above-cited example of the CRJ200, a second flight attendant is needed to open and then immediately close the IPSB to give the pilot access to the cabin, after which the pilot proceeds to the aft lav. This second flight attendant would stand facing the cabin while in the secure zone and open the barrier to readmit the pilot and then close it prior to initiation of the door transition for the pilot's return into the flight deck.

A second flight attendant must also be available when an INSB is either open or closed. This flight attendant will be responsible for maintaining positive control of the area between the flight deck door and the secondary barrier during each door transition procedure. Whether the flight deck barrier is an IPSB or INSB, the second flight attendant further ensures aircraft security by communicating and coordinating with the flight deck and all other crewmembers if any type of security incident were to occur, including an attempted breach of the secondary barrier.

C. Need for Effective Security Training

AFA believes that a renewed focus on mandatory crew counterterrorism training must accompany the installation and utilization of any SBS. RTCA recommends that for all three types of SBS to be effective, "[c]rew-based training programs that maximize situational awareness and minimize the potential for crewmember injury should be in place."[xiii] In order to achieve this goal, improvements in current security training are necessary, which should include the following elements:

1) The basic course must allow for the repetition and drilling necessary to gain the appropriate intellectual, physical, and emotional responses needed to protect oneself, fellow crewmembers, passengers, and the aircraft from acts of terrorism such as hijack or sabotage.

2) Training in basic tactics, techniques, and procedures require the time necessary to become appropriate and effective. (Note: This recommendation comes from actual lecture, hands-on training, and situational exercises that have been developed and implemented with flight attendants and pilots since October 2001.)

3) Classroom lecture and multimedia presentation designed to develop:
   i. Cognitive recognition of acts of terrorism based on historical precedence and the latest counterterrorism intelligence.
   ii. Stress inoculation against dealing with inter-personal human aggression and life-threatening events.
   iii. Awareness-level behavioral detection training on terrorists' physical, tactical and weapons cues.

4) Hands-on training. This is necessary to maximize understanding and retention while minimizing mental and physical fatigue and potential training injuries. These sessions are designed to develop:
   i. Tactical knowledge and skills to work together as a team with other crewmembers and able-bodied passengers to prevent or mitigate any onboard acts of terrorism. This will include the use of tactical communications between flight attendants, pilots, federal air marshals, and law enforcement responders.
   ii. Techniques designed to allow flight attendants to protect themselves against physical attack, respond to acts of sabotage to include potential suicide bombers, and to prevent attempts to breach the cockpit and utilize the aircraft as a weapon of mass destruction.
   Procedures that are tested and proven to allow implementation of the

tactics and techniques necessary to accomplish the mission, goals and objectives called out in the current Common Strategy Detailed Guidance provided by the Transportation Security Administration to all commercial air carriers.

5) Live situational exercises designed to test the flight attendants
   i. Learned knowledge, skills and abilities
   ii. Under high-fidelity, simulated surroundings and stress
   iii. Within the confines of a safe training environment

6) Recurrent training: Semiannual recurrent training to include hands-on and situational exercises that
   i. Reinforce and maintain basic level knowledge, skills and abilities, and
   ii. Introduce any updated information necessary in the ever-changing environment of counterterrorism.

AFA strongly supports the "Common Strategy" guidance, which was required to be rewritten by the 2001 Aviation and Transportation Security Act, that all crewmembers must be provided appropriate and effective training and live situational exercises. These elements will prepare crewmembers for potential threat conditions by ensuring effective crew communication and coordination and giving them the ability to defend themselves.

AFA supports the installation of IPSBs on those aircraft that do not have them. Most importantly, regardless of the system used, AFA strongly recognizes that it must be accompanied by the appropriate adjustments in staffing, procedures, training, and live situational exercises.

V. Conclusion

From this report, it can be seen that there are varying and strongly held views about the use of and requirements for SBS. The WG has been pleased to develop this document and it would be our pleasure to discuss it with TSA representatives to address any questions or additional needs, as desired.

APPENDIX A

ASAC SECONDARY BARRIER WORKING GROUP

Co-Chairs:

[redacted], Cargo Airline Association
[redacted], TSA

Members:

[redacted], Embraer
[redacted], Airports Council International-North America
[redacted], Coalition of Airline Pilots Associations
[redacted] Bombardier
[redacted], Air Line Pilots Association, Int'l
[redacted], National Air Carrier Association
[redacted], Delta Airlines
[redacted], General Aviation Manufacturers Association
[redacted], Airlines for America
[redacted], Aircraft Mechanics Fraternal Association
[redacted], Boeing
[redacted], Boeing
[redacted] Airbus
[redacted], Atlas Air
[redacted], Association of Flight Attendants-CWA
[redacted], Air Line Pilots Association, Int'l

TSA Support:

[redacted]

FAA Support:

[redacted]

APPENDIX B

AIRLINE SECONDARY BARRIER SURVEY

Association	Airline	Physical 2nd Barrier Installed	Type of Barrier Used	Are Secondary Barriers Planned	Barrier Costs	Comments
A4A	Airline A	Yes	Wire Gate	No	$15,000	(15 7XX, (39) 7XX
A4A	Airline B	No	N/A	No	0	Use physical barriers onboard a/c to include carts, crewmember personnel
A4A	Airline C	No	N/A	No	0	Use physical barriers onboard a/c to include carts, crewmember personnel
A4A	Airline D	No	N/A	No	0	No Comment
A4A	Airline E	No	N/A	No	0	None Planned
A4A	Airline F	No	N/A	No	0	
RAA	Airline G	No	N/A	No	0	
RAA	Airline H	No	N/A	No	0	
RAA	Airline I	No	N/A	No	0	We are in discussions with department leads to use the galley cart as a secondary barrier
RAA	Airline J	No	N/A	No	0	
RAA	Airline K	No	N/A	No	0	
RAA	Airline L	No	N/A	No	0	I haven't heard from our Flight Ops team on any plans going forward. Inflight recommends using the beverage cart to block flightdeck access, but it isn't a documented procedure
RAA	Airline M	No	N/A	No	0	
RAA	Airline N	No	N/A	No	0	
NACA	Airline O	No	N/A	No	0	Scheduled and Charter Service
NACA	Airline P	No	N/A	No	0	Charters Only
NACA	Airline Q	No	N/A	No	0	Scheduled and Charter Service
No Assoc.	Airline R	Yes	Metal framed gate w/ Horizontal bars	No	$55,000	(25) A3XX / weigh 75 lbs each / use a total of 40000 lbs of additional fuel annually at a cost of $90000 annually / Engineering design and certification cost $215000.

APPENDIX C

EXAMPLE OF AN INSTALLED PHYSICAL SECONDARY BARRIER

Photo source: ALPA, all rights reserved

ENDNOTES

i Transportation Security Administration Report to Congress on Secondary Flight Deck Barriers, 2005, p. 3

ii "Monument structure" refers to installed cabin features that can serve as secondary barrier structural attachment points, e.g., lavatories, galleys, crew rests, etc.

iii Code of Federal Regulations (CFR) to be considered for a secondary door installation:

- 14CFR 25.307 Proof of structure
- 14CFR 25.365 Pressurized compartment loads
- 14CFR 25.561 General (Emergency Landing Conditions)
- 14CFR 25.601 General (Design and Construction)
- 14CFR 25.772 Pilot compartment doors
- 14CFR 25.772 FAA Memorandum 01-115-11
- 14CFR 25.803 Emergency evacuation
- 14CFR 25.809 Emergency Exits and Emergency Exit Arrangement
- 14CFR 25.810 Emergency egress assist means and escape routes
- 14CFR 25.813 Emergency exit access
- 14CFR 25.851 Fire extinguishers
- 14 CFR 25.853 Compartment interiors (Flammability)
- 14CFR 25.1301 Function and installation
- 14CFR 25.1309 Equipment, systems, and installations
- 14 CFR 25.1411 General (Safety Equipment)
- 14CFR 25.1447 Equipment standards for oxygen dispensing units
- 14CFR 25.1541 General (Markings and Placards)
- 14CFR 25.1561 Safety equipment

iv Source: http://airlines.org/dataset/annual-results-u-s-airlines-2/

v Reference layers of aviation security here: https://www.tsa.gov/blog/2014/09/15/summer-wait-times-down-despite-busiest-summer-years

vi http://fsims.faa.gov/WDocs/8400.10

vii Stewart, Mark and Mueller, John, Are We Safe Enough? Measuring and Assessing Aviation Security, (Cambridge, MA, Elsevier, Inc., 2018), 22.

viii Ibid. 33

ix Ibid. 102

x Ibid. 10

xi Ibid. 114

xii Airline load factors for scheduled domestic and international travel grew from 73.48% in 2003 to 83.5% in 2017, based on Bureau of Transportation Statistics data available at https://www.transtats.bts.gov/TRAFFIC/

xiii RTCA DO-329, September 28, 2011, p. 6.

U.S. DEPARTMENT OF HOMELAND SECURITY
TRANSPORTATION SECURITY ADMINISTRATION
TSA INVESTIGATIONS

REPORT OF INVESTIGATION

CASE NUMBER: I18 00099 (Addendum) **PR CASE: NO**

TITLE: Office of Special Counsel Disclosure (DI-16-2046)

CROSS REFERENCED CASES: N/A

SUBJECT(S):

Name: Transportation Security Administration (TSA)
Duty title: N/A
Pay band: N/A
Duty location: N/A
EOD: N/A
Administrative Status: N/A

ALLEGATION(S): OSC Whistleblower Disclosure

PERIOD OF INVESTIGATION: October 7, 2021 – March 4, 2022

CASE STATUS: CLOSED

INVESTIGATED BY: Investigator [redacted] and Investigator [redacted]

REPORT BY: [redacted]

[redacted] 09 May 2022

[redacted] Date

Branch Manager
Operations Support
TSA Investigations

REPORT DISTRIBUTION

☐ **Director, Professional Responsibility**

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☐ **Executive Assistant Administrator/Director, Federal Air Marshal Service**

☐ **Executive Assistant Administrator, Security Operations**

☒ **Other – Office of Special Counsel**

☒ **File**

Report of Investigation (ROI) Handling: The ROI and information contained herein are subject to the Privacy Act of 1974 (5 U.S.C. 552A, Public Law 93-579) and thus may not be released outside official channels. This material must be safeguarded from unauthorized disclosure, and should not be left unattended or discussed with unauthorized persons, and must be retained in a security container when not in use.

This report or any portion thereof may not be released to the subject of the investigation or any individual identified therein, or their representatives, or reproduced without the written consent of TSA Investigations.

Origin of Case:

On January 18, 2018, the Office of Special Counsel (OSC) notified the Department of Homeland Security (DHS) Secretary of a whistleblower disclosure. The DHS Office of Inspector General (OIG) declined to investigate in lieu of an investigation conducted by TSA. On February 5, 2018, TSA's Chief Counsel's office (CC), provided the following information to TSA Investigations (INV).

Former Federal Air Marshal (FAM) [redacted] alleged two whistleblower disclosures which might affect aviation security: (1) TSA failed to require aircraft operators to strengthen and implement flight deck doors that open outward and away from the flight deck; and (2) TSA failed to require aircraft operators to install secondary barriers which function as a second layer of protection between the passenger area and the flight deck. In response, TSA provided OSC a report dated September 2018.

On April 9, 2020, OSC requested a supplemental report to clarify questions related to the whistleblower disclosures from a previously submitted report dated October 11, 2018. The supplemental question from OSC sought to clarify (1) information TSA relied upon in determining that all aircraft carriers were in compliance with a FAA Advisory Circular providing the three acceptable methods of secondary flight deck security and (2) a status update and copy of the Aviation Security Advisory Committee's report regarding the effectiveness of secondary barriers. TSA provided OSC a supplemental report dated June 2020.

On August 20, 2021, OSC referred additional supplemental questions related to Mr. [redacted]'s whistleblower disclosure to TSA. On August 26, 2021, an attorney from Chief Counsel's office provided the supplemental questions to TSA's Investigations (INV):

1. OSC requested TSA explain the absence in its prior reports of any discussion or reference to the allegation contained in OSC's January 18, 2018, referral to Secretary [redacted] that TSA failed to require aircraft operators to strengthen flight deck doors. The referral included Mr. [redacted]'s observation that many inward opening flight deck doors have only a one-inch single latch that could be easily broken.

2. OSC requested TSA explain why it failed to conduct an additional evidence-based risk assessment following the December 2018 Aviation Security Advisory Committee (ASAC) report. ASAC agreed that some form of secondary barrier was necessary but failed to reach a consensus on what type of secondary barrier should be required. TSA used the lack of consensus to justify its agreement with the Federal Aviation Administration (FAA) to take no further action on the matter.

    a. In its referral, OSC mentioned that the need for an evidence-based assessment is especially true given the group of ASAC stakeholders have significantly competing interests and merely advocated for the position best suited to their needs. OSC continued that an evidence-based approach appears warranted given that FAA has expressed its disagreement with some of the findings in the RTCA

DO-329 report from September 28, 2011,[1] the only evidence-based evaluation cited by the agency.

Supplemental Question #1

OSC requested TSA explain the absence in its prior reports of any discussion or reference to the allegation contained in OSC's January 18, 2018, referral to Secretary [redacted] that TSA failed to require aircraft operators to strengthen flight deck doors. The referral included Mr. [redacted]'s observation that many inward opening flight deck doors have only a one-inch single latch that could be easily broken.

Finding #1

TSA's October 2018 report included information on requirements for aircraft operators to strengthen flight deck doors, and additional information regarding the strengthening of flight deck doors is included in the attached report. In October 2018, TSA provided information regarding the requirements in the Aviation and Transportation Security Act (ATSA) for the FAA, the lead Federal agency for flight deck door requirements, to strengthen flight deck doors and locks and prohibit access to the flight deck. **(Supplemental Attachment 6 of TSA's 2018 Report to OSC).** ATSA provides that the TSA Administrator is required to work in conjunction with the FAA Administrator with respect to actions or activities that may affect aviation safety or air carrier operations [49 U.S.C. 114(f)(13)]. In its October 2018 report, TSA provided a summary of the statutory requirements imposed on FAA and TSA, which demonstrated that FAA is statutorily charged with taking certain actions related to strengthening the cockpit door. The report also provided additional rules and regulations on flight deck door monitoring and procedures for opening, closing, and locking flight deck doors. **(Attachment 3 and Supplemental Attachment 6 of TSA's 2018 Report to OSC)** In the attached report, witnesses provided regulations and Advisory Circulars issued by FAA that demonstrate the standards for hardened flight deck doors and locking and hinging mechanisms. **(Exhibit 1a-1e and Exhibit 3b).**

[redacted], Senior Technical Specialist for Aircraft Cabins Security and Survivability, FAA, stated that FAA has published both regulatory standards and guidance for reinforced flight deck doors. He provided copies of relevant Advisory Circulars and regulations regarding the requirements of the cockpit door and the lock itself. **(Exhibit 1)**

Mr. [redacted] provided a United States Department of Transportation (DOT), FAA, Advisory Circular (AC) 25.795-1A, *Flight Deck Intrusion Resistance*, dated October 24, 2008. **(Exhibit 1a)**. AC 25.794-1A, published by the FAA, sets forth an acceptable means, but not the only means, of demonstrating compliance with the provisions of the airworthiness standards for transport category airplanes related to the airplane design for flight deck intrusion resistance. Intrusion resistance, in the context of the AC, refers to the ability to resist forced entry by a person who is not authorized by the pilot in command to enter the flight deck. Intrusion resistance also includes the ability to resist attempts to enter the flight deck through use of simple

[1] OSC is referring to the text of the second paragraph on page 10 in the ASAC report, which is contained on page 26 of the June 2020 supplemental report.

tools, such as pocket knives, nail files, or keys. This circular includes the resistance level requirements relative to door panel, bolt, hinge, and pulling.

The second document provided by Mr. [redacted] is DOT, FAA, AC 25.795-2A, *Flightdeck Penetration Resistance*, dated October 24, 2008. **(Exhibit 1b)**. The AC 25.795-2A, published by the FAA, sets forth an acceptable means, but not the only means, of demonstrating compliance with the provisions of the airworthiness standards for transport category airplanes related to the airplane design for flight deck penetration resistance. The AC 25.795-2A captures the performance standard or flight deck penetration resistance by a projectile. **(Refer to Exhibit 1b, p. 11)**.

Mr. [redacted] provided a copy of 14 CFR Parts 25 and 121, *Security Considerations in the Design of the Flight deck on Transport Category Airplanes; Final Rule* dated January 15, 2002, requiring a means to protect the flight deck from unauthorized intrusion and access to the flight deck. **(Exhibit 1c).**

Mr. [redacted] also advised that the rules that regulate the flight deck door are located at 14 CFR §121.313 and 14 CFR § 25.795. 14 CFR §121.313, *Miscellaneous equipment*, requires airplanes to have a door between the pilot compartment and the passenger compartment, with a locking means to prevent passengers from opening the door without the pilot's permission **(Exhibit 1d)**. 14 CFR § 25.795, *Security considerations*, specifies the resistance level for bulkhead doors, handholds, door knobs, handles, and penetration by small arms **(Exhibit 1e)**.

[redacted], Chairperson, Aviation Security Advisory Committee (ASAC), advised that TSA does not establish requirements for flight deck doors, and this is instead a FAA matter. He added that anything involving configuration or safety implications on a plane belongs to FAA. Mr. [redacted] advised that the ASAC never discussed whether or not cockpit doors or latches were adequate and opined that those matters might be included in FAA rulemaking or requirements. **(Exhibit 2)**.

TSA subject matter experts noted that flight deck security is an item of interest to TSA, but FAA retains regulatory authority over flight deck doors. **(Exhibit 3 and Exhibit 4)** TSA continually addresses its equities in ensuring aviation safety and addressing risk. For example, in early 2022, TSA conducted ballistic testing of the flight deck door. **(Exhibit 5 and Exhibit 5a)**.

Supplemental Question #2

OSC requested TSA explain why it failed to conduct an additional evidence-based risk assessment following the December 2018 ASAC report. ASAC agreed that some form of secondary barrier was necessary but failed to reach a consensus on what type of secondary barrier should be required. TSA used the lack of consensus to justify its agreement with the Federal Aviation Administration (FAA) to take no further action on the matter.

Finding #2

In 2019, TSA completed a risk-based assessment on flight deck safety and security. The assessment, which was conducted separately from the ASAC report, concluded that the current security measures in place adequately address the threat to flight deck safety and security.

As background, in July of 2018, the TSA Administrator requested ASAC assess the landscape of existing information on the issue of secondary barriers on commercial aircraft. **(Attachment 6 of TSA's 2018 Report to OSC)**. In response, ASAC produced a December 2018 report entitled *Secondary Barriers on Commercial Passenger Aircraft*. **(Attachment 2 of TSA's 2020 Report to OSC).** The ASAC working group that reviewed the issue was comprised of government and industry security experts. As described in the report, the working group found consensus on the need for some type of secondary barrier, but not on the need for installed secondary barriers.[2] The December 2018 report provided the TSA Administrator with the working group's proffered viewpoints and arguments, for and against installed secondary barriers. The December 2018 report also discussed current practices and standards derived from FAA regulations, Advisory Circulars, and the September 2011 Radio Technical Commission for Aeronautics (RTCA) DO-329 report.

TSA has conducted a threat assessment on flight deck safety and security beyond the RTCA DO-329 report. Specifically, section 1961(a) of the TSA Modernization Act of 2018 required the TSA Administrator, in consultation with the FAA Administrator, to "complete a detailed threat assessment to identify any safety or security risks associated with unauthorized access to flight decks on commercial aircraft and any appropriate measures that should be taken based on the risks." TSA produced multiple reports in response, including a Sensitive Security Information (SSI)-designated May 2019 informational memo entitled *Section 1961(a) Of the TSA Modernization Act: Flight Deck Safety and Security*. The purpose of this memo was to identify appropriate measures needed to reduce the risk associated with unauthorized access to the flight decks on commercial airlines. **(Exhibit 6)**. On September 17, 2019, TSA briefed the House Committee on Homeland Security and the Senate Committee on Commerce, Science, and Transportation staff on the status of the TSA Modernization Act implementation, including programmatic briefings on Section 1961(a). **(Exhibit 6a and Exhibit 6b)**.

In the May 2019 information memo, TSA concludes that the current security measures in place adequately address the threat to flight deck safety and security. TSA explained that, in reaching this conclusion, it reviewed threats to unauthorized flight deck access and evaluated them against a combination of existing doctrine, training, material, personnel, and policy. TSA also accounted for the FAA Reauthorization Act of 2018's requirement for FAA to issue an order requiring secondary barriers on new aircraft.[3] **(Exhibit 6)**

The memo details various layers of security that provide significant protection against flight deck breaches, such as sophisticated passenger pre-screening, rigorous physical screening, a vastly expanded Federal Air Marshal (FAM) Service, armed flight crews, hardened flight deck doors, enhancements in tactical capabilities, and a revamped mindset to dealing with potential hijackers. A December 14, 2018 FAA White Paper, which is an attachment to the May 2019 information

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[2] FAA Advisory Circular 120-110 sets forth three means of compliance with ensuring the area outside the flight deck door is secure: (1) installation of an installed physical secondary barrier; (2) use of an improvised non-installed secondary barrier; and (3) use of human secondary barriers (i.e., flightcrew members).

[3] Section 336 of the FAA Reauthorization Act of 2018 requires, "Not later than 1 year after the date of the enactment of this Act, the Administrator of the Federal Aviation Administration shall issue an order requiring installation of a secondary cockpit barrier on each new aircraft that is manufactured for delivery to a passenger air carrier in the United States operating under the provisions of part 121 of title 14, Code of Federal Regulations."

memo, further concludes that there is no indication that secondary barriers would be substantially more effective in reducing risk over the existing mitigation measures to justify the increased expense of installing them. (**Exhibit 6**)

Persons Associated with the Case

Name	Role	Title	Office	Exhibit
[redacted]	Witness	Chairperson	TSA Aviation Security Advisory Committee	2
[redacted]	Witness	PSI Section Chief	Policy, Plans, and Engagement, Aviation Division, TSA	3 - 3b
[redacted]	Witness	Senior Technical Specialist	Aircraft Cabins Security and Survivability, FAA	1- 1e
[redacted]	Witness	TSA Counterterrorism Coordinator	Operations Support, TSA	4 – 4b
[redacted]	Witness	Manager, Operational Risk and Case Studies	TSA	5 and 5a

EXHIBITS	
1	Memorandum of Interview (MOI): Interview of [redacted], dated November 24, 2021
1a	United States Department of Transportation (DOT), Federal Aviation Administration (FAA), Advisory Circular (AC) 25.795-1A, Flight Deck Intrusion Resistance dated October 24, 2008.
1b	DOT, FAA, AC 25.795-2A, Flight deck Penetration Resistance dated October 24, 2008.
1c	Final Rule dated January 15, 2002
1d	14 CFR §121.313
1e	14 CFR § 25.795
2	MOI: Interview of [redacted] February 4, 2022
3	MOI: Interview of [redacted] dated January 21, 2022
3a	Signed statement of [redacted] date January 25, 2022
3b	Copy of FAR Title 14 §121.584
4	MOI: Interview of [redacted] February 3, 2022
4a	Signed Statement of [redacted]
4b	Email to [redacted] and Responses
5	E Mail/Statement of [redacted]
5a	E Mail: Cockpit door testing discussion
6	2019 Risk Assessment Report titled: Section 1961 (a) of the TSA Modernization Act: Flight deck Safety and Security
6a	Section 1961 (a) of the TSA Modernization Act: Flight Deck Safety and Security
6b	LA Weekly Report September 16 – September 20, 2019

I18-00099

Exhibit 1

Interview of [redacted], FAA
November 24, 2021

~~SENSITIVE SECURITY INFORMATION~~

TSA INVESTIGATIONS
MEMORANDUM OF INTERVIEW OR ACTIVITY

Type of Activity:	Date and Time:
☐ Personal Interview ☒ Telephone Interview ☐ Records Review ☐ Other	November 24, 2021 08:04 am.
Activity or Interview of: [redacted] Senior Technical Specialist for Aircraft Cabins Security and Survivability Federal Aviation Administration (FAA) Seattle, Washington	**Conducted by:** Investigator Investigator [redacted] **Location of Interview/Activity:** Telephonic

Subject Matter/Remarks

Background:

On August 20, 2021, OSC referred to TSA supplemental questions related to [redacted] whistleblower disclosure. On August 26, 2021, an attorney from Chief Counsel's office referred these supplemental questions to TSA's Investigations (INV).

Those supplemental questions were comprised of:

1. OSC requested TSA explain the absence in its report of any discussion or reference to the allegation contained in OSC's January 18, 2018, referral to Secretary [redacted] that TSA failed to require aircraft operators to strengthen flight deck doors. The referral included [redacted] observation that many inward opening flight deck doors have only a one-inch single latch that could be easily broken.

2. OSC requested TSA explain why it failed to conduct an additional evidence-based risk assessment following the December 2018 Aviation Security Advisory Committee (ASAC) report. ASAC agreed that some form of secondary barrier was necessary but failed to reach a consensus on what type of secondary barrier should be required. TSA used the lack of consensus to justify its agreement with the Federal Aviation Administration (FAA) to take no further action on the matter.

In its referral, OSC mentioned that the need for a report is especially true because the group of stakeholders have significantly competing interests and merely advocated for the position best suited to their needs. OSC

continued that an evidence-based approach appears warranted given that FAA has expressed its disagreement with some of the findings in the RTCA DO-329 report from September 28, 2011, the only evidence-based evaluation cited by the agency.

Interview:

[redacted] recalled the matter under investigation and advised that the complainant made some assertions of what should be required and what is not being required. [redacted] opined that in some cases the assertions were taken as the failure to enforce requirements that already existed. [redacted] noted that their response to the complaint attempted to clarify that some the things that the complainant was asserting as requirements were not and were elements of design that evolve based on other things. [redacted] maintains that they tried to explain that they did not fail to enforce any requirements and those issues that were identified as shortcomings were not. Once of the shortcomings identified as the direction the flight door opened. [redacted] noted that the assertion made was that there was a requirement that the flight door open in a certain direction (toward the cabin or away from the cabin) when there was no such requirement. He added that the direction which the door was driven by many other factors. [redacted] advised that from a regulatory standpoint, nothing has changed regarding the requirements of the cockpit door lock. He added that he not certain if there have been any design changes since 2018, but maintains that the requirements have not changed since then.

With regard to the difference of opinion on the RTCA document he was not certain what the concern was intended to refer to but noted that it was referred to in an advisory circular on secondary barriers which was also an assertion made by the complainant. [redacted] advised that he was not aware of any disagreement between FAA and the Transportation Security Administration regarding the RTCA Study.

[redacted] noted that to best of his knowledge, all air carriers, in general, are in compliance with the established secondary barriers and cockpit door requirements.

I18-00099

Exhibit 1a

United States Department of Transportation (DOT), Federal Aviation Administration (FAA), Advisory Circular (AC) 25.795-1A, Flight Deck Intrusion Resistance dated October 24, 2008.

U.S. Department
of Transportation
Federal Aviation Administration

Advisory Circular

Subject: FLIGHTDECK INTRUSION RESISTANCE | **Date:** 10/24/08 | **AC No:** 25.795-1A
Initiated By: ANM-100

1. PURPOSE. This advisory circular (AC) sets forth an acceptable means, but not the only means, of demonstrating compliance with the provisions of the airworthiness standards for transport category airplanes related to the airplane design for flightdeck (also referred to as the pilot compartment or cockpit) intrusion resistance. Intrusion resistance, in the context of this AC, refers to the ability to resist forced entry by a person who is not authorized by the pilot in command to enter the flightdeck. Intrusion resistance also includes the ability to resist attempts to enter the flightdeck through use of simple tools, such as pocket knives, nail files, or keys.

2. APPLICABILITY. While these guidelines are not mandatory, they are derived from Federal Aviation Administration (FAA) and industry experience in determining compliance with the pertinent regulations. If, however, we become aware of circumstances that convince us that following this AC would not result in compliance with the applicable regulations, we will not be bound by the terms of this AC, and we may require additional substantiation or design changes as a basis for finding compliance. The material in this AC does not change, create any additional, authorize changes in, or permit deviations from regulatory requirements.

3. CANCELLATION. This AC cancels AC 25.795-1.

4. RELATED DOCUMENTS.

a. Title 14, Code of Federal Regulations (14 CFR) part 25, §§ 25.365, 25.771, 25.772, 25.795, 25.809, and 25.853.

b. 14 CFR part 91, § 91.11.

c. 14 CFR part 121, §§ 121.313, and 121.587.

d. International Civil Aviation Organization (ICAO) Annex 8 to the Convention on International Civil Aviation, titled "Airworthiness of Aircraft."

e. Policy memorandum PS-ANM100-2001-115-11, Certification of Strengthened Flightdeck Doors on Transport Category Airplanes, dated December 3, 2002, available at: http://rgl.faa.gov/[1]

5. DEFINITIONS.

a. Bolt: A bar which, when actuated, is moved (or "thrown") either horizontally or vertically into a retaining member, such as a strike plate, to prevent a door from moving or opening.

b. Cylinder: The cylindrical subassembly of a lock, containing the cylinder core, tumbler mechanism, and the keyway.

c. Door Assembly: For the purposes of this AC, a door assembly consists of the following parts: door (including any and all panels and mechanisms intended for decompression and/or egress purposes); hinges, locking or other devices; operation contacts (such as handles and knobs); miscellaneous hardware and closures; the frame (including the header and jamb structures plus the attachment to the surrounding airplane structure); and representative structure to which the frame attaches.

d. Flightdeck Boundary: Any of the features that divide the flightdeck from the areas of the airplane occupied by passengers. It could be a vertical wall (e.g., a bulkhead), floor, ceiling, a monument whose structure makes up part of the boundary, or any combination of these. It includes the flightdeck door. An accessible flightdeck boundary is one whose location provides direct access to the flightdeck by passengers.

e. Jamb: The fixed vertical members of a doorframe to which the door is secured.

f. Jamb/Strike: The component of a door assembly that receives and secures the extended lock bolt. The strike and jamb, used together, are considered a single unit.

g. Jamb/Wall: The component of a door assembly to which a door is attached and secured by means of hinges. The hinges and jamb, used together, are considered a unit.

h. Latch (or Latch Bolt): A beveled, spring-actuated bolt.

i. Lock (or Lock Set): A keyed device (complete with cylinder, latch and/or an electrical, pneumatic or mechanical means of preventing normal operation, strike and trim such as knobs, levers, escutcheons, etc.) for securing a door in a closed position against forced entry.

j. Strike: A metal plate mounted to the jamb to receive and hold the latch bolt in order to secure the door to the jamb.

[1] Select Policy, select Final, and search for ANM100-2001-115-11.

6. DISCUSSION.

a. Background.

(1) When a passenger gains unauthorized entry to the flightdeck, the safety of the airplane and all aboard is at risk.

(2) The flightdeck door is subjected to several requirements that affect its construction. For example, §§ 121.313 and 121.587 require that there be a lockable door between the pilot and passenger compartments and that the pilot-in-command ensures that the door is closed and locked during operation.

(3) Section 25.772 requires that the pilot compartment door has features that allow the crew to directly enter the passenger compartment from the flightdeck in the event that the door becomes jammed. If there are passenger emergency exits in close proximity to the flightdeck, compliance with § 25.809, "Emergency exit arrangement," can be shown using a method in which the flightdeck openable windows need not be openable from the outside. In this case, the door needs to facilitate entry by rescue personnel.

(4) Many airplanes are designed to utilize the flightdeck door opening as a decompression pathway to demonstrate compliance with the requirements of § 25.365. Therefore, the locks and/or other features may be designed to allow for extremely rapid opening times.

(5) Due to the fact that § 25.777 requires that the flight controls be designed for pilots from 5 feet, 2 inches to 6 feet, 3 inches in height, consideration must be given to these statures in complying with the egress requirements of §§ 25.772 and 25.809.

(6) Considered a part of the airplane interior, the flightdeck boundary must also meet the requirements of § 25.771 with regard to noise, light and odors, and the flammability requirements of § 25.853.

(7) All of these requirements continue to apply, and the flightdeck door and other boundary assembly designs must consider their impacts.

b. Vulnerability.

(1) Due to the previously referenced regulations, the flightdeck door was historically designed to prevent only unintentional and incidental entrance into the crew compartment and not that of a determined person. The loads required to overcome the locking mechanisms typically are much lower than the loads on the flightdeck door caused by kicking or ramming the door assembly. Features of the door, such as hinges and locking mechanisms, should not be easily overridden (e.g., by insertion of a credit card or prying). The door knob is also susceptible to pulling force and should be designed to limit the ability of a person to exert high loads (e.g., by shape and the use of frangible features).

(2) The remainder of the flightdeck boundary elements are generally considered less vulnerable than the flightdeck door but should satisfy the same standards. The bulkhead

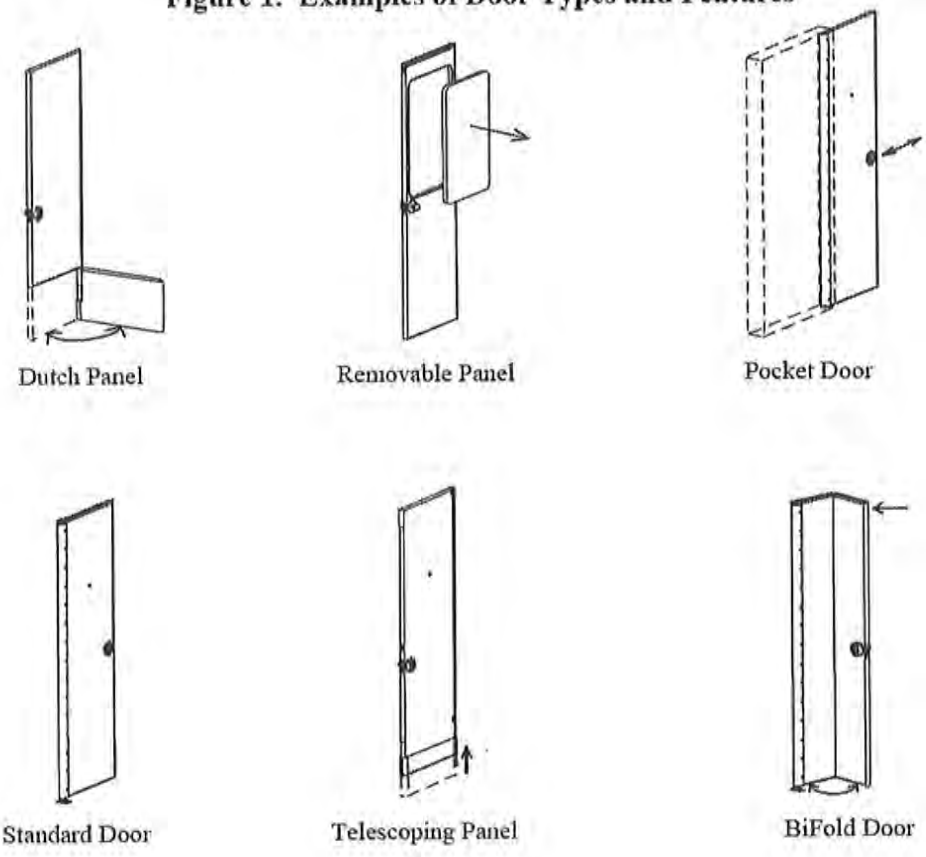
separating the flightdeck from the passenger cabin has inherent structural capabilities that should satisfy the intrusion resistance requirements. Intrusion tests may not be necessary in most cases. On multi-deck airplanes, the floor and/or ceiling of the flightdeck may also be affected, although the ceiling might be high enough that it would not be considered "accessible" for the purposes of intrusion resistance compliance. A boundary is accessible if it could be exposed to loads from attempts at forcible intrusion. If the flightdeck bulkhead is either composed or installed forward of other interior structures, such as a galley or closet, the contribution of those interior structures (and any space between them and the bulkhead) to intrusion resistance may be included when assessing the acceptability of the boundary.

(3) Although the flightdeck door (along with other boundary elements) is intended to resist forced entry, it is only one element of several in-flight security measures that work in conjunction with one another.

c. Tests.

(1) The tests described in this AC apply to all elements making up the flightdeck boundary where testing is required. The various types of flightdeck door designs (see Figure 1 for examples) will likely require the most testing.

Figure 1. Examples of Door Types and Features

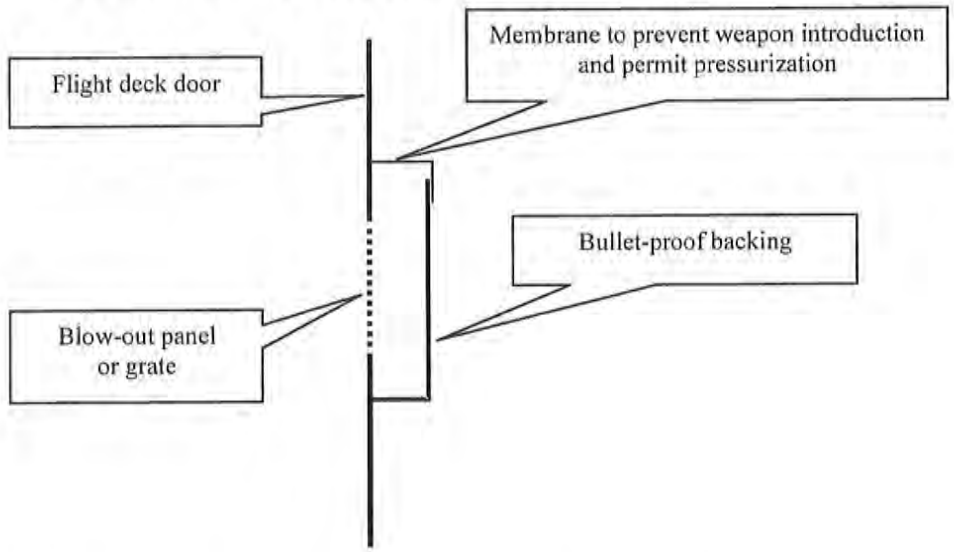


(2) The goal of the tests discussed in this AC is to demonstrate that the flightdeck door and other elements making up the flightdeck boundary can resist the unauthorized entrance of a person.

(3) Features of the door (such as telescoping panels, Dutch panels, and removable panels, as shown in Figure 1) that are designed to comply with, or to aid in compliance with, decompression or egress requirements do not require testing if their failure would not appreciably degrade the intrusion resistance offered by the flightdeck door. If this cannot be shown, testing will be required. Similarly, features of the other boundary elements should be reviewed for their effect on intrusion resistance if they were to fail under intrusion loads. Such features should be tested when the review indicates that the failure would negatively affect intrusion resistance.

(4) With respect to intrusion resistance, the size and location of a movable panel are the key factors in determining whether or not it affords intrusion resistance. Panels that are small and are located at the extreme bottom or top of the door are typically less vulnerable to intrusion. An example of a design feature that could also address ballistic protection is shown in Figure 2.

Figure 2. Example of a Protective Device for a Blow-out Panel



d. Standardized Test Procedures. The tests described below are standardized procedures that are generally regarded as necessary to demonstrate compliance with the intrusion resistance requirement.

(1) National Institute of Law Enforcement and Criminal Justice (NILECJ) Standard 0306.00, released in May 1976, for the Physical Security of Door Assemblies and Components, was formulated by the Law Enforcement Standards Laboratory of the National

Bureau of Standards under the sponsorship of the National Institute of Justice (NIJ), and was used as the basis for the development of this AC.

(2) The purpose of NILECJ-STD-0306.00 is to establish performance requirements and methods of test for the resistance of door assemblies and components to forced entry. The standard is primarily concerned with typical entry doors for residences and small businesses. While the standard does not address persons using skilled methods of entry, it does address the capability to frustrate determined persons from committing forced entry. To this end, portions of this standard and its test methods are applicable to this requirement.

(3) Portions of NILECJ-STD-0306.00 were excerpted for definitions, sampling, apparatus, procedures, and test assembly use. This standard contains four levels of security. This AC uses the highest level identified in the standard as the basis for the tests described below but has significantly increased the demonstrated performance levels.

7. GENERAL TESTING CONSIDERATIONS. There are four basic types of testing that are relevant for the door, as noted in Table 1. These address resistance to impacts on the door, its locking bolt and hinge, and resistance to forcible opening by pulling on the doorknob or handle. A new specimen may be used for each of the four test conditions.[2]

Table 1. Test Criteria for Door Assembly

Test	Test Method	Measured Parameter	Requirements per NILECJ
Panel Impact	6.d.1	Impact resistance of door or boundary panel*	2 blows of 300 J (221.3 ft•lbf)
Bolt Impact*	6.d.2	Impact resistance at bolt	2 blows of 300 J (221.3 ft•lbf)
Hinge Impact	6.d.3	Impact resistance at hinge	2 blows of 300 J (221.3 ft•lbf)
Pulling**	6.d.4	Pulling resistance at doorknob or handle	A tensile load of up to 250 lb or until handle no longer supports load.

Notes: * Depending on the design, the boundary may not have detailed features requiring a test. However, if such features exist, they should be addressed as with door features.

** Doors that do not open in a conventional manner (that is, doors that do not swing on hinges) should have the pulling force applied with respect to the opening direction of the door. A pocket door is an example of a door that does not swing on hinges. In this case, the pocket door would require loading in a transverse direction. Acceptance of such procedures is at the discretion of the FAA Administrator. While it is less likely to be an issue, other boundaries should also be assessed for their susceptibility to pulling and their ability to resist pulling on handholds should be substantiated, as necessary.

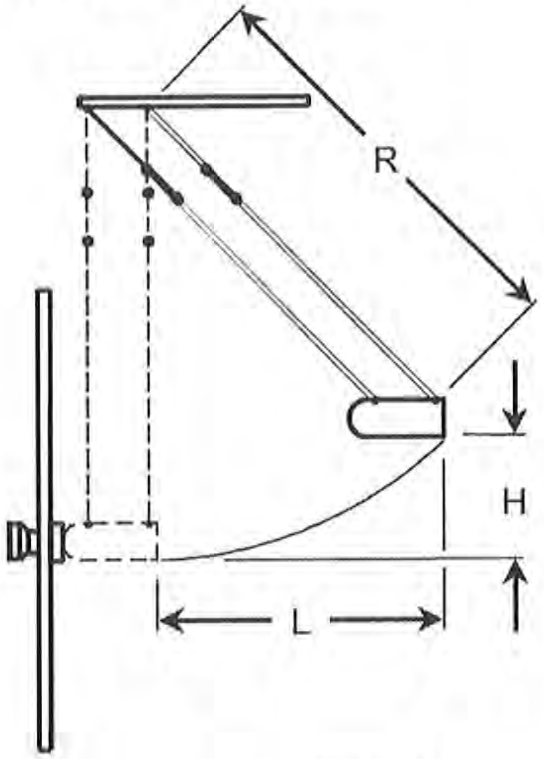
[2] See Appendix 1 for a list of units of measure and the abbreviations for them, which are used in this AC.

8. TEST METHODS. This paragraph describes test methods that have been shown to satisfactorily demonstrate compliance with the flightdeck door requirements of § 25.795(a)(1) and (2). Alternative methods may also be used if shown to satisfactorily demonstrate compliance with those requirements.

a. Test Equipment.

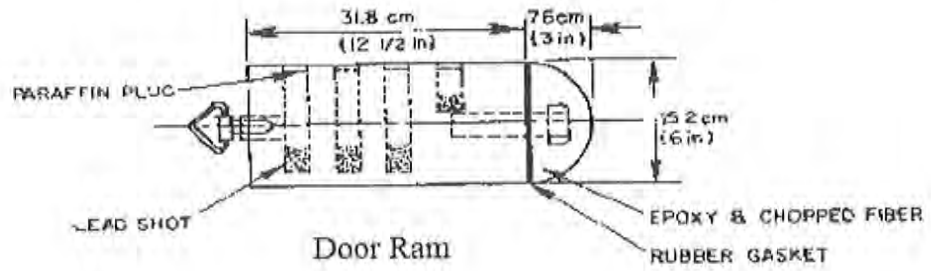
(1) The ram must be a pendulum system with a steel weight of at least 45 kg (99.2 lb), capable of delivering horizontal impacts of at least 300 Joules (221.3 ft•lbf). Figure 3 illustrates the arrangement of this pendulum system in both the pre-release and impact position. The ram is a steel cylinder 15.2 cm (6 in) in diameter and 39.4 cm (15.5 in) long. The striking end of the weight must be hemispherical and have a diameter of approximately 15.2 cm (6 in), as shown in Figure 3. The impact nose used in this equipment can be made from cast epoxy-polyamide resin. However, any durable impact resistant material is satisfactory. The suspension system for the door ram consists of four flexible steel cables providing a swing radius of 171 cm (5.61 ft), as shown in Figure 4. These cables are adjusted to equal length through turnbuckles such that the ram swings in a straight, true arc and are attached to a rigid frame that is adjusted to level.

Figure 3. Door Ram Pendulum System

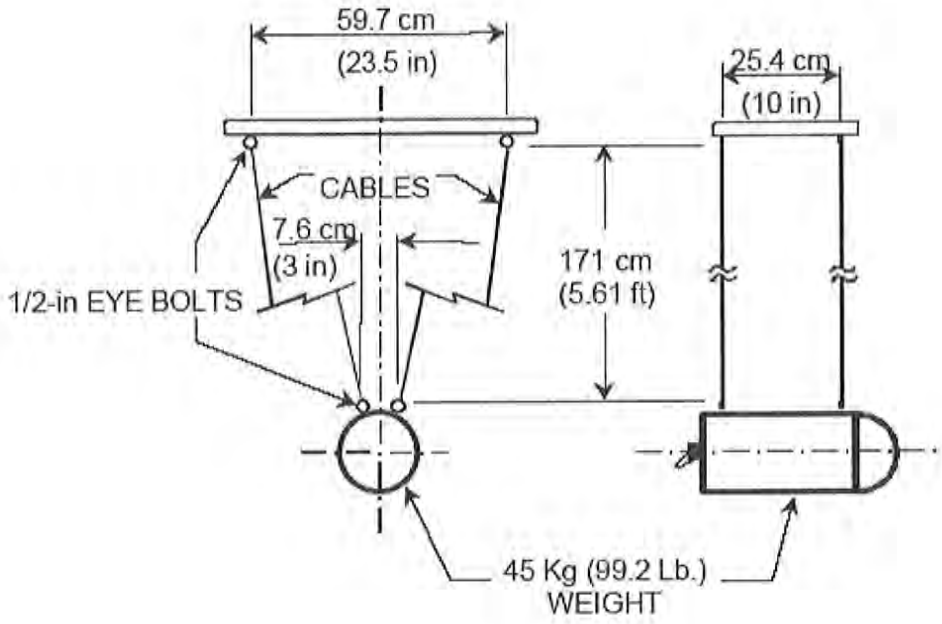


$$H = R - \sqrt{R^2 - L^2}$$

Figure 4. Door Ram and Suspension System



Door Ram



Suspension System

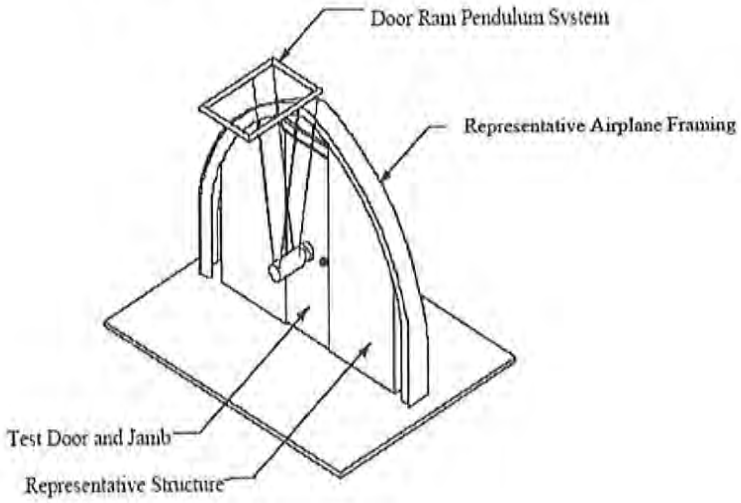
(2) It is convenient to clamp the pendulum system to the forks of a forklift truck, which allows rapid horizontal and vertical adjustment of the impact point of the ram. A winch and snap ring system may also be used to raise and pull back the door ram. The use of a calibrated elevation stand is a convenient means of quickly and reproducibly establishing the proper ram elevation for each required impact.

(3) The impact energy must not be less than the prescribed value.

(4) The door handle pulling equipment must be capable of attaching to the doorknob or handle and providing the required tension load without slippage. The equipment may be hydraulic or mechanical and must include a load cell, strain gauge, or other calibrated load-measuring device.

b. Assembly Support Fixture. The fixture for tests must consist of representative airplane framing members and representative wall structure, providing rigid, transverse restraint around the periphery of the assembly. The restraint provided by this fixture must simulate the rigidity provided in the airplane by the ceiling, floor, and walls, including the door installation. The test-panel fixture should not provide a significant increase in damping or energy absorption compared to the airplane configuration. That is, the fixture should not artificially contribute to the performance of the door. Figure 5 shows an example test fixture. If other boundaries require testing, the fixture should be modified to accommodate the particular geometry.

Figure 5. Door Assembly Support Fixture



c. Test Preparation. The assemblies to be tested, including the door and doorknob or handle, must consist of all relevant components, such as locks, jambs, hinges, grills, etc. Attach and orient these assemblies to the assembly support fixture as they will be installed in the airplane, with the ram on the passenger cabin side.

(1) Ambient test conditions. Ambient conditions of the test range will be maintained at:

(a) Temperature: 21°C ± 2.9°C (70°F ± 5°F);

(b) Relative humidity: 50% ± 20%; and

(c) No additional environmental effects need be considered for the test.

(2) Test specimens. The test specimens must be manufactured using the materials and manufacturing processes used for production parts. A sufficient number of specimens will be provided to accomplish all tests. They will be conditioned to ambient conditions for at least

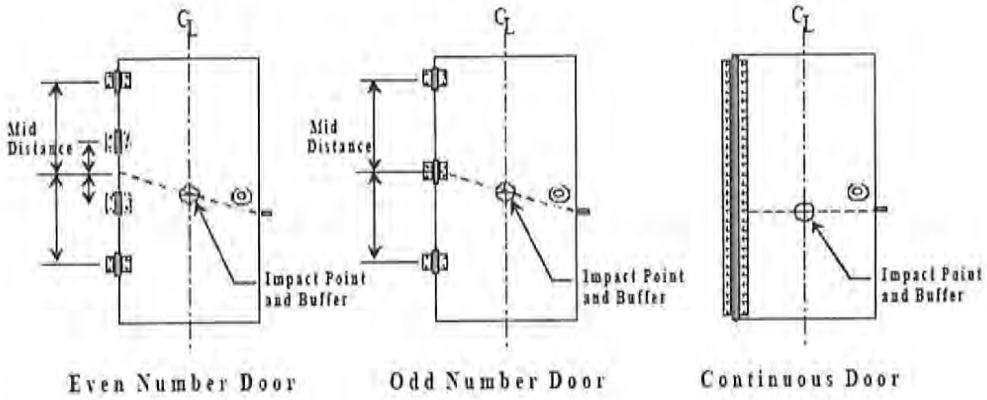
24 hours prior to testing unless the materials used are shown to be insensitive to variations in temperature and humidity.

d. Test Procedures.

(1) Door impact test.

(a) Prepare the test specimen in accordance with paragraph 8c and lock the door in the closed position. Set up the door ram pendulum weight (paragraph 8a(1)) so that its axis is horizontal and perpendicular to the face of the door at the point determined to be the most critical for door strength and distortion from impact, accounting for door design and load reaction points. If the door is of uniform construction, the impact point may be defined by the intersection of the vertical centerline of the door and a line from the center of the bolt at the door edge to the center of the mid-height hinge, or the mid point between hinges when the door is hung with two hinges, or horizontally across the door if the door is hung with a continuous hinge or integrated hinge pins. (See Figure 6.)

Figure 6. Door Impact Test Locations for Different Hinge Configurations (Uniform Door Design)

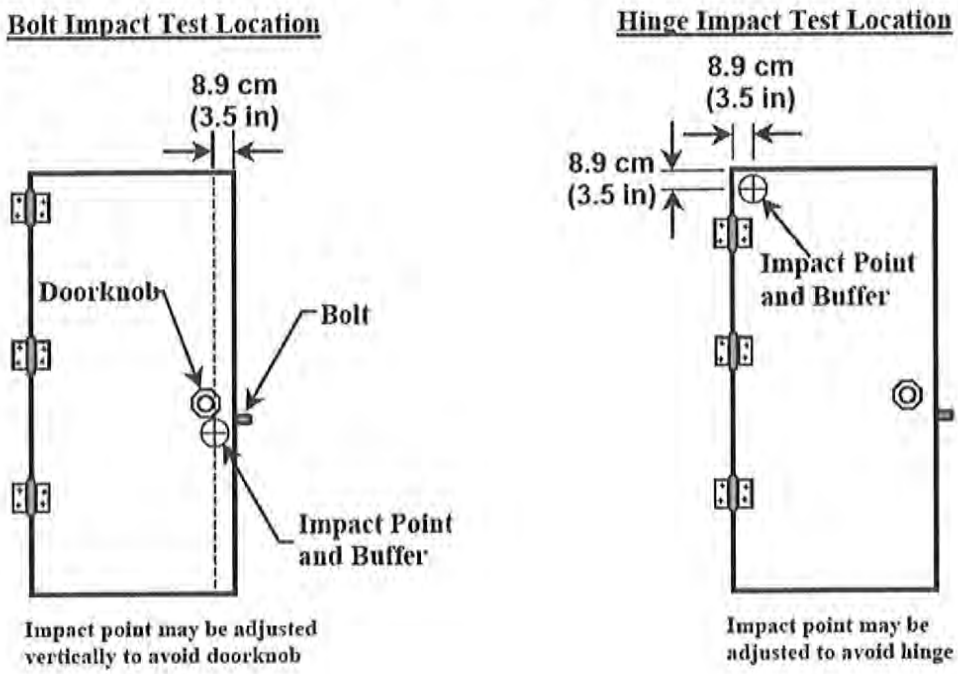


(b) Attach to the door, centered on the impact point, an impact buffer with a diameter no greater than 15.2 cm (6 in) and a thickness no greater than 5 cm (2 in). The recommended buffer material is a 25.6 Kg / m^3 (1.6 Lb / ft^3) rigid, cellular, polystyrene thermal insulation (ASTM Standard Specification C578-00 Type IV). Other buffer materials may be used provided they have similar response characteristics in terms of energy losses, peak impact loads, and rise times. Position the door ram such that its striking nose just touches the surface of the buffer when at rest. Pull back the pendulum weight to a drop height (H) of 68 cm (2.23 ft) and horizontal swing distance (L) of 136.5 cm (4.48 ft) to produce the required energy of 300 Joules (221.3 ft•lbf) and release. Subject the same test specimen to two impacts, attaching a new buffer for each impact. This test procedure assumes consistent structure throughout the door panel. Any significant detail variations may require further substantiation.

(2) Bolt impact test.

(a) Prepare the test specimen in accordance with paragraph 8c and lock the door in the closed position. Set up the door ram pendulum weight (paragraph 8a(1)) so that its axis is horizontal and perpendicular to the face of the door at the point 8.9 cm (3.5 in) from the door edge and horizontally in line with the door bolt. If the doorknob interferes with the impact point, the impact point may be moved vertically above or below the doorknob, whichever is closer to the bolt. (See Figure 7.)

Figure 7. Impact Test Locations for Doorknob and Hinge



(b) Attach to the door, centered on the impact point, an impact buffer with specifications provided in paragraph 8d(1)(b), and perform the impact tests also specified in that paragraph.

(3) Hinge test.

(a) Prepare the test specimen in accordance with paragraph 8c and lock the door in the closed position. Set up the door ram pendulum weight (paragraph 8a(1)), so that its axis is horizontal and perpendicular to the face of the door at the point 8.9 cm (3.5 in) down from the top door edge and 8.9 cm (3.5 in) in from the vertical door edge containing the door hinge (as shown in Figure 6). If the hinge interferes, the impact point may be moved at the discretion of the FAA Administrator or its designee.

(b) Attach to the door, centered on the impact point, an impact buffer with specifications provided in paragraph 8d(1)(b) and perform the impact tests also specified in that paragraph.

(4) Pull test.

(a) Prepare the test specimen in accordance with paragraph 8c and lock the door in the closed position. Attach the tension-loading device (paragraph 8a(4)) to a rigid support in front of the handle or knob on the cabin side of the door, and align the pulling axis to match the initial door opening direction. Attach the tension loading device to the handle or doorknob by means that will require minimum alteration of the doorknob or handle (i.e., friction devices, drilling holes, or cutting slots) ensuring that it will not slip during the test.

(b) Apply a minimum tensile load of 250 pounds to the knob or handle for three seconds or until the knob or handle separates from the door, whichever occurs sooner. Where design features would not permit a 250-pound tensile load to be applied by a person, an artificial method of applying the load may be necessary.

(5) Boundary tests. When testing is necessary to substantiate that a flightdeck boundary meets the intrusion resistance requirements, tests are carried out in the manner discussed above for door assemblies. Detailed features of the boundary, the failure of which would compromise either the intrusion resistance of the flightdeck, should be included in the test setup as with the detailed features of the door. An applicant should propose the test setup and identification of critical features for approval by the FAA Administrator or its designee. In most cases, however, it should be possible to substantiate the boundary elements without tests. Floors and ceilings may have inherent intrusion resistance based on their location and may not require testing on that basis. However, as noted previously, given the structural requirements already imposed on these features, it is likely that they can be shown to satisfy the intrusion resistance requirements without testing.

9. PASS/FAIL CRITERIA.

a. The assembly fails a test if:

(1) A door is forced open by any of the test impacts to the door, bolt, or hinge area, or from the tensile load applied to the knob or handle.

(2) A person can easily enter, relatively unimpeded, from the outside even though it might not be possible to open the door. For example, such entry may be through removable panels on the door or boundary, or gaps formed as a result of the impacts.

(3) The failure of the door handle enables the door to be opened, including failure resulting from the use of simple tools, such as pocket knives, nail files, or keys.

b. A method for determining acceptability under paragraph 9a is to apply a constant 100 pound load on the door in the direction of the flightdeck while making the assessments.

10. DESIGN VARIATION. Variations in design will not necessarily require testing if it can be shown by rational, comparative analysis that the new design will meet the pass/fail criteria.

[redacted]
Manager, Transport Airplane Directorate
Aircraft Certification Service

Appendix 1

Table 1. Abbreviations

Units of measure	Abbreviation
degrees Centigrade	°C
Centimeter(s)	cm
Degrees Fahrenheit	°F
foot, feet	ft
foot-pound force	ft•lbf
inch, inches	in
Joule(s)	J
kilogram(s)	kg
pound(s)	lb
meter(s)	m

I18-00099

Exhibit 1b

DOT, FAA, AC 25.795-2A,
Flightdeck Pentration Resistance
dated October 24, 2008.

U.S. Department
of Transportation
Federal Aviation Administration

Advisory Circular

Subject: FLIGHTDECK PENETRATION RESISTANCE | **Date:** 10/24/08 | **AC No:** 25.795-2A
Initiated By: ANM-100

1. PURPOSE. This advisory circular (AC) sets forth an acceptable means, but not the only means, of demonstrating compliance with the provisions of the airworthiness standards for transport category airplanes related to the airplane design for flightdeck penetration resistance.

2. APPLICABILITY. While these guidelines are not mandatory, they are derived from extensive Federal Aviation Administration (FAA) and industry experience in determining compliance with the pertinent regulations. If, however, we become aware of circumstances that convince us that following this AC would not result in compliance with the applicable regulations, we will not be bound by the terms of this AC, and we may require additional substantiation or design changes as a basis for finding compliance. The material in this AC does not change, create any additional, authorize changes in, or permit deviations from regulatory requirements.

3. CANCELLATION. This AC cancels AC 25.795-2, issued on January 10, 2001.

4. RELATED DOCUMENTS.

a. Title 14, Code of Federal Regulations (14 CFR) part 25, §§ 25.365, 25.771, 25.772, 25.795, 25.803, and 25.853.

b. 14 CFR part 91, § 91.11.

c. 14 CFR part 121, §§ 121.313, and 121.587.

d. International Civil Aviation Organization (ICAO) Annex 8 to the Convention on International Civil Aviation, titled "Airworthiness of Aircraft."

e. Policy memorandum PS-ANM100-2001-115-11, Certification of Strengthened Flightdeck Doors on Transport Category Airplanes, dated December 3, 2002, available at: http://rgl.faa.gov/[1]

5. **REFERENCES.**

a. 14 CFR part 25, § 25.795(d).

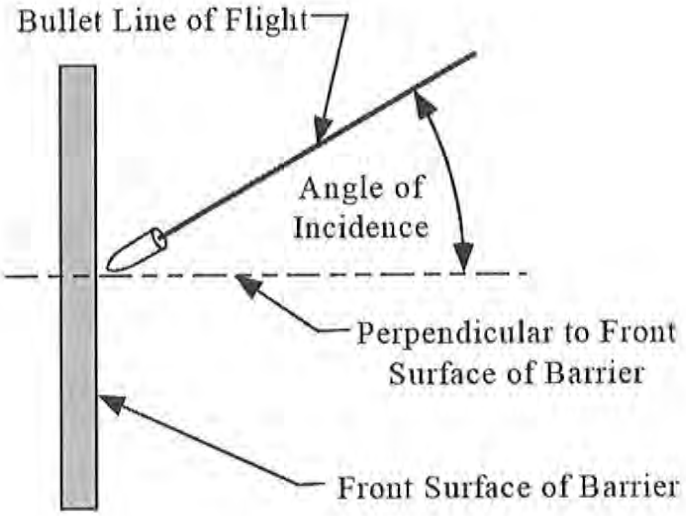
b. SRI International, "Fourth Workshop on Uncontained Engine Debris Characterization, Mitigation and Modeling, Aircraft Catastrophic Failure Prevention Program," May 2-4, 2000.

c. National Institute of Justice (NIJ), Ballistic Resistance of Personal Body Armor, *NIJ Standard-0101.04*, Office of Science and Technology, Washington, D.C. 20531, September 2000.

6. **DEFINITIONS.** Terms that are unique to ballistic testing and firearms, or that may not be in general use, are as follows:

a. **Angle of Incidence:** The angle between the line of flight of the bullet and the perpendicular to the front surface of the barrier. (See Figure 1.)

Figure 1. Angle of Incidence



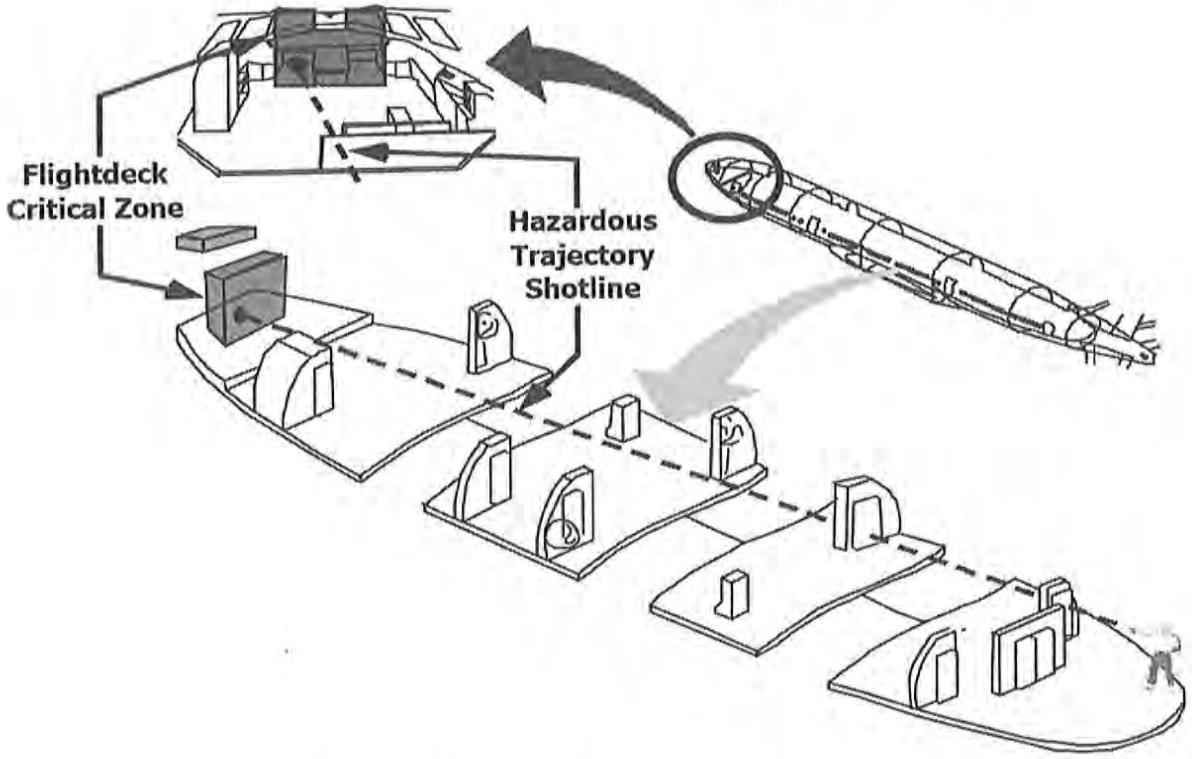
b. **Full Metal Jacketed Bullet (FMJ):** A lead core bullet completely covered with a copper alloy jacket (approximately 90 percent copper and 10 percent zinc), except for the base. Total Metal Jacket (TMJ), Totally Enclosed Metal Case (TEMC), and other commercial

[1] Select Policy, select Final, and search for ANM100-2001-115-11.

terminology for bullets with electro-deposited copper and copper alloy coatings are considered comparable to FMJ bullets.

c. Hazardous Trajectory: A shotline, from any ballistic threat, originating from any passenger-accessible compartment that passes through the flight-critical zone defined by flightcrew positions, flight-critical instrumentation, or flight-critical systems within the flightdeck. When establishing a hazardous trajectory, an applicant should consider trajectories originating in areas beyond the main cabin seating zones, if a passenger has access to them. (See Figure 2.) Such areas would include any compartment that is not locked. Crew rest compartments accessible from the cabin should be evaluated, if they are not locked or do not have some other means of physically preventing unwanted access. This applies even though they are intended only for crew use and are so marked.

Figure 2. Example of Hazardous Trajectory
(Shotline Intersects within the Critical Zone of the Flightdeck)



d. Jacketed Hollow Point Bullet (JHP): A lead core bullet with a hollow cavity or hole located in the nose of the bullet and completely covered with a copper-alloy jacket (approximately 90 percent copper and 10 percent zinc), except for the hollow point.

e. Penetration, Complete: Full passage of a bullet or bullet fragment through a test panel without being stopped, i.e., brought to zero velocity.

f. Penetration, Partial: An impact to a test panel in which the bullet and all of its fragments are stopped. Any portion of the bullet may protrude.

g. Reference Bullet Velocity: The designated impact velocity.

h. Round Nose Bullet (RN): A bullet with a generally blunt or rounded nose that may have a small flat surface at the tip of the nose.

i. Test Panel: The protective barrier, consisting of ballistic resistant materials, that is representative of production structure that shields the flightdeck from potential ballistic threats and is used to demonstrate actual capability in resisting projectile penetrations. It has representative arrangements and features, as they will appear on the airplane.

7. BACKGROUND.

a. Historical Events. Numerous hijackings and armed confrontations with passengers have occurred aboard commercial transport flights. These incidents have usually involved the use of various types of weapons, including handguns, knives, hand grenades, and explosives. In some cases, the weapons were actually used or discharged during flight.

b. Vulnerability. Although inherent features of airplanes provide high levels of safety, the flightdeck remains comparatively vulnerable to weapon attacks. Not only are pilots susceptible to trauma, but the potential loss of critical flight instrumentation and control is also of concern. The disabling of critical systems from a single ballistic penetration is achievable with the concentration of most systems control within a small sector of the flightdeck. Electronic displays of basic flight information are similarly vulnerable.

c. Active Measures. To counter weapon threats and intentional acts of destruction, measures have been taken to prevent the introduction of dangerous objects aboard transport flights. Recognizing that these efforts may never be fully effective, the ICAO sought to improve the survivability of airplanes in the event that these dangerous objects escape detection and are employed during flight. A series of Standards and Recommended Practices, established in Annex 8 to the Convention of International Civil Aviation, titled "Airworthiness of Aircraft," were incorporated that addressed these concerns.

8. OBJECTIVE.

Regions of the flightdeck that are vulnerable to ballistic threats originating from passenger compartments will be protected from small-arms projectiles and fragment debris from hand grenades (kinetic-energy weapons).

a. The goal is to ensure that safe flight and landing is not compromised through discharges of a firearm or fragmenting device.

b. Protection is expected to occur at the flightdeck bulkhead or at any interior equipment that serves as the bulkhead as well as at the floor and ceiling if on a hazardous trajectory. Boundary segments that are not on a direct hazardous trajectory or can only become hazardous from ricochets need not be resistant to ballistic penetrations. In determining trajectories, it may

be assumed that weapon discharges or fragmentation devices will be a threat only from any normal passenger-accessible location.

c. Features of the boundary between the flightdeck and passenger cabin, such as decompression panels, louvers, grills, doorknobs, latches, hinges, lugs, and peepholes, do not require testing if it can be shown that their failure would not degrade the penetration resistance. Such a feature would be one that is not on a hazardous trajectory, as defined above, or that, if it fails, does not create an opening into the flightdeck that is on a hazardous trajectory.

d. Joints between panels should not have gaps, or should be protected from penetration by, for example, an overlapping of protective material.

(1) If the gap is protected with an equivalent amount of material that passed the material ballistic tests, testing of the gap is generally not necessary. Surfaces of protective material that are butted flush against each other may also be acceptable without testing, if it is clear that penetration is not on a hazardous trajectory or that the ballistic impact does not degrade the penetration resistance of the material.

(2) If it is determined that a gap needs to be tested, however, the same pass/fail criteria as for the material ballistic test would apply. Unless the gap has a very specific orientation, it is tested with a single shot normal to the surface.

9. PRINCIPLES AND TECHNIQUES.

a. Several materials and concepts, designed to defeat ballistic threats, have been evaluated. Useful materials include metallic alloys, ceramics, polymers, strong fibers, and composites. For lightweight and relatively low-energy applications, strong fibers, sometimes coated in a matrix material, may offer the best protection.

b. For woven fabrics, the mesh or tightness of weave (yarns/inch) also has an effect on performance, but limited data suggest that this effect is minor when compared to the specific energy absorbed (energy/areal density).

c. The size and shape of the projectile also affects material response. The larger the fragment, the more fibers that have to be broken before penetration can occur.

d. The technique used to secure the material to its supports can have a significant effect on energy absorption. A material entirely glued to a surface or encased in a resin matrix is normally unable to yield or dissipate as much energy as a material that is only restrained at its outer boundaries. The data even suggest that restraining the material only at opposite ends instead of all four sides is appreciably better. The more flexible the attachment, the better able the material is to stretch and redistribute loads over larger areas and dissipate more energy through friction and deformation. Increasing distance between attachment points has also been shown to be beneficial, since more material deforms and more energy can dissipate over larger areas.

e. Combining multiple layers of material can also improve energy absorption more than the sum from individual layers. The interaction of overlaid materials disperses additional energy through friction.

f. It would also be expected that two fragments with the same basic shape and equal energies, but with different masses, would perform differently. The higher velocity fragment would be more easily stopped than the slower fragment. This is expected because of higher momentum exchange to the material (energy losses from accelerating the material) and higher strain rates, which normally delay material failures.

g. While laboratory tests of ballistic fabrics soaked in water have displayed reductions in ballistic resistance compared with identical dry fabrics, the flightdeck operates within normal humidity ranges, so testing the installed shielding in a soaked condition is not required. Materials stored where they could absorb moisture should be checked to ensure that they retain their ballistic resistance.

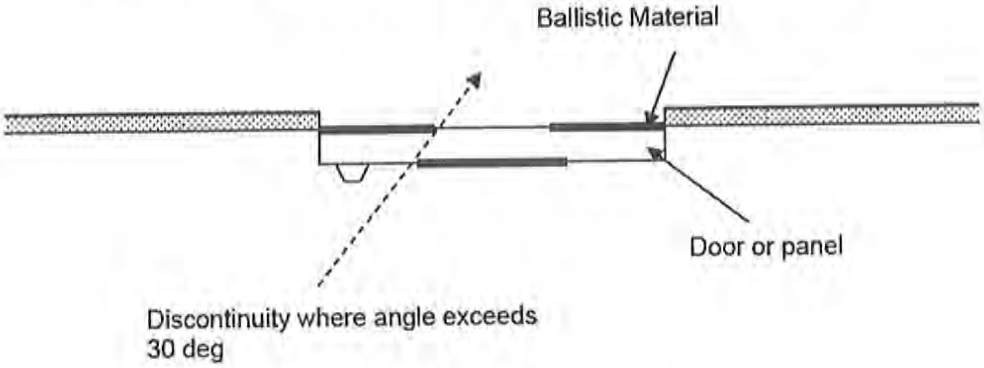
h. Based on material selection, configuration, and installation arrangement, areal densities less than one pound per square foot should be achievable for shielding protection against the defined threat in this AC.

i. A series of tests will require projectile impacts at both perpendicular and at an angle of incidence to the surface because most random shots would be unlikely to hit exactly perpendicular to the surface. Some materials offer lower protection by as much as 20 percent when a bullet strikes at an angle. The shielding must provide the minimum level of protection, regardless of the angle of impact.

(1) To the extent that the boundary contains features and details that are not homogeneous, they may behave differently with shots at different angles of incidence. Based on experience gathered to date, assuming that there are no discontinuities in the barrier, it is sufficient to address these features with shots at 0 and 30 degrees only. (See paragraph 11c(8).) It is not necessary to define some other angle.

(2) Where there are discontinuities (see Figure 3), however, this approach effectively results in no protective barrier for the part of the boundary where the discontinuity exists. This situation is contrary to the intent of the requirement. In that case, if the discontinuity presents a hazardous trajectory, it is not acceptable.

Figure 3. Hazardous Trajectory Because of Discontinuity



j. Limited studies of ballistic-resistant material capabilities under extended periods of use were conducted in 1983. Some of the material tested had been in service for more than 8 years. This testing and a 1986 study by the NIJ (Ballistic Tests of Used Body Armor) found that age alone does not degrade the ballistic properties of such armor. Material manufactured in 1975 that remained in inventory without issue exhibited ballistic-resistant properties identical to those at the time of manufacture. Both research studies included body armor that had been in use for as long as 10 years and had ballistic properties that were indistinguishable from those of unused armor manufactured at the same time. Age alone , therefore, is not considered to be a significant factor for ballistic resistance. An applicant that is aware of other environmental effects, and other effects such as cleaning, that *do* influence the ballistic resistance of the material should address these in the Instructions for Continued Airworthiness.

10. COMPLIANCE CRITERIA.[2]

a. Standardization. The NIJ, a research, evaluation, and development branch under the U.S. Department of Justice, advanced a voluntary national procedure to provide minimum performance requirements for soft body armor. The regulatory requirements and means to demonstrate compliance described in this AC are based in part on this nationally recognized standard found in NIJ Ballistic Resistance of Personal Body Armor, *NIJ Standard-0101.04*, dated September 2000. This is the fourth revision since the original release of the standard in March 1972.

b. Applicability. *NIJ Standard-0101.04*, dated September 2000, specifically addresses protection of the torso from ballistic threats. Since the intent of this AC is to protect the flightdeck and not body torsos, various requirements within the NIJ standard are not integrated into this AC. Specific guidance to achieve compliance is found within this AC.

c. Classification. The NIJ standard identifies seven levels of protection through a type classification. Type IIIA is an acceptable level to show compliance with § 25.795(a)(3). This level offers protection against most handguns and is considered to provide an adequate level of

[2] See Appendix 1 for a list of units of measure and the abbreviations for them, which are used in this AC.

protection from fragmentation devices as well as the Type I, IIA, and II threats. Demonstration of penetration resistance for Type IIIA rounds is accomplished with two different projectiles.

(1) Demonstration Projectile #1. A 9 mm full metal jacket, round nose (FMJ RN) bullet with nominal mass of 8.0 g (124 grain) and reference velocity 436 m/s (1,430 ft/s)

(2) Demonstration Projectile #2. A .44 Magnum, jacketed hollow point (JHP) bullet with nominal mass of 15.6 g (240 grain) and reference velocity 436 m/s (1,430 ft/s)

d. Alternative Projectile. The regulation was based on the criteria in *NIJ Standard-0101.04*, dated September 2000. This standard called out a jacketed hollow point bullet. The standard was later revised in June 2001, to call out a semi-jacketed bullet. To promote standardization, the NIJ requires a specific bullet, the Remington R44MG3 semi-jacketed bullet, to be used when testing to the standard. The FAA considers this bullet acceptable for testing in accordance with this AC. Otherwise, a jacketed bullet should be used as per the reference in the rule.

11. COMPLIANCE DEMONSTRATION.

a. Compliance may be shown by analysis, tests, or by comparison with previously approved configurations. If tests are used to demonstrate compliance, specimens must be representative of the arrangements used on the airplane. All configurations must be tested, unless the performance of the configurations not tested is rationally shown to be equal or better. Previously approved test data may be used as a basis for compliance for other airplane configurations, provided that their applicability is demonstrated in a rational manner. However, features such as decompression panels, louvers, doorknobs, latches, hinges, lugs, and peepholes should be addressed, as discussed in paragraph 8c.

b. Validation tests are not required, if the ballistic performance of the configuration will meet certification requirements based on comparative analysis, provided that the methods used are shown to be rational. In order for the comparative analysis to demonstrate compliance without a test, the following factors must be assessed to show that the fabrication and/or installation have not degraded the material performance:

(1) Material properties;

(2) Fabric weave (direction and density)—if applicable;

(3) Material thicknesses and interactions (multiple plies);

(4) Attachment arrangements and supporting structure;

(5) Energy absorption methods; and

(6) Fabrication of the surfaces affected (e.g., door, bulkhead, etc.).

c. Test Procedures. This procedure provides an acceptable method to demonstrate adequate protection for the flightdeck against ballistic threats. The tests demonstrate the ability of the shield to prevent bullet penetrations with a pass/fail criterion. In order to pass, all portions of the projectile must be stopped by the shielding on each of the required tests. Partial penetrations of the bullet through the shielding are acceptable.

(1) Hand loads. Hand-loaded ammunition may be used and is typically necessary on any of the tests. Adjustments are normally made to powder quantity to assure velocity requirements are met.

(2) Test barrels. Use of test barrels or actual weapons appropriate for the ammunition are acceptable, provided that impact locations, projectile orientations, and impact velocities can be maintained.

(3) Ambient test conditions. Ambient conditions of the test range will be maintained at:

(a) Temperature: 21°C ± 2.9°C (70°F ± 5°F);

(b) Relative humidity: 50% ± 20%; and

(c) No additional environmental effects need be considered.

(4) Test specimens. Test specimens should be manufactured using the materials and manufacturing processes used for production parts. A sufficient number of specimens should be provided to accomplish all tests. They should be conditioned to ambient conditions for at least 24 hours prior to testing, unless the materials used are shown to be insensitive to variations in temperature and humidity.

(5) Timing screens. Projectile impact velocities will be measured on every test. Any systems that can measure velocities to within 3 m/s (10 ft/s) are acceptable. Individual recording devices must be capable of discriminating to 0.3 m/s (1.0 ft/s) or 0.1 microseconds (10^{-7} seconds). Recommended velocity measuring equipment includes:

(a) Photo electric light screens;

(b) Printed make circuit screens;

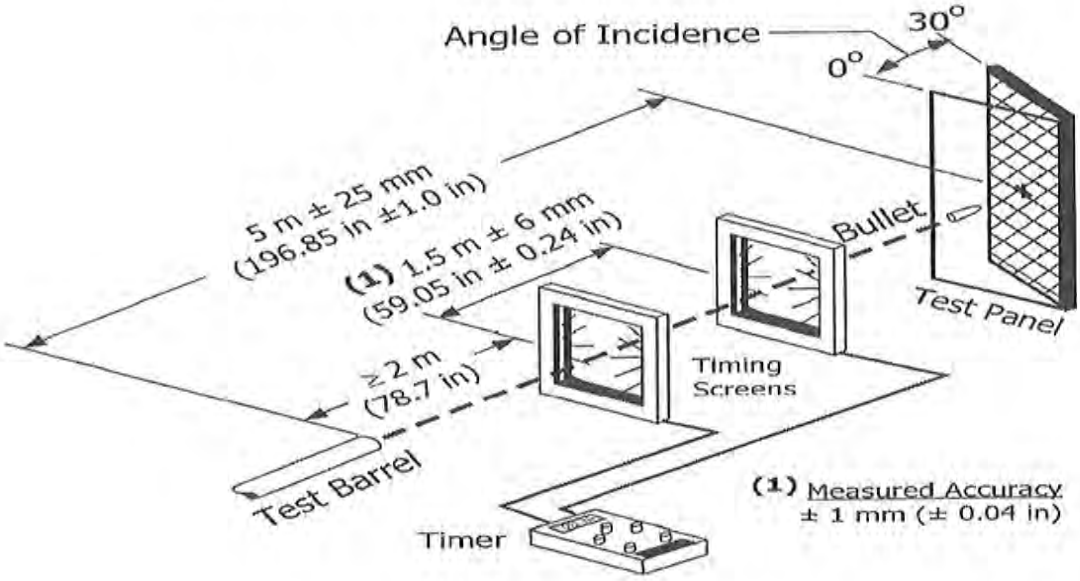
(c) Printed break circuit screens; or

(d) Ballistic radar.

(6) Timing screen arrangement. The first timing screen should be placed a minimum of 2 m (78.7 in) from the end of the test barrel. (See Figure 4.) The second screen should be placed 1.5 m (59.05 in) ± 6 mm (0.24 in) from the first screen. The test specimen should be placed 5 m (196.85 in) ± 25 mm (1.0 in) from the end of the test barrel. Although the spacing between the gun barrel and the test panel is substantial (5 meters), this is neither indicative nor representative of the distances that may be experienced from an actual in-flight incident. Design

considerations must assume that weapon use may occur at distances ranging from point-blank range to the length of the passenger cabin. The test evaluation distances were selected as compromises for competing requirements.

Figure 4. Test Arrangement for Ballistic Test Panels



(7) Test panels. Through-thickness construction of the test panels should not be greater than the minimum configuration to be used in service. The test panels may be simplified with respect to peripheral size, geometry, and boundary conditions. It must be shown that the simplifying assumptions are rational and lead to a conservative representation when compared to the actual airplane configuration. Six impact sites will be identified on the test panel for the first ammunition type. These sites will be uniformly spaced throughout the panel with no site closer than 76 mm (3.0 in) from center of impact to any edge of the protection shield and 51 mm (2.0 in) measured center-to-center between any two impact sites. If space is available on the test panel, using the same criteria, the next six sites for the second ammunition type can be identified for the second test series. Otherwise, a new test panel will be required. If the mechanism for stopping projectiles is lost after any shot, replacement panels may be used to complete the test series. However, the same relative impact locations must continue to be employed, as previously assigned. The test panels should be tested in dry conditions.

(8) Detail features. The airplane may contain detail features that do not consist of the baseline ballistic material. As mentioned in paragraph 8d(2), a feature such as a gap is generally tested with a single shot, oriented normal to the surface. The same is true for other features, such as a latch, hinge, or louver. As discussed in paragraphs 11a and 11b, tests on features may be needed if there is not sufficient data available to make a comparative analysis. Under the test conditions, it is possible to very accurately target small features on the order of the bullet diameter.

(9) Test shots. Table 1 provides the test conditions that are sufficient to demonstrate compliance. The shielding devices are required to prevent penetration from the impact of six bullets at the designated velocities and locations for two ammunition types. Two of the impacts in each six-shot sequence must be at a 30 degree angle of incidence. After each shot, the panel will be inspected to determine if the projectile was fully arrested, and either a pass or failure will be recorded. The velocity will also be computed and recorded. If the velocity is less than the minimum acceptable or the impact site is outside of the allowable limits, a retrial may be necessary. The projectile may be removed, if desired, before subsequent shots.

Table 1. Performance Test Summary

Test Round	Test Bullet	Bullet Weight	Bullet Diameter	Reference Velocity	Hits at 0° Angle of Incidence	Hits at 30° Angle of Incidence	Shots per Panel	Total Shots Required
1	9 mm FMJ RN	8.0 g (124 grains)	9 mm (.355 in)	436 m/s (1430 ft/s)	4	2	6	12
2	.44 Magnum JHP	15.6 g (240 grains)	10.9 mm (.429 in)	436 m/s (1430 ft/s)	4	2	6	

(10) Witness sheet. A witness sheet of suitable material should be placed six inches behind the test specimen for verification that there was not complete penetration of the sample by the projectile or fragments. However, if the witness sheet is butcher paper or equivalent, only actual penetrations of the witness sheet are considered as having penetrated the specimen. Tiny particles that do not have sufficient energy to penetrate paper do not pose a concern with the design and are not considered penetrations.

12. PASS/FAIL CRITERIA.

a. To be a valid shot, several criteria must be met. The bullet must impact the panel at an angle of incidence ± 5 degrees from the intended angle of incidence, at a yaw angle (of the bullet) within ± 5 degrees, at an impact velocity within ± 9.1 m/s (30 ft/s) of the reference velocity, and no closer to an edge or adjacent impact site than given in paragraph 11c(7). When shooting detail features, the bullet must strike the feature.

b. If all conditions are met and the impact velocity equals or exceeds the minimum acceptable velocity without penetration, it is considered a pass. However, shots that cause the opening of panels, grills, etc., such that there is no longer a barrier between the cabin and the flightdeck, are considered failures.

c. If all conditions are met, except the impact velocity occurs at or less than the maximum acceptable velocity with penetration, it is considered a failure. If all conditions are met but

penetration occurs above the maximum acceptable velocity, a retrial may be performed without making any design changes.

[redacted]
Manager, Transport Airplane Directorate
Aircraft Certification Service

Appendix 1

Table 1. Abbreviations

Units of Measure	Abbreviation
feet per second	ft/s
degrees Centigrade	°C
degrees Fahrenheit	°F
gram(s)	g
inch, inches	in
meter(s)	m
meter(s) per second	m/s

I18-00099

Exhibit 1c

Final Rule dated January 15, 2002

Federal Register

Tuesday,
January 15, 2002

Part V

Department of Transportation

Federal Aviation Administration

14 CFR Parts 25 and 121
Security Considerations in the Design of the Flightdeck on Transport Category Airplanes; Final Rule
Advisory Circulars (AC) 25.795–1, Flightdeck Intrusion Resistance, and AC 25.795–2, Flightdeck Penetration Resistance; Notice

DEPARTMENT OF TRANSPORTATION

Federal Aviation Administration

14 CFR Parts 25 and 121

[Docket No. FAA–2001–11032; Amendment No. 25–106 and 121–288]

RIN 2120–AH56

Security Considerations in the Design of the Flightdeck on Transport Category Airplanes

AGENCY: Federal Aviation Administration (FAA), DOT.

ACTION: Final rule; request for comments.

SUMMARY: This amendment implements two security design requirements governing transport category airplanes. This amendment requires a means to protect the flightdeck from unauthorized intrusion and small arms fire or fragmentation devices. The FAA is also requiring that certain airplanes operating in part 121 service comply with this amendment to prevent unauthorized access to the flightdeck. These amendments are being adopted to further enhance air carrier security in response to the heightened threat to U.S. civil aviation.

DATES: This amendment is effective January 15, 2002. Comments must be received on or before March 18, 2002.

ADDRESSES: Address your comments to the Docket Management System, U.S. Department of Transportation, Room Plaza 401, 400 Seventh Street, SW., Washington, DC 20590–0001. You must identify the docket number FAA–2001–11032 at the beginning of your comments, and you should submit two copies of your comments. If you wish to receive confirmation that FAA received your comments, include a self-addressed, stamped postcard.

You may also submit comments through the Internet to *http://dms.dot.gov*. You may review the public docket containing comments to this final rule in person in the Dockets Office between 9 a.m. and 5 p.m., Monday through Friday, except Federal holidays. The Dockets Office is on the plaza level of the NASSIF Building at the Department of Transportation at the above address. Also, you may review public dockets on the Internet at *http://dms.dot.gov*.

Comments that you may consider to be of a sensitive security nature should not be sent to the docket management system. Send those comments to the FAA, Office of Rulemaking, ARM–1, 800 Independence Avenue, SW, Washington DC 20591.

FOR FURTHER INFORMATION CONTACT: [redacted], FAA Airframe and Cabin Safety Branch, ANM–115, Transport Airplane Directorate, Aircraft Certification Service, [redacted]

SUPPLEMENTARY INFORMATION:

Comments Invited

This final rule is being adopted without prior notice and prior public comment. The Regulatory Policies and Procedures of the Department of Transportation (DOT) (44 FR 1134; February 26, 1979), however, provides that, to the maximum extent possible, operating administrations of the DOT should provide an opportunity for public comment on regulations issued without prior notice. Accordingly, interested persons are invited to participate in this rulemaking by submitting such written data, views, or arguments, as they may desire. Comments relating to the environmental, energy, federalism, or international trade impacts that might result from this amendment are also invited. Comments must include the regulatory docket or amendment number and must be submitted in duplicate to the DOT Rules Docket address specified above.

All comments received, as well as a report summarizing each substantive public contact with FAA personnel concerning this final rule; and request for comments, will be filed in the docket. The docket is available for public inspection before and after the comment closing date.

The FAA will consider all comments received on or before the closing date for comments. Late filed comments will be considered to the extent practicable. This final rule may be amended in light of the comments received.

Commenters wishing the FAA to acknowledge receipt of their comments submitted in response to this document must include a pre-addressed, stamped postcard with those comments on which the following statement is made: "Comments to Docket No. FAA–2001–11032." The postcard will be date stamped and mailed to the commenter.

Availability of Rulemaking Documents

You can get an electronic copy using the Internet by taking the following steps:

(1) Go to the search function of the Department of Transportation's electronic Docket Management System (DMS) Web page (*http://dms.dot.gov/search*).

(2) On the search page type in the last four digits of the Docket number shown at the beginning of this amendment. Click on "search."

(3) On the next page, which contains the Docket summary information for the Docket you selected, click on the document number of the item you wish to view.

You can also get an electronic copy using the Internet through FAA's Web page at *http://www.faa.gov/avr/arm/nprm/nprm.htm* or the **Federal Register**'s Web page at *http://www.access.gpo.gov/su_docs/aces/aces140.html*.

You can also get a copy by submitting a request to the Federal Aviation Administration, Office of Rulemaking, ARM–1, 800 Independence Avenue SW., Washington, DC 20591, or by calling (202) 267–9680. Make sure to identify the docket number and amendment number of this rulemaking.

Small Business Regulatory Enforcement Fairness Act

The Small Business Regulatory Enforcement Fairness Act (SBREFA) of 1996 requires FAA to comply with small entity requirements for information or advice about compliance with statutes and regulations within its jurisdiction. Therefore, any small entity that has a question regarding this document may contact their local FAA official, or the person listed under FOR FURTHER INFORMATION CONTACT. You can find out more about SBREFA on the Internet at our site, *http://www.gov/avr/arm/sbrefa.htm*. For more information on SBREFA, e-mail us at *9-awa-sbrefa@faa.gov*.

Background

On September 11, 2001, the United States experienced terrorist attacks when airplanes were commandeered and used as weapons. These actions demonstrated the need to improve the security of the flightdeck. On November 19, 2001, Congress enacted Public Law 107–71, the Aviation and Transportation Security Act (the Act). Section 104 (a) of the Act, Improved Flight Deck Integrity Measures, states:

(a) IN GENERAL.—As soon as possible after the date of enactment of this Act, the Administrator of the Federal Aviation Administration shall—

(1) Issue an order (without regard to the provisions of chapter 5 of title 5, United States Code)—

(A) Prohibiting access to the flightdeck of aircraft engaged in passenger air transportation or intrastate air transportation that are required to have a door between the passenger and pilot compartments under title 14, Code

of Federal Regulations, except to authorized persons;

(B) Requiring the strengthening of the flightdeck door and locks on any such aircraft operating in air transportation or intrastate air transportation that has a rigid door in a bulkhead between the flightdeck and the passenger area to ensure that the door cannot be forced open from the passenger compartment;

(C) Requiring that such flightdeck doors remain locked while any such aircraft is in flight except when necessary to permit access and egress by authorized persons; and

(D) Prohibiting the possession of a key to any such flightdeck door by any member of the flightcrew who is not assigned to the flightdeck;

(2) Take such other action, including modification of safety and security procedures and flightdeck redesign, as may be necessary to ensure the safety and security of the aircraft.

The Act directs that the FAA issue an order fulfilling the requirements of paragraph (a)(1) of Section 104 as a final rule, without seeking public comment prior to adoption. The Act specifies that improved flightdeck security must be applied to airplanes operating in air transportation that are currently required to have flightdeck doors.

This final rule is intended to implement Section 104(a) of the Act. Thus, as explained more fully below, it prohibits access to the flightdeck, requires strengthening of the flightdeck doors, requires flightdeck doors to remain locked, and prohibits possession of keys to the flightdeck door by those members of the crew not assigned to the flightdeck. While the Act and the deadlines established in the Act provide both the impetus and the authority for issuance of this rule as a final rule without notice and comment, both the FAA and the broader aviation community have for some time been engaged in efforts to address the issue of flightdeck security. In addition, since the events of September 11, the FAA has issued a series of Special Federal Aviation Regulations (SFAR 92, 92–1, and 92–2) which are also pertinent to the issues addressed in this final rule. Before describing the terms of the final rule, therefore, we summarize below for context the various regulatory efforts that have considered flightdeck security and which further support the issuance of this final rule.

FAA/Industry/International Design Efforts

Because of the work on flight deck security that had been initiated by the FAA and the aviation community through the International Civil Aviation Organization (ICAO) and the Aviation Rulemaking Advisory Committee (ARAC), the objectives of this amendment already have broad acceptance. The ICAO is an international body consisting of 187 member countries which has adopted standards under Amendment 97 to ICAO Annex 8 relating to the incorporation of security into the design of airplanes including the following subjects:

(1) Survivability of systems,

(2) Fire suppression,

(3) Smoke and fumes protection (cabin and flightdeck),

(4) Least risk bomb location and design,

(5) Pilot compartment small arms and shrapnel penetration, and

(6) Interior design to deter hiding of dangerous articles and enhance searching.

This rule only addresses ICAO requirements regarding protecting the pilot compartment. The remainder of the ICAO requirements will be addressed in subsequent rulemaking action.

In addition to participating in the development of international standards through the ICAO, the FAA considers maintaining harmonized standards between the United States and Europe to be a high priority. The FAA has found that carrying out this harmonization task is best achieved by a joint activity with its European counterpart, the Joint Aviation Authorities (JAA) and through ARAC, the FAA developed protection for the pilot compartment beyond the ICAO standard.

The ARAC is composed of 76 member organizations with a wide range of interests in the aviation community and provides the FAA with firsthand information and insight regarding proposed new or revised rules. In 1999, ARAC established a Working Group of airplane design specialists and aviation security specialists from the aviation industry and the governments of Europe, the United States, Brazil and Canada. The Working Group was tasked to develop harmonized security related design provisions based on Amendment 97 to Annex 8 of the Convention on International Civil Aviation. One of the requirements covered by the tasking is protection of the flightdeck. The Working Group was also tasked to consider improving the resistance to flightdeck intrusions while still ensuring compliance with the other requirements.

The Working Group developed specific recommendations for implementing security provisions into the design of transport category airplanes. The ARAC has approved those recommendations with respect to protection of the flightdeck and recommended them to the FAA for rulemaking. The FAA has accepted ARAC's recommendations, and the rulemaking contained in this amendment follows from those recommendations and the activity of the Working Group.

The FAA is expediting rulemaking action with regard to protection of the flightdeck based on the events of September 11, 2001, and the requirements of the Act. The remainder of the tasks assigned to the working group will be completed and forwarded to the FAA in the near future. The FAA intends to go forward with additional rulemaking after those recommendations are received.

Other Rulemaking To Protect the Flightdeck

Following the events of September 11, 2001, the FAA issued a series of Special Federal Aviation Regulations (SFAR 92, 92–1 and 92–2) to enable passenger air carriers to make short-term modifications to their flightdeck doors to enhance security. These modifications can be made quickly and will significantly improve the intrusion resistance of the flightdeck, even though they might not meet all regulatory requirements. The SFARs provided temporary regulatory relief from certain airworthiness standards so that security enhancements could be made as quickly as possible. In contrast, this amendment establishes the long-term standards for doors. This amendment will supersede the short-term SFAR requirements before the SFAR expires.

To date the SFAR 92 series rules have authorized, but not required, the short-term modifications. Concurrent with this amendment the FAA is issuing an SFAR 92–3 that will require the short-term modifications. The level of security enhancement mandated by SFAR 92–3 is intended to mirror those changes already made voluntarily by operators.

Discussion of the Final Rule

Part 25 Requirements

Applicability

As directed by Section 104 of the Act, this amendment applies to "aircraft engaged in passenger air transportation or intrastate air transportation that are required to have a door between the passenger and pilot compartments under title 14, Code of Federal Regulations."

The only regulation currently addressing this issue is 14 CFR

121.313(f), which, for airplanes operated under that part, requires installation of a "door between the passenger and pilot compartments, with a locking means to prevent passengers from opening it without the pilot's permission, except that nontransport category airplanes certificated after December 31, 1964, are not required to comply with this paragraph." The exception for nontransport category airplanes certificated after December 31, 1964, generally covers smaller commuter category airplanes. This amendment applies to the airplanes subject to the 14 CFR 121.313(f) requirement. In addition, as discussed under the heading "Operating Requirements," we are amending § 121.313 to apply these requirements to transport category all-cargo airplanes that have flightdeck doors installed on the effective date of this amendment. As discussed under the heading, "Future Rulemaking," the FAA may consider imposing similar requirements for other airplanes in the future.

Section 104(a)(1)(B) of the Act provides that this new requirement must apply to affected aircraft that have a "rigid" door. Neither the Act nor 14 CFR 121.313(f) distinguishes between rigid doors and non-rigid doors, and the FAA is not aware of a practicable distinction between such doors that could be used in this rulemaking or in the implementation of the new regulation. Therefore, this amendment applies to all affected doors between pilot and passenger compartments, without distinction based on rigidity. To the extent that such application may be seen as exceeding the authority provided by Section 104 of the Act to issue this regulation without notice and comment procedures, we find good cause under 5 U.S.C. 553(b)(3)(B) for not following those procedures. As explained, it is impracticable to define a distinction based on rigidity that would enable the FAA to comply with the Act's requirement to issue this regulation for "rigid" doors, while excluding "non-rigid" doors. In addition, we find that, even if such a distinction could be drawn, it would be contrary to the intent of the Act, and the purpose of this rulemaking, which is to enhance the security of flightdeck doors for airplanes that are required to have them.

Accordingly, this amendment adds a new § 25.795 addressing the incorporation of security into transport category airplane flightdeck design. This rule applies whenever the airplane is required to have a flightdeck door. Some airplanes are equipped with crew rest areas that have doors that lead from the passenger cabin into the crew rest area, as well as a door from the crew rest area into the flightdeck. For the purposes of compliance with this amendment, the door leading into the crew rest area from the passenger cabin is the affected door.

The FAA invites comments on the applicability of this regulation. Commenters should clearly delineate their rationale for a different applicability in terms of how the security and safety issues are addressed. Because such discussions are also sensitive from a security standpoint, the FAA may screen such comments before placing them in the public docket. Send those comments to the FAA, Office of Rulemaking, ARM–1, 800 Independence Avenue, SW, Washington DC 20591.

Flightdeck Security Intrusion by Persons

Section 25.795(a)(1) requires that the flightdeck door installation be designed to resist intrusion by any person who attempts to enter the flightdeck by physically forcing his or her way through the door. In this context, the door installation includes the door, its means of attachment to the surrounding structure, and the attachment structure on the bulkhead itself. The integrity of the locking/latching/hinge mechanism, as well as the door panel itself, can be improved so that intrusion resistance is significantly enhanced.

There are numerous data concerning the forces a person can exert on a door. *National Institute of Law Enforcement and Criminal Justice (NILECJ) standard 0306.00* released in May 1976, for the Physical Security of Door Assemblies and Components, provides standards and guidance to assess a door's resistance to intrusion. The highest level of intrusion resistance in the NILECJ standard uses impacts of 200 Joules. In conjunction with industry, the FAA determined that a higher standard was necessary and achievable. This final regulation requires that the door resist impacts with energies equal to 300 Joules (221.3 foot-pounds), which is fifty percent higher than the highest level of intrusion resistance in the NILECJ standard. In order to address resistance to pulling on the doorknob or handle, the regulation also includes a requirement for application of a 250 pound tensile load. This value was selected to provide intrusion resistance from pulling comparable to the 300 Joules impact resistance requirement. The requirement is not intended to prevent entry by a person using extraordinary means or with a large amount of time to work on opening the door. It is intended to deter attempts at entry and delay attempts until other actions can be taken to prevent entry.

The FAA has captured applicable reference data and test methods in Advisory Circular (AC) 25.795–1, "Flightdeck Intrusion Resistance," and considers these acceptable for demonstrating compliance. The methods of compliance described in the AC consist of impact tests at critical points on the door, as well as resistance to pulling. Critical locations are expected to be the door latch and hinge, as well as the panel itself, but will depend on the design. The FAA will also consider other valid compliance methods if proposed by an applicant.

An additional aspect of intrusion resistance is the interior configuration in the vicinity of the door. Small changes to the interior can make it difficult for an intruder to have direct access to the door, and therefore difficult to exert much force. Changes to the interior should also be included as part of the design considerations to meet this requirement.

Ballistic Penetration

Section 25.795(a)(2) requires design precautions to be taken to minimize the penetration of shrapnel from a fragmentation device and small arms projectiles (i.e., ballistics) which might be fired through the flightdeck doors from occupied compartments. While not explicitly mentioned in the Act, these protections are key elements of protecting the flightdeck from intrusion as required by § 104(a)(1)(B) of the Act because any compromise to the integrity of the flightdeck door from a ballistic threat could enable an intruder to gain access to the flightdeck. It would be impracticable to protect the door without including a ballistic protection component. To the extent that this may be seen as exceeding the authority provided by Section 104 of the Act to issue this regulation without notice and comment procedures, we find good cause under 5 U.S.C. 553(b)(3)(B) for not following those procedures.

Ballistic resistance will also protect the pilot from trauma from ballistics entering the flightdeck. Further, the potential loss of critical flight instrumentation and control is also acute if ballistics penetrate the flightdeck. The disabling of critical systems from a single ballistic penetration is achievable with the concentration of most systems controls within a small sector of the flightdeck. Electronic displays of basic flight information are similarly unprotected and vulnerable. It is not the intent of this requirement to make the flightdeck

"impenetrable," but to provide a high level of protection.

This final rule requires protection for all features of the flightdeck door to the extent necessary to prevent penetration of likely projectiles. We have determined protection equivalent to Level IIIA of the National Institute of Justice Standard (NIJ) standard 0101.04 is sufficient to protect against the most powerful handgun projectiles and grenade shrapnel that could be encountered on civil airplanes, and have adapted the relevant portions of this standard for this application in AC 25.795–2, Flightdeck Penetration Resistance. Protection would be required at all points where penetration of small arms fire could cause a hazard. This would include design details such as hinges, grills, and latches.

The FAA has reviewed several material concepts to address this requirement, including metallic alloys, ceramics, cermets, polymers, strong fibers and composites, and determined that the proposal is both practical and cost-effective. Advisory Circular 25.795–2 includes a detailed discussion of both material types and methods of compliance. A notice of issuance of AC 25.795–1 and AC 25.795–2 is published in this same part of the **Federal Register**. However, it is the FAA's intention to accept certain material types and installation approaches without the need for actual test if it can be shown that the material and its installation would meet the intent of the rule. If an applicant elected to use other means, the AC would also provide for use of alternative materials and installations in compliance with performance standards specified in the rule.

Existing Requirements

The flightdeck door is subject to several requirements that affect its structural integrity. These include protection during decompression where the door may incorporate venting features to prevent a large pressure differential build up; egress considerations to permit the flightcrew to enter the passenger cabin in the event the door becomes jammed during an accident; and provisions to enable rescue personnel to enter the flightdeck in the event members of the flightcrew are unable to exit on their own. The door may also be integral in meeting ventilation requirements. There is, of course, the potential for designs that meet this new rule to conflict with existing requirements, but the FAA has determined that all the requirements can be accommodated by proper design of the door installation.

The balance between providing access to rescue personnel while providing intrusion resistance may be the most difficult element. On some airplanes, there are exits inside the flightdeck that can be opened from the outside and in such cases, there is no requirement for the flightdeck door to have provision for entry by rescue personnel. For future airplanes, this is the most direct way to address the potential conflicts in the requirements. On airplanes where the flightdeck exits cannot be opened from the outside, rescue personnel must gain access to the flightdeck via the flightdeck door. As stated earlier, the objective of this amendment is to either directly prevent the entry of a person or sufficiently delay them until other actions could be taken to prevent them from being able to continue their attempted entry. In that regard, to meet the intent of this amendment, the size and location of any removable panels should be sufficiently awkward to inhibit that person's entry. The FAA expects that rescue personnel would have additional equipment at their disposal to gain access through the flightdeck door and be able to exert more force than would an individual acting in flight. Therefore, there should be no inherent reason that the two requirements cannot both be met.

Inflight Access by Cabin Crew

While not explicitly a current requirement, the FAA has long recognized a need to provide for in-flight flightdeck entry by the cabin crew should a flightcrew member become incapacitated; because the consequences of not providing such access could be catastrophic. Since § 121.313(g) resulted in flight attendants having access to a key to the flightdeck door, this issue has been addressed fairly simply in the past. As required by Section 104(a)(1)(D) of the Act, however this rule will prohibit the possession of flightdeck door keys by the cabin crew during flight, as discussed under "Operating Requirements."

The FAA expects that other means to enable a flight attendant to enter the flightdeck, without the use of force, will be available through more sophisticated systems that do not require forcible entry, and that these means will be available only to the cabin crew and only in an emergency situation. Various approaches are possible and do not require detailed discussion here. This capability is considered necessary, however, and it would be impractical to impose the requirement for intrusion resistant flightdeck doors without addressing this issue at the same time. Indeed, Congress recognized in § 104(a)(1)(c) of the Act that there would be times when it would be necessary for authorized persons to enter the flightdeck.

Therefore, § 25.772 is being amended to require that there be a means to allow the flight attendants to enter the flightdeck should the flightcrew become incapacitated. Such means are only intended to be used in an emergency situation, and would require complementary operational procedures to facilitate their use. As discussed below, § 121.313(j) permits a combination of procedures and hardware to provide access by flight attendants in light of this aggressive compliance schedule specified in this amendment.

We have concluded that this requirement is comfortably within the scope of those provisions authorized by Section 104 of the Act as with other provisions discussed previously, however, to the extent that this provision may be seen as exceeding the authority provided by Section 104 to issue this regulation without notice and comment procedures, the FAA finds good cause under 5 U.S.C. 553(b)(3)(B) for not following those procedures on the grounds that strengthening the flightdeck door, as required by the Act, without providing for access to the flightdeck by authorized personnel in case of flightcrew incapacitation, would create a serious safety problem that was not intended by Congress. Therefore, providing notice and prior opportunity to comment on this provision is impracticable and contrary to the public interest.

Operating Requirements

Flightdeck Door Requirements

As required by the Act, the FAA is revising § 121.313 to impose new flightdeck door requirements on existing airplanes that are required to have such doors. The FAA has also considered the issue of airplanes that carry cargo, but are permitted to also carry certain persons as defined in § 121.583 who are not flightcrew members. On many of these airplanes, there is a door between the flightdeck and the occupied compartment. Current regulations do not ensure that a person intent on using an airplane as a weapon would be unable to board all-cargo airplanes. Therefore, in cases where these airplanes already have a flightdeck door, the FAA has determined that the door should meet the new standards adopted here. As already noted for other provisions, this requirement is not specifically addressed in the Act. To the extent that this provision may be seen

as exceeding the authority provided by Section 104 to issue this regulation without notice and comment procedures, the FAA finds good cause under 5 U.S.C. 553(b)(3)(B) for not following those procedures on the grounds that addressing only passenger carrying airplanes with flightdeck doors would omit a significant number of airplanes that are similarly situated.

Section 121.313(f) does not require such all-cargo airplanes to have a door between the flightcrew compartment and other occupied compartments. In order to preclude removal of flightdeck doors as a means to avoid compliance with this requirement, the rule applies to all-cargo airplanes that have flightdeck doors installed on the effective date of this amendment.

In addition, as discussed under the heading "Future Rulemaking," the FAA is considering the need to require a flightdeck door on all-cargo airplanes. Such action will be considered in light of comments received and would be an expansion of the requirements of § 121.313(f).

A new § 121.313(j) is added to reference the new part 25 standard for the door separating the flightdeck from the passenger compartment. With respect to the requirements of § 25.772(c), which would require systems that would permit entry by flight attendants but not permit entry by other persons, these systems must have a high degree of reliability, and the FAA considers that it may not be practical to develop and install such systems within the compliance time of this rule. However, operational procedures coupled with simpler, more robust systems could be readily implemented. Procedures could include having a flight attendant occupy a flightdeck seat whenever one pilot must leave the flightdeck. Any system that must be activated by a flightcrew member (either to permit or deny entry) must be operable from the crewmember's duty station. Therefore, § 121.313(j) will require each operator to establish methods to enable a flight attendant to enter the flightdeck in the event that a flightcrew member becomes incapacitated. As with § 25.772(c), these methods are intended to be used under emergency conditions and not for routine access to the flightdeck.

As noted previously, some airplanes are equipped with a crew rest area that is accessible from both the flightdeck and the passenger compartment. Current practice in the application of section 121.313(f) is that the entry to such areas from the passenger compartment is required to have a locked door. Section 121.313(f) is revised to clarify this requirement, and the new requirement of section 121.313(j) for strengthened doors also applies to these doors.

The rule will require that doors meeting this standard be installed no later than April 9, 2003. The FAA evaluated several factors in establishing this compliance time. Before enactment of the Act, multiple industry groups had developed a proposal for the performance of flightdeck doors that addresses intrusion and ballistic protection. The industry proposal closely parallels the changes to part 25 adopted by this rule. Therefore, the FAA does not anticipate significant problems in complying with this requirement. The FAA is requiring that all airplanes affected by § 121.313(f) incorporate flightdeck doors meeting the requirements of § 25.795 (a)(1) and (2) by April 9, 2003. This date corresponds to the termination date of the previously issued SFAR 92 (and its successors), and is the date by which all airplanes modified under the provisions of the SFAR must be in full compliance with their respective airworthiness requirements. This is an aggressive schedule; given events of September 11, 2001, however, the nature of the issue demands aggressive action.

Flightdeck Access Provisions

This amendment also changes the requirements governing access to the flightdeck in flight. Section 104(a)(1)(D) of the Act requires the Administrator to issue an order prohibiting possession of flightdeck door keys by other than flightdeck crewmembers. The FAA has determined that this limitation is intended to address operations in flight, rather than possession of keys at all times. Section 121.313(g) currently requires that non-flightdeck crewmembers have keys in flight and this rule amends (g) to meet Section 104(a)(1)(D) of the Act. Section 121.313(g) is revised to achieve three important safety goals. In the first sentence, the requirement is to have keys available that will unlock doors that lead from a passenger compartment to an emergency exit. The second regulatory requirement is that each crewmember has a key to doors specified in the first sentence, unless that door is a flightdeck door.

The last regulatory requirement is that before April 9, 2003, other crewmembers, (e.g. flight attendants) may have a key but only if the flightdeck door has an internal locking device installed, operative, and in use. This exception is a result of SFAR 92–2. The SFAR authorizes short-term flightdeck door reinforcement efforts, which include internal locks. When those locks are installed and in use, the key to the door will no longer open the door so it is ineffective as a key. As noted in the SFAR, such internal flightdeck locking devices have to be designed so that they can only be unlocked from inside the flightdeck (e.g. deadbolt locks or bars). The keys themselves have multiple uses in the passenger cabin such as opening medical supplies, defibrillators and cabin crew rest areas. Denying access to the keys when they will not open the flightdeck door only inconveniences the cabincrew with no benefit of safety. The exception, which expires with the SFAR in April 9, 2003, will satisfy the requirement of the Act to prohibit possession by flight attendants of keys that can be used to gain entry to the flightdeck.

Section 121.547 addresses who may be admitted to the flightdeck and in some cases the conditions for admission to the flightdeck. Section 121.547(a)(1) and (a)(2) remain unchanged and thus crewmembers, FAA inspectors, and NTSB representatives who are performing official duties may be admitted to the flightdeck.

Several changes have been made to § 121.547(a)(3). In the current § 121.547(a)(3), only the pilot in command (PIC) had to give permission for the people listed in paragraph (a)(3) to be admitted to the flightdeck. Because of the demands of aviation safety and security, in the amended section, admission to the flightdeck is also conditioned on the permission of the part 119 certificate holder and the Administrator. To the extent this provision may be seen as exceeding the authority provided by Section 104 of the Act to issue this regulation without notice and comment procedures, we find good cause under 5 U.S.C. 553(b)(3)(B) for not following those procedures. The Act requires limitations on those authorized access to the flightdeck. Inherent in issuing such a rule is a basis for determining authorization and it would be impracticable to issue a rule without such procedures. This amendment is being made pursuant to 5 USC 553(b)(3)(B), 49 USC Section 44701(a)(5), and Section 104(a)(2) of the Act.

In complying with §§ 121.547(a)(3) and 121.547(c)(4), the air carrier must keep security directives in mind when deciding whether to issue authorization to enter the flightdeck for purposes of riding in the jumpseat. The changes to the regulatory text in § 121.547(a)(4) are clarifying in nature and need not undergo normal notice and comment procedures. As the discussion in this

preamble indicates, the discretion the FAA had with the current § 121.547(a)(4) to issue authorization to enter the flightdeck will now be systemically overseen and controlled.

Existing § 121.547(a)(4) is modified slightly in the new rule for clarification purposes only. In the current rule in order for a person to gain entry to the flightdeck that person must have permission of three people including the "certificate holder." In the revised language the agency adds the phrase "an appropriate management official of part 119" certificate holder to make clear which certificate holder the agency is referring to. Similar changes have been made to § 121.547(c)(4), (c)(5) and (c)(6). Because these changes are clarifying in nature, notice and comment procedures are not required.

In current § 121.581(c), the regulations allowed on certain aircraft, that did not have an observer seat on the flightdeck, that the cockpit door could remain open when an FAA inspector is conducting an inspection. Under the current rule the FAA inspector would conduct the inspection in a forward passenger seat. The last section of current § 121.581(c) is being deleted because allowing cockpit doors to remain open during flight is inconsistent with Section 104(a)(1)(C) of the Act. This amendment is being adopted without following APA notice and comment procedures pursuant to Section 104(a)(1) of the Act.

Section 121.587 is being revised to require that the flightcrew compartment door be closed and locked at all times when the aircraft is being operated. Previously, the rules only required the door to be closed and locked during flight. With this amendment, the door will also have to be closed and locked during taxi, takeoff, and landing roll. The "good cause" justification for not using the normal APA notice and comment procedures is that the recent terrorist attacks make clear that security and safety dictate that—except as provided in § 121.587(b)— the door shall be closed and locked at all times when the aircraft is being operated. As has been discussed regarding other provisions of this amendment, to the extent this provision may be seen as exceeding the authority provided by Section 104 of the Act to issue this regulation without notice and comment procedures, the FAA finds good cause under 5 U.S.C. 553(b)(3)(B) for not following those procedures. Prohibiting access, as required by the Act, without addressing all phases of operation, would leave a potentially serious loophole in the requirement that was not intended by Congress. Therefore, providing notice and prior opportunity to comment on this provision is impracticable and contrary to the public interest.

Current § 121.587(b)(1) allows the flightdeck door to remain opened during takeoff and landing if the crew compartment door is the means of access to a required passenger emergency exit or floor level exit. This section is being deleted for the same reasons that § 121.587(a) is being amended.

Section 121.587(b)(3) currently permits the flightdeck door to be open if the use of the observer seat (jumpseat) will not permit the door to be closed. This section is deleted because Section 104(a)(1)(C) of the Act does not allow for such a provision. Thus, the flightdeck door may not be ajar to accommodate a jumpseat occupant for the duration of the flight. The legislative history for Section 104(a) of the Act indicates that on the rare occasions when a flightdeck door will be opened during flight, Congress expected the opening of that door to be brief and that the door will be closed and locked quickly.

Future Rulemaking

As noted previously, the regulations currently only require the installation of a flightdeck door for passenger-carrying transport category airplanes operating under part 121. In light of the events of September 11, 2001, and in accordance with Sections 104(a)(1)(c) and 104(a)(2) of the Act, the FAA is reviewing the need for flightdeck doors on all air carrier airplanes, including US cargo operations. In addition, as the events of September 11, 2001, make clear, additional security measures will also be required for aircraft operated by foreign operators. The 33rd ICAO Assembly unanimously passed a resolution that calls on all States to implement additional security measures and directs the ICAO Council to strengthen ICAO security standards. The FAA is working with civil aviation authorities and with ICAO to rapidly develop and implement measures that will improve flightdeck security.

The FAA expects that ICAO will adopt requirements for intrusion resistant flightdeck doors to complement the existing Annex 8 requirements, and make those requirements a condition of operation under Annex 6. The FAA is aware of efforts underway in ICAO to do this, and will support those efforts. The FAA also expects that the CAA of those countries overseeing operators with part 129 operations specifications approvals will adopt their own standards for improved flightdeck security, similar to what the FAA is adopting here, and make those requirements applicable to their existing fleets. Given the urgency of the situation, such requirements and modifications necessary to meet those requirements should be established by April 2002, such that airplanes operating in the United States, whether foreign or domestic, will have improved flightdeck security by April 9, 2003.

To facilitate and promote a global effort such as this, the FAA intends to consult and work with other regulatory authorities over the next several months. On the basis of these consultations, the FAA will determine whether specific rulemaking in part 129 is required. Such a rule, if necessary, would likely require compliance with the same standards imposed by this amendment, or with an equivalent standard imposed by the State of Registry or the equivalent ICAO requirement, at the discretion of the Administrator.

As discussed earlier, the FAA issued the SFAR 92 series of rules to authorize, and now mandate, installation of internal locking devices on flight deck doors on part 121 aircraft. These modifications provide immediate flightdeck security improvements until the installation of permanent solutions as outlined in this amendment. The SFAR 92 authority was first issued on October 9, 2001, and operators immediately began modifying doors. The FAA expects part 129 operators to install and use similar locking devices and that their States of Registry would issue waivers similar to SFAR 92 to allow these modifications. The FAA views these modifications as essential to near-term security of aircraft, whether they are operated in part 121, or part 129 operations to and from the US. The FAA has the continued expectation that part 129 operators and their States of Registry will take the necessary actions to install internal locking devices and that those modifications will be made on or before the date set for full part 121 installation in February 2002 by SFAR 92–3. The FAA will closely monitor the activities of part 129 operators to determine if the locking devices are installed and used in the time frame provided by SFAR 92–3 and will initiate rulemaking if they are not.

In addition, Section 104(c) of the Act states the following:

"The Administrator shall investigate means of securing the flightdeck of scheduled passenger aircraft operating in air transportation or intrastate air transportation that do not have a rigid fixed door with a lock between the passenger compartment and the

flightdeck and issue such an order as the Administrator deems appropriate to ensure the inaccessibility, to the greatest extent feasible, of the flightdeck while the aircraft is so operating, taking into consideration such aircraft operating in regions where there is minimal threat to aviation security or national security." This section addresses both airplane type and mode of operation.

The FAA will consider whether other types of airplanes should be equipped with flightdeck doors meeting the standards of this amendment, and solicits comments on this issue. Commuter category airplanes will be a focus of the FAA's deliberations on potential future applicability. Other changes, as outlined in Section 104(a)(2) of the Act, may also be proposed.

The FAA solicits comments on the need to expand the requirement for installation of a flightdeck door to other domestic operations. The FAA intends to propose further rulemaking if it determines that the current requirements of § 121.313(f) need to be expanded to other operations. For example, during cargo operations under part 121, operators are allowed to transport certain persons that are identified in § 121.583. The FAA is considering whether it is necessary to require improved flightdeck security on all cargo airplanes. The FAA is also considering whether to require strengthening flightdeck doors on transport category aircraft operated under parts 91, 125 and 135. We solicit comments on this issue.

As noted, this amendment only addresses the flightdeck door, as required by the Act. However, the FAA considers that a comprehensive assessment of flightdeck security must include all barriers between the flightdeck and occupied areas. Therefore, the FAA intends to propose further rulemaking that would apply the requirements adopted here to flightdeck bulkheads, floors and ceilings that separate the pilot and passenger compartments for new type designs under part 25. At that time, the need to consider the ballistic protection capability of the door after it has been tested for intrusion resistance would also become a requirement.

The FAA also expects to further amend new § 25.795 to add the remainder of the ARAC recommendations concerning survivability of systems, cargo fire suppression, smoke and fumes protection (cabin and flightdeck), least risk bomb location and design, and interior design to deter hiding of dangerous articles and enhance searching. Therefore other paragraphs in § 25.795 of this amendment are identified and marked as "reserved."

Paperwork Reduction Act

In accordance with the Paperwork Reduction Act of 1995 (44 U.S.C. 3507(d)), the FAA has determined that there are no requirements for information collection associated with this rule.

International Compatibility

In keeping with US obligations under the Convention on International Civil Aviation, it is FAA policy to comply with International Civil Aviation Organization (ICAO) Standards and Recommended Practices to the maximum extent practicable. As discussed earlier, this rule is partially responsive to Amendment 97 to ICAO Annex 8, and the FAA plans further action to address the remainder of the Amendment 97 requirements.

Good Cause for Immediate Adoption

As discussed previously, the Act requires that this regulation be issued without prior public notice and opportunity to comment.

For those provisions that are arguably not required to be adopted by the Act, Section 553(b)(3)(B) and 553(d)(3) of the Administrative Procedures Act (APA) (5 U.S.C. §§ 553(b)(3)(B) and 553(d)(3) authorize agencies to dispense with certain notice procedures for rules when they find "good cause" to do so. Under § 553(b)(3)(B), the requirements of notice and opportunity for comment do not apply when the agency, for good cause, finds that those procedures are "impracticable, unnecessary, or contrary to the public interest." Section 553(d)(3) allows an agency, upon finding good cause, to make a rule effective immediately, thereby avoiding the 30-day delay effective date requirement in § 553.

For the reasons discussed previously, the FAA finds that notice and public comment on this final rule are impracticable, unnecessary, or contrary to the public interest. The provisions of this final rule require implementation of two security design requirements related to protection of the flightdeck. It provides means to protect the flightdeck from small arms fire or fragmentation devices, as well as means to protect against intrusion into the flightdeck by unauthorized persons.

Regulatory Evaluation Summary

Changes to Federal regulations must undergo several economic analyses. First, Executive Order 12866 directs each Federal agency proposing or adopting regulation to first make a reasoned determination that the benefits of the intended regulation justify its costs. Second, the Regulatory Flexibility Act of 1980 requires agencies to analyze the economic impact of regulatory changes on small entities. Third, the Trade Agreements Act prohibits agencies from setting standards that create unnecessary obstacles to the foreign commerce of the United States. In developing US standards, this act requires agencies to consider international standards, and use them where appropriate as the basis for US standards. Fourth, the Unfunded Mandates Act of 1995 requires agencies to prepare a written assessment of the costs and benefits, and other effects of proposed and final rules. An assessment must be prepared only for rules that impose a Federal mandate on state, local, or tribal governments, or on the private sector, likely to result in a total expenditure of $100 million or more (adjusted for inflation) in any one year.

In conducting these analyses, the FAA determined that this rule has benefits that justify the costs; will not have a significant impact on a substantial number of small entities; has no effect on trade-sensitive activity; and does not impose an unfunded mandate on state, local, or tribal government, or on the private sector.

Benefits and Costs

This rule is the first of a series of FAA rules to improve flightdeck integrity, as directed by the Aviation and Transportation Security Act. This rule establishes the requirements for flightdeck door enhancements. As such, the benefits of this rule are to ensure the safety and security of the flying public. Since this rule is one of several being introduced to avoid a reoccurrence of an event like that of September 11, 2001, the benefits will be shared by the entire set of rules designed to prevent such a reoccurrence.

Once the terrorist attacks of September 11, 2001, demonstrated the potential damage from using an aircraft as a weapon of mass destruction, flightdeck security was catapulted as an issue of very high public interest. Only days after the September 11, 2001, attacks, President Bush identified flightdeck security as an issue requiring immediate action, and improvements to flightdeck security is one of several recommendations set forth by the Secretary of Transportation's Rapid Response Team on Aircraft Security. Congress followed with the introduction of the Aviation and Transportation Security Act, and many carriers have voluntarily retrofitted their fleets with improved flightdeck doors.

The cost of the September 11, 2001, catastrophic terrorist act cannot be measured easily in dollars. While those losses are estimated to be potentially in the tens of billions of dollars, the costs of another incident could possibly be even higher. Based on changes in the aviation security risk, and the Aviation and Transportation Security Act, the FAA believes that the benefit of this regulation is warranted to prevent flightdeck access by unauthorized persons.

Applicants for new, amended, or supplemental type certificates under part 25 will be affected by this rule. These applicants typically include manufacturers and modifiers. The additional cost to an airplane manufacturer is the additional cost of the door, because the flightdeck door installation costs in a new airplane are roughly equal. The increased purchase cost of a $9,000 hardened flightdeck door over that of a $6,000 current door is $3,000. Based on this incremental cost of $3,000, and the expected manufacturing of 360 airplanes under a new type certificate, the cost of this rule to part 25 manufacturers is expected to be $1.1 million ($0.7 million, discounted). Additionally, some certification costs will be incurred to prove compliance of the new door, but these costs are expected to be relatively small, at approximately $0.1 million.

For the analysis affecting part 121 operators, the aviation industry provided estimated purchase and installation costs of future compliant flightdeck doors to range from a base case of $12,000 ($9,000 for the door and $3,000 for installation) to an upper bound of $17,000, which includes the certification costs. Our current information indicates that $12,000 will provide a door that meets the standards set forth in this rule. Alaska Airlines removed and installed doors thought to meet the new specifications for $12,000 per airplane, and jetBlue was able to do so for $10,000 per aircraft. Even though multiple sources have lent support to the base case cost of $12,000, no flightdeck door has been approved to the new specification. Given the uncertainty as to the actual cost of purchasing and installing approved flightdeck doors, the FAA has provided an upper-bound estimate of $17,000. The FAA solicits comments with supporting documentation with respect to projected costs of upgrading flightdeck doors.

The FAA expects that, now that the specifications are published, many carriers will initiate steps toward compliance even before the rule takes effect. Approximately 340 aircraft are expected to already be compliant with this rule. Operators beyond those that are affected by this rule may also choose to voluntarily comply. The FAA estimates that 6,631 transport category airplanes flown in scheduled commercial service will still need to have their flightdeck doors hardened. The base case cost of purchase and installation of these doors results in a $79.6 million expense to the operators with the upper bound costs reaching $112.7 million.

In addition, the FAA estimates that the additional 50 pounds resulting from a heavier door will result in additional fuel requirement costs of $27.5 million ($20.7 million, discounted) over ten years. Without exception, every flightdeck door manufacturer claimed that their version of a secure flightdeck door could be installed by airline technicians overnight, or during an extended overnight. Several carriers have already begun, and in some cases completed, the retrofit. These carriers were able to perform the retrofit during overnight maintenance on 340 aircraft in less than two months. Based on this information, the FAA believes that all carriers will have an opportunity to have the doors installed overnight or during a maintenance check, thereby eliminating the need to take the aircraft out of service for any amount of time.

The total cost of this rule to part 121 operators is, therefore, expected to range from the base case of $107.1 million ($98.5 million, discounted) to $140.2 million ($131.0 million, discounted) over the 10-year period. The FAA requests comments as to how many aircraft are already compliant with the rule, the costs incurred in retrofitting such aircraft (including down-time costs), and how many carriers are expected to be compliant prior to the implementation of the rule. Since the FAA may extend the flightdeck door requirements in the future, the FAA requests similar comments from part 91, 125, and 135 operators.

This rule is part of a series of FAA rules intended to prevent another attack similar to the one of September 11, 2001. The FAA cannot provide a reasonable quantitative estimate of benefits because the extremely high benefits that are involved in avoiding another similar attack, both in terms of averted loss of life and property, and avoided damage to the economy, will most likely be in the tens of billions of dollars, a figure that overshadows any cost associated with this series of rules. The purpose of this particular rule concerning flightdeck security is to expedite an important element of the Aviation Transportation Security Act. Accordingly, the FAA believes that the rule is cost-beneficial and is necessary to ensure a high level of aviation safety by providing compliance specification for hardened flightdeck door standards to the industry.

Regulatory Flexibility Determination

The Regulatory Flexibility Act of 1980 (RFA) establishes "as a principle of regulatory issuance that agencies shall endeavor, consistent with the objective of the rule and of applicable statutes, to fit regulatory and informational requirements to the scale of the business, organizations, and governmental jurisdictions subject to regulation." To achieve that principle, the RFA requires agencies to solicit and consider flexible regulatory proposals and to explain the rationale for their actions. The RFA covers a wide range of small entities, including small businesses, not-for-profit organizations, and small governmental jurisdictions.

Agencies must perform a review to determine whether a proposed or final rule will have a significant economic impact on a substantial number of small entities. If the determination is that it will, the agency must prepare a regulatory flexibility analysis as described in the RFA.

However, if an agency determines that a proposed or final rule is not expected to have a significant economic impact on a substantial number of small entities, section 605(b) of the 1980 act provides that the head of the agency may so certify and a regulatory flexibility analysis is not required. The certification must include a statement providing the factual basis for this determination, and the reasoning should be clear.

In response to the Aviation and Transportation Security Act, this rule requires the strengthening of the flightdeck doors for part 25 manufacturers, and all aircraft with cockpit doors that operate under part 121. A full Regulatory Flexibility Analysis is not necessary for the reasons presented below.

The Small Business Administration classifies aircraft manufacturers with less than 1,500 employees as small entities. All part 25 US transport-aircraft category manufacturers have more than 1,500 employees. The current United States part 25 airplane manufacturers include: Boeing, Cessna Aircraft, Gulfstream Aerospace, Learjet (owned by Bombardier), Lockheed Martin, McDonnell Douglas (a wholly-owned subsidiary of The Boeing Company), Raytheon Aircraft, and Sabreliner Corporation. Thus, no part 25

manufacturer is considered a small entity.

To determine the potential economic impact on small entities conducting business as part 121 operators, the FAA performed the following analysis. First, the FAA estimated the number of small entities affected by this final rule. Next, the FAA estimated the compliance cost, and then the economic impact.

This final rule requires enhanced cockpit doors and other improvements to be made by part 121 operators who operate transport category, passenger and cargo aircraft which have a door between the cockpit and passenger compartments. Using the criterion from the North American Industry Classification System of the SBA, the affected entities that had less than 1,500 employees were estimated. This procedure resulted in a list of 43 US operators with less than 1,500 employees, operating under part 121 that would be affected by this rule.

The estimated compliance cost and economic impact for each small entity involved several analytical steps. First, the fleet of aircraft operated by part 121 small entities was determined. The FAA obtained the small entities' fleets using data from the BACK Associates Fleet Database. The BACK Associates Fleet Database provided US operator and airplane detail by FAR part number and operator. Second, the purchase and installation cost of the hardened flightdeck doors was then estimated for the fleet of each small entity. Third, an annual reoccurring cost was estimated for the additional fuel required as a result of the increased weight of the hardened doors.

The estimated total compliance cost of each small entity equals the sum of the costs of the enhanced cockpit door plus the additional annual cost attributable to the increased fuel consumption. The purchase and installation cost of the enhanced cockpit doors was estimated to be in the range between $12,000 and $17,000 per airplane. Additional fuel cost was calculated using data from the FAA's Economic Values for Evaluation of Federal Aviation Administration Investment and Regulatory Programs, the December 7, 2001 update of Energy Information Administration's Weekly Petroleum Status Report, and the FAA Aerospace Forecasts.

The increase cost in fuel consumption was based on the projected aircraft Utilization and rate of fuel burn increase. This cost was obtained by multiplying the fifty pounds of additional weight times the carrier hours flown times the fuel burn rate in gallons/pound/hour times the cost of fuel per gallon. This calculation was performed for each of the next ten years using the projected cost of fuel discounted to the present value.

The degree to which small entities can "afford" the cost of compliance is determined by the availability of financial resources. The initial implementation costs of the final rule may be financed from a variety of sources. As a proxy for the firm's ability to afford the cost of compliance, the FAA calculated the ratio of the total present value cost of the rule as a percentage of annual revenue. (The FAA obtained annual operator revenue from current public filings, the 2000 winter edition of the World Aviation Directory, and US DOT Form 41 schedules). Using this methodology, it was found that of the 43 small entities potentially affected by this final rule, the total present value cost of the rule exceeded 2 percent of only two entities' total revenue.

In the interest of fully assessing the impact of this final rule on small entities, the FAA explored the potential competitive impact. The route structures and specific markets of five firms were examined. The affected firms sometimes compete with large carriers. These large carriers will incur the same fixed and marginal cost per airplane. Many routes served by the five small entities could be considered local monopolies in which the affected carrier is the only provider of service. As a result of operating in these "niche" markets, a carrier would be able to pass some of the cost to its passengers. Thus, as a result of this rule there is expected to be little change in competition, and little change in market share within the industry.

The FAA has determined that:

(1) No part 25 manufacturers are small entities.

(2) A substantial number of small operators will not be significantly impacted by this rule.

Accordingly, pursuant to the Regulatory Flexibility Act, 5 U.S.C. 605(b), the Federal Aviation Administration certifies that this final rule will not have a significant impact on a substantial number of small entities.

Trade Impact Assessment

The Trade Agreement Act of 1979 prohibits Federal agencies from engaging in any standards or related activities that create unnecessary obstacles to the foreign commerce of the United States. Legitimate domestic objectives, such as safety, are not considered unnecessary obstacles. The statute also requires consideration of international standards and, where appropriate, that they be the basis for US standards.

In accordance with the above statute, the FAA has assessed the potential effect of this rule and has determined that the objective of this rule is the safety and security of the United States, and therefore not considered an unnecessary obstacle to international trade.

Unfunded Mandates Act Assessment

Title II of the Unfunded Mandates Reform Act of 1995 (the Act), enacted as Pub. L. 104–4 on March 22, 1995, requires each Federal agency, to the extent permitted by law, to prepare a written assessment of the effects of any Federal mandate in a proposed or final agency rule that may result in the expenditure by State, local, and tribal governments, in the aggregate, or by the private sector, of $100 million or more (adjusted annually for inflation) in any one year. Section 204(a) of the Act, 2 U.S.C. 1534(a), requires the Federal agency to develop an effective process to permit timely input by elected officers (or their designees) of state, local, and tribal governments on a proposed "significant intergovernmental mandate." A "significant intergovernmental mandate" under the Act is any provision in a Federal agency regulation that will impose an enforceable duty upon state, local, and tribal governments, in the aggregate, of $100 million (adjusted annually for inflation) in any one year. Section 203 of the Act, 2 U.S.C. 1533, which supplements section 204(a), provides that before establishing any regulatory requirements that might significantly or uniquely affect small governments, the agency shall have developed a plan that, among other things, provides for notice to potentially affected small governments, if any, and for a meaningful and timely opportunity to provide input in the development of regulatory proposals or rules.

This final rule does not contain any Federal intergovernmental or private sector mandate because Congress has authorized money for the purpose of implementing aircraft security initiatives, including the fortification of cockpit doors. Therefore, the requirements of Title II of the Unfunded Mandates Reform Act of 1995 do not apply.

Regulations Affecting Interstate Aviation in Alaska

Section 1205 of the FAA Reauthorization Act of 1996 (110 Stat. 3213) requires the Administrator, when modifying regulations in title 14 of the CFR in manner affecting interstate

aviation in Alaska, to consider the extent to which Alaska is not served by transportation modes other than aviation, and to establish such regulatory distinctions as he or she considers appropriate. Because this rule applies to the certification of transport category airplanes and their operation, it could affect interstate aviation in Alaska. The FAA therefore specifically requests comments on whether there is justification for applying the rule differently in interstate operations in Alaska.

Executive Order 13132, Federalism

The FAA has analyzed this rule under the principles and criteria of Executive Order 13132, Federalism. We determined that this action would not have a substantial direct effect on the States, on the relationship between the national Government and the States, or on the distribution of power and responsibilities among the various levels of government. Therefore, we determined that this rule would not have federalism implications.

Environmental Analysis

FAA Order 1050.1D defines FAA actions that may be categorically excluded from preparation of a National Environmental Policy Act (NEPA) environmental impact statement. In accordance with FAA Order 1050.1D, appendix 4, paragraph 4(j), this rulemaking action qualifies for a categorical exclusion.

Energy Impact

The energy impact of the notice has been assessed in accordance with the Energy Policy and Conservation Act (EPCA) Pub. L. 94–163, as amended (42 U.S.C. 6362) and FAA Order 1053.1. It has been determined that this rulemaking action is not a major regulatory action under the provisions of the EPCA.

List of Subjects

14 CFR Part 25

Aircraft, Aviation safety, Federal Aviation Administration, Reporting and recordkeeping requirements.

14 CFR Part 121

Aircraft, Aviation safety, Reporting and recordkeeping requirements, Safety, Transportation.

The Amendment

In consideration of the foregoing, the Federal Aviation Administration (FAA) amends parts 25 and 121 of Title 14 Code of Federal Regulations as follows:

PART 25—AIRWORTHINESS STANDARDS: TRANSPORT CATEGORY AIRPLANES

1. The authority citation for parts 25 continues to read as follows:

Authority: 49 U.S.C. 106(g), 40113, 44701, 44702, 4794.

2. Section 25.772 is amended by revising the introductory language and paragraph (a) and by adding a new paragraph (c) to read as follows:

§ 25.772 Pilot compartment doors.

For an airplane that has a lockable door installed between the pilot compartment and the passenger compartment:

(a) For airplanes with a maximum passenger seating configuration of more than 20 seats, the emergency exit configuration must be designed so that neither crewmembers nor passengers require use of the flightdeck door in order to reach the emergency exits provided for them; and

* * * * *

(c) There must be an emergency means to enable a flight attendant to enter the pilot compartment in the event that the flightcrew becomes incapacitated.

3. Part 25 is amended by adding a new § 25.795 to read as follows:

§ 25.795 Security considerations.

(a) *Protection of flightdeck.* If a flightdeck door is required by operating rules, the door installation must be designed to:

(1) Resist forcible intrusion by unauthorized persons and be capable of withstanding impacts of 300 Joules (221.3 foot-pounds) at the critical locations on the door, as well as a 250 pound (1113 Newtons) constant tensile load on the knob or handle, and

(2) Resist penetration by small arms fire and fragmentation devices to a level equivalent to level IIIa of the National Institute of Justice Standard (NIJ) 0101.04.

(b) [Reserved]

PART 121—OPERATING REQUIREMENTS: DOMESTIC, FLAG, AND SUPPLEMENTAL OPERATIONS

4. The authority citation for part 121 continues to read as follows:

Authority: 49 U.S.C. 106(g), 40113, 40119, 44101, 44701–44702, 44705, 44709–44711, 44713, 44716–44717, 44722, 44901, 44903–44904, 44912, 46105.

5. Section 121.313 is amended by revising paragraphs (f) and (g) and adding paragraph (j) to read as follows:

§ 121.313 Miscellaneous equipment.

* * * * *

(f) A door between the passenger and pilot compartments (i.e., flightdeck door), with a locking means to prevent passengers from opening it without the pilot's permission, except that nontransport category airplanes certificated after December 31, 1964, are not required to comply with this paragraph. For airplanes equipped with a crew rest area having separate entries from the flightdeck and the passenger compartment, a door with such a locking means must be provided between the crew rest area and the passenger compartment.

(g) A key for each door that separates a passenger compartment from another compartment that has emergency exit provisions. Except for flightdeck doors, a key must be readily available for each crewmember. Except as provided below, no person other than a person who is assigned to perform duty on the flightdeck may have a key to the flightdeck door. Before April 22, 2003, any crewmember may have a key to the flightdeck door but only if the flightdeck door has an internal flightdeck locking device installed, operative, and in use. Such "internal flightdeck locking device" has to be designed so that it can only be unlocked from inside the flightdeck.

* * * * *

(j) After April 9, 2003, for airplanes required by paragraph (f) of this section to have a door between the passenger and pilot or crew rest compartments, and for transport category, all-cargo airplanes that have a door installed between the pilot compartment and any other occupied compartment on January 15, 2002;

(1) Each such door must meet the requirements of §§ 25.795 (a)(1) and (2) in effect on January 15, 2002; and

(2) Each operator must establish methods to enable a flight attendant to enter the pilot compartment in the event that a flightcrew member becomes incapacitated. Any associated signal or confirmation system must be operable by each flightcrew member from that flightcrew member's duty station.

6. Section 121.547 is amended by revising paragraphs (a) (3) and (4) and paragraphs (c)(4) through (6) to read as follow:

§ 121.547 Admission to flight deck.

(a) * * *

(3) Any person who—

(i) Has permission of the pilot in command, an appropriate management official of the part 119 certificate holder, and the Administrator; and

(ii) Is an employee of—

(A) The United States, or

(B) A part 119 certificate holder and whose duties are such that admission to the flightdeck is necessary or advantageous for safe operation; or

(C) An aeronautical enterprise certificated by the Administrator and whose duties are such that admission to the flightdeck is necessary or advantageous for safe operation.

(4) Any person who has the permission of the pilot in command, an appropriate management official of the part 119 certificate holder and the Administrator. Paragraph (a)(2) of this section does not limit the emergency authority of the pilot in command to exclude any person from the flightdeck in the interests of safety.

* * * * *

(c) * * *

(4) A certificated airman employed by another part 119 certificate holder whose duties with that part 119 certificate holder require an airman certificate and who is authorized by the part 119 certificate holder operating the aircraft to make specific trips over a route;

(5) An employee of the part 119 certificate holder operating the aircraft whose duty is directly related to the conduct or planning of flight operations or the in-flight monitoring of aircraft equipment or operating procedures, if his presence on the flightdeck is necessary to perform his duties and he has been authorized in writing by a responsible supervisor, listed in the Operations Manual as having that authority; and

(6) A technical representative of the manufacturer of the aircraft or its components whose duties are directly related to the in-flight monitoring of aircraft equipment or operating procedures, if his presence on the flightdeck is necessary to perform his duties and he has been authorized in writing by the Administrator and by a responsible supervisor of the operations department of the part 119 certificate holder, listed in the Operations Manual as having that authority.

7. Section 121.581 is amended by revising paragraph (c) to read as follows:

§ 121.581 Observer's seat; en route inspections.

* * * * *

(c) For any airplane type certificated before December 20, 1995, for not more than 30 passengers that does not have an observer seat on the flightdeck, the certificate holder must provide a forward passenger seat with headset or speaker for occupancy by the Administrator while conducting en route inspections.

8. Section 121.587 is revised to read as follows:

§ 121.587 Closing and locking of flightcrew compartment door.

(a) Except as provided in paragraph (b) of this section, a pilot in command of an airplane that has a lockable flightcrew compartment door in accordance with § 121.313 and that is carrying passengers shall ensure that the door separating the flightcrew compartment from the passenger compartment is closed and locked at all times when the aircraft is being operated.

(b) The provisions of paragraph (a) of this section do not apply at any time when it is necessary to permit access and egress by persons authorized in accordance with § 121.547 and provided the part 119 operator complies with FAA approved procedures regarding the opening, closing and locking of the flightdeck doors.

Issued in Washington, DC, on January 10, 2002.

[redacted]

Administrator.

[FR Doc. 02–965 Filed 1–10–02; 4:15 pm]

BILLING CODE 4910–13–P

I18 00099

Exhibit 1d

14 CFR §121.313

requirements of § 25.856 of this chapter, effective September 2, 2003.

[Doc. No. 28154, 60 FR 65930, Dec. 20, 1995, as amended by Amdt. 121-301, 68 FR 45083, July 31, 2003; Amdt. 121-320, 70 FR 77752, Dec. 30, 2005; Amdt. 121-330, 72 FR 1442, Jan. 12, 2007]

§ 121.313 Miscellaneous equipment.

No person may conduct any operation unless the following equipment is installed in the airplane:

(a) If protective fuses are installed on an airplane, the number of spare fuses approved for that airplane and appropriately described in the certificate holder's manual.

(b) A windshield wiper or equivalent for each pilot station.

(c) A power supply and distribution system that meets the requirements of §§ 25.1309, 25.1331, 25.1351(a) and (b)(1) through (4), 25.1353, 25.1355, and 25.1431(b) or that is able to produce and distribute the load for the required instruments and equipment, with use of an external power supply if any one power source or component of the power distribution system fails. The use of common elements in the system may be approved if the Administrator finds that they are designed to be reasonably protected against malfunctioning. Engine-driven sources of energy, when used, must be on separate engines.

(d) A means for indicating the adequacy of the power being supplied to required flight instruments.

(e) Two independent static pressure systems, vented to the outside atmospheric pressure so that they will be least affected by air flow variation or moisture or other foreign matter, and installed so as to be airtight except for the vent. When a means is provided for transferring an instrument from its primary operating system to an alternate system, the means must include a positive positioning control and must be marked to indicate clearly which system is being used.

(f) A door between the passenger and pilot compartments (i.e., flightdeck door), with a locking means to prevent passengers from opening it without the pilot's permission, except that non-transport category airplanes certificated after December 31, 1964, are not required to comply with this paragraph. For airplanes equipped with a crew rest area having separate entries from the flightdeck and the passenger compartment, a door with such a locking means must be provided between the crew rest area and the passenger compartment.

(g) A key for each door that separates a passenger compartment from another compartment that has emergency exit provisions. Except for flightdeck doors, a key must be readily available for each crewmember. Except as provided below, no person other than a person who is assigned to perform duty on the flightdeck may have a key to the flightdeck door. Before April 22, 2003, any crewmember may have a key to the flightdeck door but only if the flightdeck door has an internal flightdeck locking device installed, operative, and in use. Such "internal flightdeck locking device" has to be designed so that it can only be unlocked from inside the flightdeck.

(h) A placard on each door that is the means of access to a required passenger emergency exit, to indicate that it must be open during takeoff and landing.

(i) A means for the crew, in an emergency to unlock each door that leads to a compartment that is normally accessible to passengers and that can be locked by passengers.

(j) After April 9, 2003, for airplanes required by paragraph (f) of this section to have a door between the passenger and pilot or crew rest compartments, and for transport category, all-cargo airplanes that have a door installed between the pilot compartment and any other occupied compartment on January 15, 2002;

(1) After April 9, 2003, for airplanes required by paragraph (f) of this section to have a door between the passenger and pilot or crew rest compartments,

(i) Each such door must meet the requirements of § 25.795(a)(1) and (2) in effect on January 15, 2002; and

(ii) Each operator must establish methods to enable a flight attendant to enter the pilot compartment in the event that a flightcrew member becomes incapacitated. Any associated signal or confirmation system must be operable by each flightcrew member

from that flightcrew member's duty station.

(2) After October 1, 2003, for transport category, all-cargo airplanes that had a door installed between the pilot compartment and any other occupied compartment on or after January 15, 2002, each such door must meet the requirements of §25.795(a)(1) and (2) in effect on January 15, 2002; or the operator must implement a security program approved by the Transportation Security Administration (TSA) for the operation of all airplanes in that operator's fleet.

(k) Except for all-cargo operations as defined in §119.3 of this chapter, for all passenger-carrying airplanes that require a lockable flightdeck door in accordance with paragraph (f) of this section, a means to monitor from the flightdeck side of the door the area outside the flightdeck door to identify persons requesting entry and to detect suspicious behavior and potential threats.

[Doc. No. 6258, 29 FR 19205, Dec. 31, 1964, as amended by Amdt. 121–5, 30 FR 6113, Apr. 30, 1965; Amdt. 121–251, 60 FR 65931, Dec. 20, 1995; Amdt. 121–288, 67 FR 2127, Jan. 15, 2002; Amdt. 121–299, 68 FR 42881, July 18, 2003; Amdt. 121–334, 72 FR 45635, Aug. 15, 2007]

§121.314 Cargo and baggage compartments.

For each transport category airplane type certificated after January 1, 1958:

(a) Each Class C or Class D compartment, as defined in §25.857 of this Chapter in effect on June 16, 1986 (see Appendix L to this part), that is greater than 200 cubic feet in volume must have ceiling and sidewall liner panels which are constructed of:

(1) Glass fiber reinforced resin;

(2) Materials which meet the test requirements of part 25, appendix F, part III of this chapter; or

(3) In the case of liner installations approved prior to March 20, 1989, aluminum.

(b) For compliance with paragraph (a) of this section, the term "liner" includes any design feature, such as a joint or fastener, which would affect the capability of the liner to safely contain a fire.

(c) After March 19, 2001, each Class D compartment, regardless of volume, must meet the standards of §§25.857(c) and 25.858 of this Chapter for a Class C compartment unless the operation is an all-cargo operation in which case each Class D compartment may meet the standards in §25.857(e) for a Class E compartment.

(d) *Reports of conversions and retrofits.* (1) Until such time as all Class D compartments in aircraft operated under this part by the certificate have been converted or retrofitted with appropriate detection and suppression systems, each certificate holder must submit written progress reports to the FAA that contain the information specified below.

(i) The serial number of each airplane listed in the operations specifications issued to the certificate holder for operation under this part in which all Class D compartments have been converted to Class C or Class E compartments;

(ii) The serial number of each airplane listed in the operations specification issued to the certificate holder for operation under this part, in which all Class D compartments have been retrofitted to meet the fire detection and suppression requirements for Class C or the fire detection requirements for Class E; and

(iii) The serial number of each airplane listed in the operations specifications issued to the certificate holder for operation under this part that has at least one Class D compartment that has not been converted or retrofitted.

(2) The written report must be submitted to the Certificate Holding District Office by July 1, 1998, and at each three-month interval thereafter.

[Doc. No. 28937, 63 FR 8049, Feb. 17, 1998]

§121.315 Cockpit check procedure.

(a) Each certificate holder shall provide an approved cockpit check procedure for each type of aircraft.

(b) The approved procedures must include each item necessary for flight crewmembers to check for safety before starting engines, taking off, or landing, and in engine and systems emergencies. The procedures must be designed so that a flight crewmember will not need to rely upon his memory for items to be checked.

I18 00099

Exhibit 1e

14 CFR § 25.795

§ 25.789 Retention of items of mass in passenger and crew compartments and galleys.

(a) Means must be provided to prevent each item of mass (that is part of the airplane type design) in a passenger or crew compartment or galley from becoming a hazard by shifting under the appropriate maximum load factors corresponding to the specified flight and ground load conditions, and to the emergency landing conditions of § 25.561(b).

(b) Each interphone restraint system must be designed so that when subjected to the load factors specified in § 25.561(b)(3), the interphone will remain in its stowed position.

[Amdt. 25–32, 37 FR 3969, Feb. 24, 1972, as amended by Amdt. 25–46, 43 FR 50596, Oct. 30, 1978]

§ 25.791 Passenger information signs and placards.

(a) If smoking is to be prohibited, there must be at least one placard so stating that is legible to each person seated in the cabin. If smoking is to be allowed, and if the crew compartment is separated from the passenger compartment, there must be at least one sign notifying when smoking is prohibited. Signs which notify when smoking is prohibited must be operable by a member of the flightcrew and, when illuminated, must be legible under all probable conditions of cabin illumination to each person seated in the cabin.

(b) Signs that notify when seat belts should be fastened and that are installed to comply with the operating rules of this chapter must be operable by a member of the flightcrew and, when illuminated, must be legible under all probable conditions of cabin illumination to each person seated in the cabin.

(c) A placard must be located on or adjacent to the door of each receptacle used for the disposal of flammable waste materials to indicate that use of the receptacle for disposal of cigarettes, etc., is prohibited.

(d) Lavatories must have "No Smoking" or "No Smoking in Lavatory" placards conspicuously located on or adjacent to each side of the entry door.

(e) Symbols that clearly express the intent of the sign or placard may be used in lieu of letters.

[Amdt. 25–72, 55 FR 29780, July 20, 1990]

§ 25.793 Floor surfaces.

The floor surface of all areas which are likely to become wet in service must have slip resistant properties.

[Amdt. 25–51, 45 FR 7755, Feb. 4, 1980]

§ 25.795 Security considerations.

(a) *Protection of flightcrew compartment.* If a flightdeck door is required by operating rules:

(1) The bulkhead, door, and any other accessible boundary separating the flightcrew compartment from occupied areas must be designed to resist forcible intrusion by unauthorized persons and be capable of withstanding impacts of 300 joules (221.3 foot pounds).

(2) The bulkhead, door, and any other accessible boundary separating the flightcrew compartment from occupied areas must be designed to resist a constant 250 pound (1,113 Newtons) tensile load on accessible handholds, including the doorknob or handle.

(3) The bulkhead, door, and any other boundary separating the flightcrew compartment from any occupied areas must be designed to resist penetration by small arms fire and fragmentation devices to a level equivalent to level IIIa of the National Institute of Justice (NIJ) Standard 0101.04.

(b) Airplanes with a maximum certificated passenger seating capacity of more than 60 persons or a maximum certificated takeoff gross weight of over 100,000 pounds (45,359 Kilograms) must be designed to limit the effects of an explosive or incendiary device as follows:

(1) *Flightdeck smoke protection.* Means must be provided to limit entry of smoke, fumes, and noxious gases into the flightdeck.

(2) *Passenger cabin smoke protection.* Means must be provided to prevent passenger incapacitation in the cabin resulting from smoke, fumes, and noxious gases as represented by the initial combined volumetric concentrations of 0.59% carbon monoxide and 1.23% carbon dioxide.

(3) *Cargo compartment fire suppression.* An extinguishing agent must be capable of suppressing a fire. All cargo-compartment fire suppression systems must be designed to withstand the following effects, including support structure displacements or adjacent materials displacing against the distribution system:

(i) Impact or damage from a 0.5-inch diameter aluminum sphere traveling at 430 feet per second (131.1 meters per second);

(ii) A 15-pound per square-inch (103.4 kPa) pressure load if the projected surface area of the component is greater than 4 square feet. Any single dimension greater than 4 feet (1.22 meters) may be assumed to be 4 feet (1.22 meters) in length; and

(iii) A 6-inch (0.152 meters) displacement, except where limited by the fuselage contour, from a single point force applied anywhere along the distribution system where relative movement between the system and its attachment can occur.

(iv) Paragraphs (b)(3)(i) through (iii) of this section do not apply to components that are redundant and separated in accordance with paragraph (c)(2) of this section or are installed remotely from the cargo compartment.

(c) An airplane with a maximum certificated passenger seating capacity of more than 60 persons or a maximum certificated takeoff gross weight of over 100,000 pounds (45,359 Kilograms) must comply with the following:

(1) *Least risk bomb location.* An airplane must be designed with a designated location where a bomb or other explosive device could be placed to best protect flight-critical structures and systems from damage in the case of detonation.

(2) *Survivability of systems.* (i) Except where impracticable, redundant airplane systems necessary for continued safe flight and landing must be physically separated, at a minimum, by an amount equal to a sphere of diameter

$$D = 2\sqrt{(H_0/\pi)}$$

(where H_0 is defined under § 25.365(e)(2) of this part and D need not exceed 5.05 feet (1.54 meters)). The sphere is applied everywhere within the fuselage—limited by the forward bulkhead and the aft bulkhead of the passenger cabin and cargo compartment beyond which only one-half the sphere is applied.

(ii) Where compliance with paragraph (c)(2)(i) of this section is impracticable, other design precautions must be taken to maximize the survivability of those systems.

(3) *Interior design to facilitate searches.* Design features must be incorporated that will deter concealment or promote discovery of weapons, explosives, or other objects from a simple inspection in the following areas of the airplane cabin:

(i) Areas above the overhead bins must be designed to prevent objects from being hidden from view in a simple search from the aisle. Designs that prevent concealment of objects with volumes 20 cubic inches and greater satisfy this requirement.

(ii) Toilets must be designed to prevent the passage of solid objects greater than 2.0 inches in diameter.

(iii) Life preservers or their storage locations must be designed so that tampering is evident.

(d) Each chemical oxygen generator or its installation must be designed to be secure from deliberate manipulation by one of the following:

(1) By providing effective resistance to tampering,

(2) By providing an effective combination of resistance to tampering and active tamper-evident features,

(3) By installation in a location or manner whereby any attempt to access the generator would be immediately obvious, or

(4) By a combination of approaches specified in paragraphs (d)(1), (d)(2) and (d)(3) of this section that the Administrator finds provides a secure installation.

(e) *Exceptions.* Airplanes used solely to transport cargo only need to meet the requirements of paragraphs (b)(1), (b)(3), and (c)(2) of this section.

(f) *Material Incorporated by Reference.* You must use National Institute of Justice (NIJ) Standard 0101.04, Ballistic Resistance of Personal Body Armor, June 2001, Revision A, to establish ballistic resistance as required by paragraph (a)(3) of this section.

(1) The Director of the Federal Register approved the incorporation by reference of this document under 5 U.S.C. 552(a) and 1 CFR part 51.

(2) You may review copies of NIJ Standard 0101.04 at the:

(i) National Institute of Justice (NIJ), *http://www.ojp.usdoj.gov/nij*, telephone (202) 307–2942; or

(ii) National Archives and Records Administration (NARA). For information on the availability of this material at NARA, call (202) 741–6030, or go to *http://www.archives.gov/federal-register/cfr/ibr-locations.html*.

(3) You may obtain copies of NIJ Standard 0101.04 from the National Criminal Justice Reference Service, P.O. Box 6000, Rockville, MD 20849–6000, telephone (800) 851–3420.

[Amdt. 25–127; 121–341, 73 FR 63879, Oct. 28, 2008, as amended at 74 FR 22819, May 15, 2009; Amdt. 25–138, 79 FR 13519, Mar. 11, 2014; Doc. No. FAA–2018–0119, Amdt. 25–145, 83 FR 9169, Mar. 5, 2018]

EMERGENCY PROVISIONS

§ 25.801 Ditching.

(a) If certification with ditching provisions is requested, the airplane must meet the requirements of this section and §§ 25.807(e), 25.1411, and 25.1415(a).

(b) Each practicable design measure, compatible with the general characteristics of the airplane, must be taken to minimize the probability that in an emergency landing on water, the behavior of the airplane would cause immediate injury to the occupants or would make it impossible for them to escape.

(c) The probable behavior of the airplane in a water landing must be investigated by model tests or by comparison with airplanes of similar configuration for which the ditching characteristics are known. Scoops, flaps, projections, and any other factor likely to affect the hydrodynamic characteristics of the airplane, must be considered.

(d) It must be shown that, under reasonably probable water conditions, the flotation time and trim of the airplane will allow the occupants to leave the airplane and enter the liferafts required by § 25.1415. If compliance with this provision is shown by buoyancy and trim computations, appropriate allowances must be made for probable structural damage and leakage. If the airplane has fuel tanks (with fuel jettisoning provisions) that can reasonably be expected to withstand a ditching without leakage, the jettisonable volume of fuel may be considered as buoyancy volume.

(e) Unless the effects of the collapse of external doors and windows are accounted for in the investigation of the probable behavior of the airplane in a water landing (as prescribed in paragraphs (c) and (d) of this section), the external doors and windows must be designed to withstand the probable maximum local pressures.

[Doc. No. 5066, 29 FR 18291, Dec. 24, 1964, as amended by Amdt. 25–72, 55 FR 29781, July 20, 1990]

§ 25.803 Emergency evacuation.

(a) Each crew and passenger area must have emergency means to allow rapid evacuation in crash landings, with the landing gear extended as well as with the landing gear retracted, considering the possibility of the airplane being on fire.

(b) [Reserved]

(c) For airplanes having a seating capacity of more than 44 passengers, it must be shown that the maximum seating capacity, including the number of crewmembers required by the operating rules for which certification is requested, can be evacuated from the airplane to the ground under simulated emergency conditions within 90 seconds. Compliance with this requirement must be shown by actual demonstration using the test criteria outlined in appendix J of this part unless the Administrator finds that a combination of analysis and testing will provide data equivalent to that which would be obtained by actual demonstration.

(d)–(e) [Reserved]

[Doc. No. 24344, 55 FR 29781, July 20, 1990]

§ 25.807 Emergency exits.

(a) *Type.* For the purpose of this part, the types of exits are defined as follows:

(1) *Type I.* This type is a floor-level exit with a rectangular opening of not less than 24 inches wide by 48 inches

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Exhibit 2

Interview of [redacted]
February 4, 2022

TSA INVESTIGATIONS
MEMORANDUM OF INTERVIEW OR ACTIVITY

Type of Activity:	Date and Time:
☐ Personal Interview ☒ Telephone Interview ☐ Records Review ☐ Other	February 4, 2022 11:02pm
Activity or Interview of: [redacted] Chairperson, TSA Aviation Security Advisory Committee [redacted]	**Conducted by:** Investigator [redacted] Investigator [redacted] **Location of Interview/Activity:** Telephonic

Subject Matter/Remarks

Background:

On August 20, 2021, OSC referred to TSA supplemental questions related to [redacted] whistleblower disclosure. On August 26, 2021, an attorney from Chief Counsel's office referred these supplemental questions to TSA's Investigations (INV).

Those supplemental questions were comprised of:

1. OSC requested TSA explain the absence in its report of any discussion or reference to the allegation contained in OSC's January 18, 2018, referral to Secretary [redacted] that TSA failed to require aircraft operators to strengthen flight deck doors. The referral included [redacted] observation that many inward opening flight deck doors have only a one-inch single latch that could be easily broken.

2. OSC requested TSA explain why it failed to conduct an additional evidence-based risk assessment following the December 2018 Aviation Security Advisory Committee (ASAC) report. ASAC agreed that some form of secondary barrier was necessary but failed to reach a consensus on what type of secondary barrier should be required. TSA used the lack of consensus to justify its agreement with the Federal Aviation Administration (FAA) to take no further action on the matter.

In its referral, OSC mentioned that the need for a report is especially true because the group of stakeholders have significantly competing interests and merely advocated for the position best suited to their needs. OSC

continued that an evidence-based approach appears warranted given that FAA has expressed its disagreement with some of the findings in the RTCA DO-329 report from September 28, 2011, the only evidence-based evaluation cited by the agency.

Interview:

[redacted] advised that the Aviation Security Advisory Committee received a request from the TSA Administrator to conduct a study on secondary barriers in passenger airplanes. The administrators request really did not fit into any structure that ASAC was working. They elected to create an *ad hoc* working group to study the issue. [redacted] was aware that there would be people on the working group with insights into both sides of the issue, he elected to chair the working group himself. He added that he was concerned about installing a lead that would come from the union, aircraft, passenger airline, or manufacturer for fear that would problematic moving forward. [redacted] went on to explain the ASAC is an industry committee that seeks to improve security through partnerships between government and industry. In doing so, the committee always has a TSA cochairman. In this matter the cochairman was [redacted] TSA Liaison to FAA.
With regard to the regard to the requirements to the flight deck doors, [redacted] noted that this was an FAA issue. He added that anything that involves configuration or safety implications on a plane belongs to FAA. While the issues like this may have security implications, any action that is taken with regard to secondary doors is an FAA action. [redacted] advised that the committee never got into whether the cockpit doors or latches were adequate or not and opined that those matters might be included in FAA rulemaking or requirements. While those are legitimate issues, they were never in their mandate and the committee never looked into them.

[redacted] advised that what exists now is a congressional mandate (FAA Reauthorization Act of 2018) (Exhibit X) for new aircraft to install secondary barriers. FAA is charged with implementing that mandate but he was unaware of the status. The other concern the ASAC was looking into was whether existing aircraft were going to be required to retrofit the addition of a secondary barrier in addition to the flight deck door. [redacted] made the effort to secure a consensus amongst the committee members on the issue but could not get it from the committee. Thus, the determination was made to give the administrator the positon of all the parties which included passenger airlines, manufacturers, and labor components. With regard to the ASAC Secondary Barriers Report (pg. 10). [redacted] advised that this comments were just one of the positions presented to the administrator in the report. For the answer on that positon [redacted] advised that FAA needed to answer that as they are the only source for that information.

[redacted] noted that there were not any requirements to conduct additional risk assessments. He was not aware if one was conducted after the report was submitted. He added that this would have to come from TSA.

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Exhibit 3

Interview of [redacted]

January 21, 2022

~~SENSITIVE SECURITY INFORMATION~~

TSA INVESTIGATIONS
MEMORANDUM OF INTERVIEW OR ACTIVITY

Type of Activity:	Date and Time:
☐ Personal Interview ☒ Telephone Interview ☐ Records Review ☐ Other	January 21, 2022 11:00pm
Activity or Interview of: [redacted] Section Chief – PSI Section Policy, Plans, and Engagement | Aviation Division HQ Transportation Security Administration	**Conducted by:** Investigator Investigator [redacted] **Location of Interview/Activity:** Telephonic

Subject Matter/Remarks

Background:

On August 20, 2021, OSC referred to TSA supplemental questions related to [redacted] whistleblower disclosure. On August 26, 2021, an attorney from Chief Counsel's office referred these supplemental questions to TSA's Investigations (INV).

Those supplemental questions were comprised of:

1. OSC requested TSA explain the absence in its report of any discussion or reference to the allegation contained in OSC's January 18, 2018, referral to Secretary [redacted] that TSA failed to require aircraft operators to strengthen flight deck doors. The referral included [redacted] observation that many inward opening flight deck doors have only a one-inch single latch that could be easily broken.

2. OSC requested TSA explain why it failed to conduct an additional evidence-based risk assessment following the December 2018 Aviation Security Advisory Committee (ASAC) report. ASAC agreed that some form of secondary barrier was necessary but failed to reach a consensus on what type of secondary barrier should be required. TSA used the lack of consensus to justify its agreement with the Federal Aviation Administration (FAA) to take no further action on the matter.

In its referral, OSC mentioned that the need for a report is especially true because the group of stakeholders have significantly competing interests and merely advocated for the position best suited to their needs. OSC

continued that an evidence-based approach appears warranted given that FAA has expressed its disagreement with some of the findings in the RTCA DO-329 report from September 28, 2011, the only evidence-based evaluation cited by the agency.

Interview:

[redacted] advised that it was evident to her by the questions posed form OSC that whoever was making the allegation did not understand who held the responsibility over the requirement to secure the flight deck doors. [redacted] added that it was not a TSA requirement, rather it was an FAA requirement. She added that this requirement was covered under CFR Title 14, §121.313 which came out in approximately 2003. With respect to the complainant's assertion that the flight deck doors had a single latch that could easily be broken, [redacted] observed once again that the complainant's observation was a safety matter regulated by FAA as part of the aircraft's certification. Regulatory requirements for the cockpit doors is covered by CFR Title 14, §121.313. [redacted] went on to explain that the regulation tells the aircraft operators that they have to retrofit their doors to prevent someone accessing the cockpit, to include working with their Principal Operations Inspectors (POI) from the airlines along with their avionics and engineers to develop the hardened cockpit doors. [redacted] opined that the OSC complaint should be referred to the FAA. [redacted] also advised that when it comes to the aircraft and any modifications to it, those measures fall under the FAA's roles and responsibilities and TSA has no input in that. She is aware that the FAA is in the process of preparing a Notice of Proposed Rulemaking to develop requirements for secondary barriers. She is not aware who at FAA is working on the notice but believes the aviation safety counsel is working on the notice.

With respect to the disagreement in the RTCA Study, [redacted] opined that the difference was related to the physical vice other options. It was also related to the secondary barriers covered by 120-110 which can be physical, person, or equipment. She believed that difference of opinion was centered on the interpretation that the barriers had to be physical only versus a person or equipment like a galley cart. According to [redacted], the FAA felt they had enough security with the locks and that it was a huge expense for the airlines to harden the cockpit doors even more. [redacted] added that if one looks at the compliance history, there have been attempts to breech the door, but none have been successful in getting through the door where they could take over an aircraft. Airlines have instituted safety measures to prevent unauthorized persons from accessing the cockpit. One such measure is the peep hole which allows to the crew to see whether or not the person on the other side is under duress before opening. Other measures exist to ensure that the cockpit is not breeched such as code words, and the use of the galley to block access to the cockpit door when opened. [redacted] provided a signed sworn statement **(Exhibit 3a).** She also provided a copy of FAR Title 14 §121.584 **(Exhibit 3b)** that might be useful in explaining the requirement to view the area outside the cockpit door.

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Exhibit 3a

Signed statement of [redacted]

Transportation Security Administration

Transportation Security Administration
Investigations (INV)
Statement Form

Name: [redacted]	**Date: 1/25/2022**
Duty Assignment: [redacted]	
Current Position: Section Chief, PSI Section, Aviation Division, Policy, Plans and Engagement	
Pay Band: J	
Telephone Number: [redacted]	
Investigators: [redacted] **and** [redacted]	

I, [redacted], hereby make the following statement to [redacted], who has identified him/herself to me as an Investigator with TSA Investigations (INV).
(Below print your Statement of facts including; WHO, WHAT, WHEN, WHERE, HOW, and WHY.)

Statement narrative

I was asked to review a document from the Office of Special Counsel regarding a complaint that TSA failed to require aircraft operators strengthen flight deck doors. I also reviewed documents regarding an ASAC working group on Secondary Barriers, the FAA Reauthorization Act of 2018 and multiple Federal Aviation Regulations as well as Transportation Security Regulations.

In reviewing the questions from the Office of Special Counsel, the Transportation Security Administration is not the agency responsible to require aircraft operators strengthen flight deck doors, that requirement is a responsibility of the Federal Aviation Administration (FAA). The questions that are included in the OSC document are best addressed through the FAA.

The requirements for flight deck doors can be located in 14 FAR 121.313. The installation of secondary barriers can be located in 14 FAR 121.584. The FAA is currently in the process of drafting a notice of proposed rulemaking regarding secondary barriers, the date the proposed rulemaking is expected to be released is unknown by TSA at this time.

Subsequent to the ASAC report, Congress took the additional step in September 2018 of mandating that FAA issue an order requiring installation of a secondary cockpit barrier on each new aircraft that is manufactured for delivery to a 14 CFR 121 U.S. passenger air carrier.

Under the FAA Reauthorization Act of 2018, Section 336 covers the requirement by Congress for secondary cockpit barriers. See extract below:

> **SEC. 336. SECONDARY COCKPIT BARRIERS.**
> (a) SHORT TITLE. —This section may be cited as the ''Saracini Aviation Safety Act of 2018''.
> (b) REQUIREMENT. —Not later than 1 year after the date of

the enactment of this Act, the Administrator of the Federal Aviation Administration shall issue an order requiring installation of a secondary cockpit barrier on each new aircraft that is manufactured for delivery to a passenger air carrier in the United States operating under the provisions of part 121 of title 14, Code of Federal Regulations

The 2018 ASAC report indicated that there are serious concerns regarding the installation of secondary physical barriers based on cost, aircraft size and type and the ability to install secondary barriers by using equipment such as galley carts and the physical presence of flight crewmembers. The FAA was also a part of the working group and as the government organization responsible to require secondary barriers also conducted the following:

- In June of 2019, the FAA assigned a Flight Deck Secondary Barrier Tasking Notice via their Advisory and Rulemaking Committee to establish a working group to provide recommendations regarding implementation of Section 336 of the FAA Reauthorization Act of 2018 regarding secondary cockpit barriers on each new aircraft hat is manufactured for delivery to a passenger airline in the US.
- On March 3, 2020, the FAA Secondary Barrier Working Group concluded its recommendations.

The FAA is currently in the process of issuing a Notice of Proposed Rulemaking on Secondary Barriers, date of issuance is pending. I reached out to my counterparts at the FAA to determine what the source of FAA's disagreement with the RTCA was and have been unsuccessful in getting that information. At this time, I am not aware of the specifics of FAA's disagreement with parts of the RTCA study and recommend that the OSC reach out to the FAA for their input.

**********END OF STATEMENT**********

I have read this entire statement consisting of: 04 pages. I have been given the opportunity to make corrections. All of the information contained in this statement is true and accurate to the best of my knowledge and belief. I understand that I may be prosecuted for perjury or making false statements if I have intentionally misrepresented anything contained in this statement. I have not intentionally omitted any information or knowledge I have that relates to the matters under investigation or review.

I swear or affirm that the testimony I have provided in this electronic statement is the truth, the whole truth, and nothing but the truth.

I certify that I am making this statement of my own free will, without any duress or coercion. The electronic signature below is the equivalent of my handwritten signature.

Executed on this date: 1/25/2022

Signature:

X [redacted] Digitally signed by [redacted]
Date: 2022.01.25 08:20:11 -05'00'

For TSA INV Use Only

I issued this Statement Form and electronically received the electronically signed record above.

The electronic signature below is the equivalent of my handwritten signature.

Signature of Primary Investigator:

X [redacted]

For TSA INV Use Only

The electronic signature below is the equivalent of my handwritten signature.

Signature of Witness:

X [redacted]

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Exhibit 3b

FAR Title 14 §121.584

(5) A person described in paragraph (a)(4) of this section, when traveling to or from his assignment.

(6) A person performing duty as an honor guard accompanying a shipment made by or under the authority of the United States.

(7) A military courier, military route supervisor, military cargo contract coordinator, or a flight crewmember of another military cargo contract air carrier or commercial operator, carried by a military cargo contract air carrier or commercial operator in operations under a military cargo contract, if that carriage is specifically authorized by the appropriate armed forces.

(8) A dependent of an employee of the certificate holder when traveling with the employee on company business to or from outlying stations not served by adequate regular passenger flights.

(b) No certificate holder may operate an airplane carrying a person covered by paragraph (a) of this section unless—

(1) Each person has unobstructed access from his seat to the pilot compartment or to a regular or emergency exit;

(2) The pilot in command has a means of notifying each person when smoking is prohibited and when safety belts must be fastened; and

(3) The airplane has an approved seat with an approved safety belt for each person. The seat must be located so that the occupant is not in any position to interfere with the flight crewmembers performing their duties.

(c) Before each takeoff, each certificate holder operating an airplane carrying persons covered by paragraph (a) of this section shall ensure that all such persons have been orally briefed by the appropriate crewmember on—

(1) Smoking;

(2) The use of seat belts;

(3) The location and operation of emergency exits;

(4) The use of oxygen and emergency oxygen equipment; and

(5) For extended overwater operations, the location of life rafts, and the location and operation of life preservers including a demonstration of the method of donning and inflating a life preserver.

(d) Each certificate holder operating an airplane carrying persons covered by paragraph (a) of this section shall incorporate procedures for the safe carriage of such persons into the certificate holder's operations manual.

(e) The pilot in command may authorize a person covered by paragraph (a) of this section to be admitted to the crew compartment of the airplane.

[Doc. No. 10580, 35 FR 14612, Sept. 18, 1970, as amended by Amdt. 121-96, 37 FR 19608, Sept. 21, 1972; Amdt. 121-159, 45 FR 41594, June 19, 1980; Amdt. 121-232, 57 FR 48663, Oct. 27, 1992; Amdt. 121-251, 60 FR 65935, Dec. 20, 1995; Amdt. 121-253, 61 FR 2614, Jan. 26, 1996; Amdt. 121-298, 68 FR 41217, July 10, 2003]

EFFECTIVE DATE NOTE: By Amdt. 121-357, 77 FR 403, Jan. 4, 2012, § 121.583 was amended by revising paragraph (a) introductory text, effective Jan. 14, 2014. By Amdt. 121-357A, 77 FR 28764, May 16, 2012, the effective date was corrected to be Jan. 4, 2014. For the convenience of the user, the revised text is set forth as follows:

§ 121.583 Carriage of persons without compliance with the passenger-carrying requirements of this part and part 117.

(a) When authorized by the certificate holder, the following persons, but no others, may be carried aboard an airplane without complying with the passenger-carrying airplane requirements in §§ 121.309(f), 121.310, 121.391, 121.571, and 121.587; the passenger-carrying operation requirements in part 117 and §§ 121.157(c) and 121.291; and the requirements pertaining to passengers in §§ 121.285, 121.313(f), 121.317, 121.547, and 121.573:

* * * * *

§ 121.584 Requirement to view the area outside the flightdeck door.

From the time the airplane moves in order to initiate a flight segment through the end of that flight segment, no person may unlock or open the flightdeck door unless:

(a) A person authorized to be on the flightdeck uses an approved audio procedure and an approved visual device to verify that:

(1) The area outside the flightdeck door is secure, and;

(2) If someone outside the flightdeck is seeking to have the flightdeck door opened, that person is not under duress, and;

(b) After the requirements of paragraph (a) of this section have been satisfactorily accomplished, the crewmember in charge on the flightdeck authorizes the door to be unlocked and open.

[Amdt. 121–334, 72 FR 45635, Aug. 15, 2007]

§ 121.585 Exit seating.

(a)(1) Each certificate holder shall determine, to the extent necessary to perform the applicable functions of paragraph (d) of this section, the suitability of each person it permits to occupy an exit seat, in accordance with this section. For the purpose of this section—

(i) *Exit seat* means—

(A) Each seat having direct access to an exit; and,

(B) Each seat in a row of seats through which passengers would have to pass to gain access to an exit, from the first seat inboard of the exit to the first aisle inboard of the exit.

(ii) A passenger seat having "direct access" means a seat from which a passenger can proceed directly to the exit without entering an aisle or passing around an obstruction.

(2) Each certificate holder shall make the passenger exit seating determinations required by this paragraph in a non-discriminatory manner consistent with the requirements of this section, by persons designated in the certificate holder's required operations manual.

(3) Each certificate holder shall designate the exit seats for each passenger seating configuration in its fleet in accordance with the definitions in this paragraph and submit those designations for approval as part of the procedures required to be submitted for approval under paragraphs (n) and (p) of this section.

(b) No certificate holder may seat a person in a seat affected by this section if the certificate holder determines that it is likely that the person would be unable to perform one or more of the applicable functions listed in paragraph (d) of this section because—

(1) The person lacks sufficient mobility, strength, or dexterity in both arms and hands, and both legs:

(i) To reach upward, sideways, and downward to the location of emergency exit and exit-slide operating mechanisms;

(ii) To grasp and push, pull, turn, or otherwise manipulate those mechanisms;

(iii) To push, shove, pull, or otherwise open emergency exits;

(iv) To lift out, hold, deposit on nearby seats, or maneuver over the seatbacks to the next row objects the size and weight of over-wing window exit doors;

(v) To remove obstructions similar in size and weight to over-wing exit doors;

(vi) To reach the emergency exit expeditiously;

(vii) To maintain balance while removing obstructions;

(viii) To exit expeditiously;

(ix) To stabilize an escape slide after deployment; or

(x) To assist others in getting off an escape slide;

(2) The person is less than 15 years of age or lacks the capacity to perform one or more of the applicable functions listed in paragraph (d) of this section without the assistance of an adult companion, parent, or other relative;

(3) The person lacks the ability to read and understand instructions required by this section and related to emergency evacuation provided by the certificate holder in printed or graphic form or the ability to understand oral crew commands.

(4) The person lacks sufficient visual capacity to perform one or more of the applicable functions in paragraph (d) of this section without the assistance of visual aids beyond contact lenses or eyeglasses;

(5) The person lacks sufficient aural capacity to hear and understand instructions shouted by flight attendants, without assistance beyond a hearing aid;

(6) The person lacks the ability adequately to impart information orally to other passengers; or,

(7) The person has:

(i) A condition or responsibilities, such as caring for small children, that might prevent the person from performing one or more of the applicable functions listed in paragraph (d) of this section; or

(ii) A condition that might cause the person harm if he or she performs one

I18 00099

Exhibit 4

Interview of [redacted]
February 3, 2022

~~SENSITIVE SECURITY INFORMATION~~

TSA INVESTIGATIONS
MEMORANDUM OF INTERVIEW OR ACTIVITY

Type of Activity:	Date and Time:
☐ Personal Interview ☒ Telephone Interview ☐ Records Review ☐ Other	February 3, 2022 1:00pm
Activity or Interview of: [redacted] TSA Counterintelligence Coordinator Transportation Security Administration Springfield, VA	**Conducted by:** Investigator Investigator [redacted]
	Location of Interview/Activity: Telephonic/WebEx Meeting

Subject Matter/Remarks

Background:

On August 20, 2021, OSC referred to TSA supplemental questions related to [redacted] whistleblower disclosure. On August 26, 2021, an attorney from Chief Counsel's office referred these supplemental questions to TSA's Investigations (INV).

Those supplemental questions were comprised of:

1. OSC requested TSA explain the absence in its report of any discussion or reference to the allegation contained in OSC's January 18, 2018, referral to [redacted] that TSA failed to require aircraft operators to strengthen flight deck doors. The referral included [redacted] observation that many inward opening flight deck doors have only a one-inch single latch that could be easily broken.

2. OSC requested TSA explain why it failed to conduct an additional evidence-based risk assessment following the December 2018 Aviation Security Advisory Committee (ASAC) report. ASAC agreed that some form of secondary barrier was necessary but failed to reach a consensus on what type of secondary barrier should be required. TSA used the lack of consensus to justify its agreement with the Federal Aviation Administration (FAA) to take no further action on the matter.

In its referral, OSC mentioned that the need for a report is especially true because the group of stakeholders have significantly competing interests and merely advocated for the position best suited to their needs. OSC

continued that an evidence-based approach appears warranted given that FAA has expressed its disagreement with some of the findings in the RTCA DO-329 report from September 28, 2011, the only evidence-based evaluation cited by the agency.

Interview:

[redacted] advised the hardened cockpit door rule was not a TSA regulatory matter, rather, that fell in the authority of the FAA as the requirement was a modification to the aircraft that was entirely an FAA regulatory function even though the security aspect related component to the door. [redacted] was aware that TSA and FAA had engaged in dialogue in the past related to the cockpit doors and secondary barriers, i.e. the strength of the cockpit doors against blunt force trauma to the doors, and believes there is about to be some testing of how the locks perform against firearms. The intent of the testing is determining what the door lock is capable of handling. According to [redacted], TSA has not, does not and will not issue any rules that have the potential to impact safety of flight. If it has to do with anything related to the structure of the aircraft that falls on FAA. With regard to the difference of opinion in the ASAC Study, [redacted] noted that several of the aircraft manufacturers Boeing, Airbus, Embraer, Bombardier, submitted comments to House and Senate Bills which were to require secondary barriers. Those bills have since become statute and requires the FAA to design and order carriers to install secondary barriers. The difference in opinion lies between labor and the air carriers ALBA in particular was interested in seeing the requirement for secondary barriers while the carriers took the view that it was not necessary. TSA's position at the time was that the agency was not going to take sides on the matter. A few months later, the statute (meaning the FAA Reauthorization Act) directed FAA to take action on the matter regardless of TSA's opinion on the matter. [redacted] added the he did not believe that TSA has any reservations on the matter it is just that they did not have an opinion at the time. He was not aware of what the FAA's reservations were but opined that FAA was sympathetic to the aircraft operators' perspective in that they did not see the cost benefit of installing secondary barriers. The view was the risk was minimal and the cost for the installation fleet wide was cost prohibitive. With regard to risk based assessments [redacted] was only aware of the assessment (reference Exhibit 7). Attachment 1 of that document puts the prohibitive cost in perspective. [redacted] provided a signed statement **(Exhibit 4a)**.

I18 00099

Exhibit 4a

Statement of [redacted]

Transportation Security Administration

Transportation Security Administration Investigations (INV) Statement Form

Name: [redacted]	**Date: 2/7/2022**
Duty Assignment: Springfield, VA	
Current Position: Counterterrorism Coordinator	
Pay Band: SV-K	
Telephone Number: [redacted]	
Investigators: [redacted] **and** [redacted]	

I, [redacted], hereby make the following statement to Elias Lozano, who has identified him/herself to me as an Investigator with TSA Investigations.
(Below print your Statement of facts including; WHO, WHAT, WHEN, WHERE, HOW, and WHY.)

The authority and responsibility for regulations surrounding hardened flight deck doors lies with the Federal Aviation Administration (FAA). That organization is concerned with the airworthiness of all equipment found aboard commercial aircraft, and has issued (and updated) standards for that equipment. While the doors are hardened for security-oriented reasons, making them an item of interest to the Transportation Security Administration (TSA) the FAA retains regulatory authority over the doors since they have the potential to impact safety-of-flight.

In recent years, some organizations, principally flight crew unions, have expressed an interest in FAA issuing regulations requiring the installation of secondary barriers to further limit access to the flight deck. Congress responded to that interest with Section 336 of the FAA Reauthorization Act of 2018, which states that, "Not later than 1 year after the date of the enactment of this Act, the Administrator of the Federal Aviation shall issue an order requiring installation of a secondary cockpit barrier on each new aircraft that is manufactured for delivery to a passenger air carrier in the United States operating under the provisions of part 121 of title 14, Code of Federal Regulations." While there was a difference of opinion of the value of secondary barriers, with labor groups generally supportive (characterizing the matter as a pure security issue) and manufacturers/operators generally opposed (seeing it through cost/benefit lens), those opinions became moot when President [redacted] signed the Reauthorization Act.

In late-2018, TSA published a SECRET-level threat assessment on hijacking threats. Building on that document, in mid-2019 TSA completed a risk assessment which examined issues surrounding secondary barriers. TSA briefed the Hill on the conclusions of that assessment on September 17, 2019. As of early-2021, TSA is in the middle of a study on the resistance of hardened flight deck door locks to firearms. I do not know of any other risk assessments.

**********END OF STATEMENT**********

I have read this entire statement consisting of: 3 pages. I have been given the opportunity to make corrections. All of the information contained in this statement is true and accurate to the best of my knowledge and belief. I understand that I may be prosecuted for perjury or making false statements if I have intentionally misrepresented anything contained in this statement. I have not intentionally omitted any information or knowledge I have that relates to the matters under investigation or review.

I swear or affirm that the testimony I have provided in this electronic statement is the truth, the whole truth, and nothing but the truth.

I certify that I am making this statement of my own free will, without any duress or coercion. The electronic signature below is the equivalent of my handwritten signature.

Executed on this date: 2/7/2022

Signature:

2/7/2022

X [redacted]

Signed by: [redacted]

For TSA INV Use Only

I issued this Statement Form and electronically received the electronically signed record above.

The electronic signature below is the equivalent of my handwritten signature.

Signature of Primary Investigator:

X [redacted]

For TSA INV Use Only

The electronic signature below is the equivalent of my handwritten signature.

Signature of Witness:

2/8/2022

X [redacted]

Signed by [redacted]

I18 00099

Exhibit 4b

Clarification Questions Email to [redacted] and his responses

[redacted]

From: [redacted]
Sent: Wednesday, February 23, 2022 10:38 AM
To: [redacted]
Cc:
Subject: RE: Cockpit Access Action/Info Memoranda
Attachments: Attachment 1 - Info Memo (with FAA White Paper attachment) - External PW.pdf

- In his statement, he mentions that in late-2018, TSA published a SECRET-level threat assessment on hijacking threats. In mid-2019, TSA completed a risk assessment on issues surrounding secondary barriers, the findings of which were briefed to the Hill on September 17, 2019. As of early 2021, TSA is studying resistance of hardened flight deck door locks to firearms.
  - Can [redacted] expound on each of these studies?
    - The attached information memorandum (password to follow) is the risk assessment I briefed to the Hill
    - I do not have the details of the firearm resistance study … I think you interviewed [redacted] about that study. Certainly [redacted] has been in touch with him about that
    - Is each study a risk assessment involving secondary barriers/flight deck doors? Why or why not?
      - The flight deck door risk assessment met the requirement of section 1961(a) of the FAA Reauthorization Act of 2018 which required (a) THREAT ASSESSMENT.—Not later than 90 days after the date of enactment of this Act, the Administrator, in consultation with the Administrator of the Federal Aviation Administration, shall complete a detailed threat assessment to identify any safety or security risks associated with unauthorized access to the flight decks on commercial aircraft and any appropriate measures that should be taken based on the risks.
    - Is each study evidence based? If so, what evidence was considered?
      - See attached study … password to follow
  - Is the 2019 Memo in Exhibit 7 related to the SECRET-level assessment he mentioned?
    - Assuming Exhibit 7 is the attached, attachment 1 to Exhibit 7 is the SECRET-level threat assessment
  - Can [redacted] provide copies of the scope of the reports and the findings? Any documents relevant to respond to whether TSA is conducting / has conducted risk assessments.
    - See attached study … password to follow
    - Regarding the classified report, any non-classified information that can be shared about this report would be helpful. If the classified report included a tear-line (a non-classified portion describing findings), can a copy be provided?
      - There is no non-classified information about the report which I can share, nor is there a tear-line. I would be happy to provide the classified report. All I need is the recipient's JWICS or HSDN or JWICS address

[redacted]

[redacted]
Counterterrorism Coordinator
[redacted] (Cell)

From: [redacted]
Sent: Wednesday, February 23, 2022 8:18 AM

To: [redacted]
Cc: [redacted]
Subject: RE: Cockpit Access Action/Info Memoranda

Good morning [redacted]

Chief Counsel's Office had some follow-up questions that they wanted me to address with you.

- In his statement, he mentions that in late-2018, TSA published a SECRET-level threat assessment on hijacking threats. In mid-2019, TSA completed a risk assessment on issues surrounding secondary barriers, the findings of which were briefed to the Hill on September 17, 2019. As of early 2021, TSA is studying resistance of hardened flight deck door locks to firearms.
    - Can [redacted] expound on each of these studies?
        - Is each study a risk assessment involving secondary barriers/flight deck doors? Why or why not?
        - Is each study evidence based? If so, what evidence was considered?
    - Is the 2019 Memo in Exhibit 7 related to the SECRET-level assessment he mentioned?
    - Can [redacted] provide copies of the scope of the reports and the findings? Any documents relevant to respond to whether TSA is conducting / has conducted risk assessments.
        - Regarding the classified report, any non-classified information that can be shared about this report would be helpful. If the classified report included a tear-line (a non-classified portion describing findings), can a copy be provided?

Can you possibly clear these up for us? We can talk again, I need to get my report to CC by March 1.

Thanks

[redacted]

[redacted]
Investigator
Transportation Security Administration
U.S. Department of Homeland Security
[redacted]

From: [redacted]
Sent: Monday, January 31, 2022 3:53 PM
To: [redacted]
Cc: [redacted]
Subject: RE: Cockpit Access Action/Info Memoranda

1300 is best, as much as I would like to miss the DHS call.

Difference of opinion isn't that interesting. Labor wanted the added protection, regardless of cost. Carriers didn't want to write the check for a marginal benefit.

[redacted]

[redacted]
Counterterrorism Coordinator
[redacted]

From: [redacted]
Sent: Monday, January 31, 2022 3:33 PM
To: [redacted]
Cc: [redacted]
Subject: RE: Cockpit Access Action/Info Memoranda

Great!

Then will Thursday at 2:00 will work for you? Otherwise we can work for 1:00. Will any of that info be classified? I am especially interested in what the "difference of opinions" were at the time.

Once you let me know what time you want, I will send the Webex invite.

Best

[redacted]

[redacted]
Investigator
Transportation Security Administration
U.S. Department of Homeland Security
Office: [redacted]

From: [redacted]
Sent: Monday, January 31, 2022 2:00 PM
To: [redacted]
Cc: [redacted]
Subject: RE: Cockpit Access Action/Info Memoranda

Any time after noon on Thursday works for me. I have a 2:0-3:00 call with the department, and would love to have a reason why I can't make that one.

During that call, I will tell you that TSA has not required aircraft operators strengthen the flight deck doors. I will then go on to say that is a FAA regulation, that any changes to flight deck doors have safety of flight implications and that FAA is the appropriate agency to issue such regulations ... if needed. I will follow that with saying that – in accordance with statue – FAA is responsible for requiring secondary barriers.

I will also say that there is a considerable difference of opinion between labor and air carriers on the necessity of changes to flight deck doors, however that difference became OBE when the Hill wrote the relevant statute.

[redacted]

[redacted]
Counterterrorism Coordinator
[redacted]

From: [redacted]
Sent: Monday, January 31, 2022 1:41 PM

To: [redacted]
Cc [redacted]
Subject: RE: Cockpit Access Action/Info Memoranda

Hi [redacted]

Thank you for your email and quick response!

I have been assigned to follow up on an OSC case related to Flight Issues that TSA and FAA conducted in 2018. This matter has been returned to our office for additional follow up and am reaching out to you in the hope that you can help me address the following clarification questions from OSC.

We have are seeking to clarify the following:

- OSC is seeking information from TSA regarding the allegation that TSA failed to require aircraft operators strengthen the flight deck doors (which are secured by a one-inch lock). The matter pertinent to the inward/outward opening door was initially discussed, but OSC is interested in additional information on the strengthening of the door itself. Did that ever happen?

- I understand that there was a difference of perspectives with parts of the RTCA study. I believe this difference of opinion was between FAA and TSA. I need to establish what those differences were. Refer to ASAC 6845 document page 10.

I have included some documents that might help clarify what we are looking to address. The OSC Q&A Doors document identifies the questions we have.

Please send me good date and time to interview. I am unavailable tomorrow, but Wednesday through Friday will work.

The password for DO-329 will follow.

Best

[redacted]

[redacted]
Investigator
Transportation Security Administration
U.S. Department of Homeland Security
Office: [redacted]

From: [redacted]
Sent: Monday, January 31, 2022 12:56 PM
To: [redacted]
Subject: RE: Cockpit Access Action/Info Memoranda

Happy to chat.

[redacted]

[redacted]

Counterterrorism Coordinator
[redacted]

From: [redacted]
Date: Monday, Jan 31, 2022, 12:46 PM
To: [redacted]
Cc: [redacted]
Subject: Cockpit Access Action/Info Memoranda

It was pleasure speaking with both of you this morning. See attached two memoranda bearing on the subject of flight deck access, located by TSA Counterterrorism Coordinator [redacted], cc'd above. He is only broadly aware of your investigation. I have not provided him with docs you provided me, as they probably come best from you.

Password to these two docs to follow in a moment.

Related – I spoke with [redacted] (TSA, retired) this morning. He respectfully declines an interview, citing lack of specific recall, and lack of access to contemporary documents.

From: [redacted]
Sent: Monday, January 31, 2022 11:04 AM
To: [redacted]
Subject: RE: Cockpit Access DRAFT PRE-DECISIONAL Memorandum

PW to follow.

There is also a high-side threat assessment from 2019.

[redacted]

[redacted]
Counterterrorism Coordinator
[redacted] (Cell)

I18 00099

Exhibit 5

Email/Statement of [redacted]

[redacted]

From: [redacted]
Sent: Wednesday, March 2, 2022 3:00 PM
To: [redacted]
Cc:
Subject: RE: Request for Interview

[redacted],
It was nice speaking with you and [redacted] just now. You requested a brief description of the flight deck door ballistics testing we did, and the motivation for it.

In short, my risk analysis team contacted the Commercial Aircraft Vulnerability and Mitigation (CAVM) Branch of the Transportation Security Lab in Atlantic City, and requested they test some cockpit doors to see how many aimed gunshots it would take to breach them.* The test plan we worked out with CAVM aimed some 9mm and .44 cal shots at obvious points (door latch & deadbolt) and some non-obvious points (that I mentioned on the phone). I won't go into the results I described on the phone, since those are SSI. The fundamental 'risk' question we were trying to answer is "how many bullets should we worry about finding in carry-on baggage?"

The reason we were asking that question was because some of our RCA colleagues are working with checkpoint x-ray system vendors to develop automated algorithms for detecting prohibited items. They are confident that conventional metallic firearms are able to be found well, but are concerned about the performance of algorithms for detecting "3D-printed" (i.e. additive-manufactured) firearms. So my risk analysis team is exploring whether we can give up some detection capability for 3D printed firearms if we compensate with a capability to find ammunition. An important factor in that tradeoff is how many rounds of ammunition would be likely to breach* the cockpit.

At some point in the future (not exactly sure when, there's a LOT on my team's plate) we plan to produce a memo giving RCA's Requirements Development Branch some risk-based guidance for their next-generation algorithm detection requirements. I don't expect that memo to have much bearing on the matter you described.

Outside the specific request we're answering in our risk analysis, this work has led me to believe that some straightforward improvements can be made to the existing FAA standards for cockpit doors. Note: my risk analysis team does NOT believe these are "high-priority" vulnerabilities that TSA should be diverting attention to; rather they are fairly mundane things that we do not see adversaries attempting to exploit, and that have other good layers of security protecting them. So, I think TSA should just work with FAA to draft and issue an update to its cockpit door testing process going forward. (I.e. these issues aren't ones we think are important enough to go to the presumably large expense of retrofitting the existing fleet.) And again, these changes to the cockpit door requirements do *not* have anything to do with the whistleblower complaint, as far as I can tell.

Please let me know if you need any further explanation of this activity!

[redacted]

Regards,
[redacted]
Manager, Operational Risk and Case Studies

TSA Requirements & Capabilities Analysis
Mobile: [redacted]

From: [redacted]
Sent: Wednesday, March 2, 2022 2:22 PM
To: [redacted]
Cc: [redacted]
Subject: RE: Request for Interview

Link to flight deck door ballistics test videos. First, go to https://ustsa-my.sharepoint.com/, and you'll logon to your own OneDrive/SharePoint account. Then click the following link:

2022-02 cockpit door testing

[redacted]
Manager, Operational Risk and Case Studies
TSA Requirements & Capabilities Analysis
Mobile: [redacted]

From: [redacted]
Sent: Wednesday, March 2, 2022 1:29 PM
To: [redacted]
Cc: [redacted]
Subject: Re: Request for Interview

[redacted]
Sure. Give me a call at the number below when you want to talk -- I'm pretty available this afternoon.

[redacted]
Manager, Operational Risk and Case Studies
TSA Requirements & Capabilities Analysis
Mobile: [redacted]

From: [redacted]
Sent: Wednesday, March 2, 2022 12:56
To: [redacted]
Cc: [redacted]
Subject: Request for Interview

Good afternoon [redacted],

I have been assigned to address a pair of followup questions related to a Whistleblower Investigation managed by Office of Special Counsel that alleged:

1. TSA failed to require aircraft operators to strengthen and implement flight deck doors that open outward and away from the flight deck; and

2. TSA failed to require aircraft operators to install secondary barriers which

function as a second layer of protection between the passenger area and the flight deck.

Would you contact me so that we can arrange an interview at your earliest possible availability?

Thank you,

[redacted]

[redacted]
Investigator
Transportation Security Administration
U.S. Department of Homeland Security
Office: [redacted]

I18 00099

Exhibit 5a

Email: Cockpit Door Testing Discussion

[redacted]

From: [redacted]
Sent: Monday, August 16, 2021 4:38 PM
To: [redacted]
Cc:
Subject: RE: cockpit door contact

[redacted]- thank you for the info! While it helps provide some context, it seems to confirm that the answer to "how many rounds can a cockpit door latch withstand before the terrorist gains entry?" is unknown. If you have any contacts at Boeing who might know if any manufacturer testing exists addressing this question, I'd like to contact them.

Firas- I think we've exhausted the known sources of info on this topic, and while I can't prove the negative (that such a government report does not exist), we've done due diligence to find it if it exists. You offered to help arrange this test – can you find out if any of the test entities we work with could conduct such a test? If one is open to it, of course we'd meet to specify the exact data points to be collected.

Thanks,
[redacted]
Manager, Operational Risk and Case Studies
TSA Requirements & Capabilities Analysis
Mobile: [redacted]

From: [redacted]
Sent: Monday, August 16, 2021 9:01 AM
To: [redacted]
Cc: [redacted]
Subject: [Not Virus Scanned] RE: cockpit door contact

[redacted]

I do not come across any data related to repeated ballistic impact damage to flight deck door and maximum number of rounds (of a given caliber/muzzle energy) that the flight deck door can withstand.

I have attached the following US report and UK slides on ballistic tests against flight deck door for your reference:

- DHS/TSA/TSL-03/57, "Qualitative Assessment of Catastrophic Risk to Commercial Aircraft from Federal Flight Deck Officer Weapon Discharge"
- UK-MPS Ballistic Testing (UK RESTRICTED similar to US Sensitive but Unclassified)

A password for opening the two attachments is sent in a separate e-mail.

Let me know if you have any comment or question.

[redacted]

[redacted], PhD
Manager, Vulnerability and Mitigation Branch
PM, Commercial Aircraft Vulnerability and Mitigation
DHS/S&T/OIC/ONL
Transportation Security Laboratory
[redacted]
William J. Hughes Technical Center
Atlantic City International Airport, NJ 08405
Tel: [redacted]
Cel: [redacted]
Fax: [redacted]
E-mail: [redacted]

From: [redacted]
Sent: Wednesday, August 11, 2021 5:22 PM
To: [redacted]
Cc: [redacted]
Subject: RE: cockpit door contact

[redacted],
My risk analysis team in TSA is assessing how much value our requirements documents should place on the various types of ammunition. A key factor in that analysis is the number of rounds (of a given caliber/muzzle energy) that the flight deck door can withstand before the latch/hinge can be rendered ineffective and a terrorist could access the flight deck.

I've seen the public FAA standards, but they only specify a particular level of impact that the door needs to withstand (and it seems like a very low level of impact!) I can't tell from the standards how effective the doors *actually* are because they don't address testing to the point of failure.

I went to the FAMS, and was surprised to learn they don't have this info either. Do you know if such a test-to-failure report exists? I have HSDN and C-LAN accounts, so if necessary I can receive the info at any classification level. And if I'm not giving you enough detail in my question (likely), feel free to give me a call at the # below!

Thank You!
[redacted]
Manager, Operational Risk and Case Studies
TSA Requirements & Capabilities Analysis
Mobile: [redacted]

From: [redacted]
Sent: Wednesday, August 11, 2021 3:23 PM
To: [redacted]
Cc: [redacted]
Subject: RE: cockpit door contact

[redacted]

My contact information is shown below.

Let me know if you want to discuss cockpit door testing.

[redacted]

[redacted]
Manager, Vulnerability and Mitigation Branch
PM, Commercial Aircraft Vulnerability and Mitigation
DHS/S&T/OIC/ONL
Transportation Security Laboratory
[redacted]
William J. Hughes Technical Center
Atlantic City International Airport, NJ 08405
Tel: [redacted]
Cel: [redacted]
Fax: [redacted]
E-mail: [redacted]

From: [redacted]
Sent: Wednesday, August 11, 2021 2:47 PM
To: [redacted]
Cc: [redacted]
Subject: RE: cockpit door contact

[redacted]

[redacted] *(For a quicker response during the pandemic.)*

From: [redacted]
Sent: Wednesday, August 11, 2021 2:45 PM
To: [redacted]
Subject: cockpit door contact

[redacted]
Who was it you said I should contact re cockpit door testing?

Thanks,
[redacted]
Manager, Operational Risk and Case Studies Branch
Systems and Risk Analysis Division
Requirements and Capabilities Analysis
TSA Operations Support

Mobile: [redacted]

I18 00099

Exhibit 6

2019 Risk Assessment Report titled: Section 1961 (a) of the TSA Modernization Act:Flight deck Safety and Security

~~SENSITIVE SECURITY INFORMATION~~

U.S. Department of Homeland Security
601 South 12th Street
Arlington, VA 20598-6028

Transportation Security Administration

INFORMATION

FOR: [redacted]
Acting Deputy Administrator

FROM: [redacted]
Executive Assistant Administ[redacted]
Operations Support

[redacted]
Executive Assistant Administrator
Law Enforcement/Federal Air Marshal Service

SUBJECT: Section 1961(a) of the TSA Modernization Act: Flight Deck Safety and Security

Purpose
To identify any additional appropriate measures needed to reduce the risk associated with unauthorized access to the flight decks on commercial aircraft, pursuant to Section 1961 (a) of the TSA Modernization Act.

Background
Section 1961 (a) requires that "not later than 90 days after enactment, the Administrator, in consultation with the Administrator of the Federal Aviation Administration, shall complete a detailed threat assessment to identify any safety or security risks associated with unauthorized access to the flight decks on commercial aircraft and any appropriate measures that should be taken based on the risks." Attachment 1 meets the "detailed threat assessment" component of the requirement, and this paper documents the "any appropriate measures" component. Acknowledging that section 336 of the FAA Reauthorization Act of 2018 requires: Not later than 1 year after the date of the enactment of this Act, the Administrator of the Federal Aviation Administration shall issue an order requiring installation of a secondary cockpit barrier on each new aircraft that is manufactured for delivery to a passenger air carrier in the United States operating under the provisions of part 121 of title 14, Code of Federal Regulations, TSA assesses that the current security measures in place adequately address the threat to flight deck safety and security.

Prior to the attacks of September 11, flight deck security was intended to thwart or mitigate a breach involving a hijacker whose motive might be monetary compensation, to escape from the law, to seek political asylum, or in some cases for publicity. In these situations, passive

resistance, delay, and slow-motion compliance by the hijacked aircraft's crew were key features of the federal government's guidance to flight crew.

The attacks of September 11 illustrated a different motive for hijacking an aircraft, to destroy it and everyone in it even if the hijacker perishes while carrying out the attack. The event began a dangerous new era in which anytime someone attempts to or actually breaches the security of the flight deck, it could be for the purpose of using the aircraft as a weapon against people and property. Overnight, it became a national imperative to implement new doctrine, training, material, personnel and policy which would thwart or mitigate a flight deck breach.

Discussion

Since the attacks of September 11 the United States Government put several measures in place: sophisticated passenger pre-screening, rigorous physical screening, a vastly expanded Air Marshal Service, armed flight crew, hardened flight deck doors, and a revamped mindset to dealing with potential hijackers. Additionally, the brave passengers aboard United flight 93 demonstrated that – knowing the potential consequences of a hijacking – able-bodied passengers are willing and able to fight back. Knowing their lives would be forfeited, those heroes forced the hijackers to crash UA93 in an empty field rather than into the Capitol.

Passenger Pre-Screening

Since November 2010, Secure Flight has conducted watchlist matching of passenger information against the Terrorist Screening Database (TSDB) watchlist for all covered U.S. and foreign flights into, out of, and within the United States, including point-to-point international flights operated by U.S. airlines. Secure Flight also performs watch list matching for flights that overfly, but do not land in, the continental United States.[1]

By conducting pre-flight comparisons of passenger information to the TSDB, Secure Flight allows for expedited notification of law enforcement, airlines, and our partners in the intelligence community to prevent individuals on the No Fly list from boarding an aircraft, as well as ensuring that individuals on the TSDB with the "selectee" designation receive appropriate enhanced screening prior to flying. TSA also applies a set of risk-based, intelligence-driven scenario rules to identify travelers who may require enhanced screening based on certain travel patterns and other intelligence-based factors. These rules have strict oversight by the Department of Homeland Security, including the privacy, civil rights and liberties, and general counsel offices.

Crew Pre-Screening

Since chartered by Congress in 2004 to perform security threat assessments for aircraft operator crew members, the Transportation Security Administration's Crew Vetting program has required all TSA-regulated U.S. aircraft operators and foreign air carriers operating commercial and all-cargo flights entering, departing, within, and overflying the United States to submit and maintain a Master Crew List (MCL) containing pertinent information of all crewmembers. Additionally, aircraft operators are required to provide TSA an accurate Flight Crew Manifest (FCM) for each scheduled flight, at least one hour prior to flight departure. If submitted less than one hour prior to departure, flight clearance may be denied or the flight may be diverted out of U.S. airspace.

[1] Both intra-Canadian and intra-Mexican flights that overfly the U.S. are exempt from this requirement, as are charter flights operated on the behalf of the U.S. military.

The information contained on the MCL/FCM is required to ensure TSA can effectively vet all crewmembers operating covered flights. The MCL and FCM are vetted against the full Transportation Security Database, US Marshals Wants and Warrants, and the Office of Foreign Assets Control database. If the vetting results determine that a crewmember poses or is suspected of posing a threat to national security, transportation security, or of terrorism, that crewmember will not be authorized to remain on the MCL and will not be permitted to operate such flights as a crewmember.

Physical Screening
In the almost two decades since the attacks of September 11, the passenger physical screening process and capability has improved dramatically. In lieu of contract workers, committed federal employees use both sophisticated technology such as Advanced Imaging Technology and Computed Tomography (both with improved prohibited item detection algorithms) and robust processes to screen passengers, carry-on luggage, and checked baggage against both an expanded list of prohibited items and a wider range of threats (e.g. non-metallic devices). And, unlike two decades ago, Officers now incorporate both threat-driven and random additional screening measures as an additional deterrence. The significant expansion of canine's capable of identifying even small traces of explosives and residue have enhanced physical screening of passengers and luggage.

Federal Air Marshal Service
The Federal Air Marshal Service (FAMS) provide a layer of security onboard select domestic and international flights by their ability to intercede in an event of air piracy and other hostile acts, including terrorist activity onboard. FAMS schedules and operates intelligence-informed deployments of armed federal law enforcement officers to protect aircraft, crew, and passengers from a wide-range of threats. A key to such protection and a priority of Federal Air Marshals is focus and awareness of those that have appropriate flight deck access and denial of access by all other parties, whether nefarious or accidental. On September 11, there were fewer than 50 part-time air marshals, today there are thousands of full-time professionals flying over two million miles every day.

Armed Flight Crew
Another layer of security is provided by Federal Flight Deck Officers (FFDOs) who are flight deck crewmembers (Pilots and Co-Pilots) trained and authorized to carry weapons while flying the aircraft to protect the flight deck in the event of a breach in flight. Program mitigation efforts focus on protection of the flight deck itself. FFDOs serve as a final security layer to avoid a loss of flight deck control to unauthorized parties. Since 2003, these deputized volunteers have been protecting thousands of flights each day.

Hardened Flight Deck Doors
Per FAA regulations resulting from the attacks of September 11, today's aircraft are equipped with hardened flight deck doors. While these doors are not impenetrable, they provide significant protection against flight deck breaches when appropriate crew access procedures are adhered to during normal flight operations.

Flight Deck Access Procedures

Similarly, *14 CFR § 121.587* requires that aircraft operators comply with FAA-approved procedures regarding the opening, closing and locking of the flight deck doors. In June, 2017, The Department of Transportation's Office of Inspector General assessed the effectiveness of FAA's actions to (1) identify vulnerabilities to flight deck security, and (2) mitigate identified flight deck vulnerabilities. DOT's OIG had six recommendations, and FAA closed out all six, concurring with three, non-concurring with two, and partially concurring with one.

Common Strategy
In January 2002, TSA and FAA developed an SSI document titled "Common Strategy" for use in crew training. Last updated in November, 2015, it is a required element of every aircraft operator's TSA-approved security program, providing the philosophy and procedures underpinning security training for crewmembers. The Common Strategy's main mission is to "DEFEND THE FLIGHT DECK AT ALL COSTS." This is a complete turn from the pre-September 11 days in which flight crew were to cooperate with hijackers and land the aircraft.

Able-Bodied Passengers And Cabin Crew
Additionally, in today's post September 11 world, able-bodied passengers may intercede or assist in mitigating events of air piracy and other hostile acts onboard the aircraft, including attempted breaches of the flight deck. In a very worst case, this type of action may prevent an incident from becoming a catastrophe. While attempts to breach the flight deck are very rare, there are in-flight incidents almost daily, and passengers assault cabin crew about twice a week. In a very real sense, DHS's exhortation to "See Something, Say Something" becomes "See Something, Do Something" aboard an aircraft.

On-Going Security Enhancements
In addition to the changes above, TSA continues to invest in people, processes, and technology to evolve and enhance aviation security. In 2018, TSA's Federal Air Marshal Service began using a rules-based focus to revamp its concept of operations, enhancing the deployment profile of FAMs, both domestically and internationally, while boosting encounters with higher-risk passengers to the tens of thousands each year. Additionally, TSA is realizing enhancements in [redacted] FAMs [redacted] higher-risk passengers during mission flights. Collectively, these updates move TSA towards [redacted] This approach both improves awareness throughout the entirety of the aircraft and places FAMs in better position to rapidly mitigate threats should they materialize. Beyond the CONOPS changes, TSA is centralizing initial training at a TSO Academy in Glynco, GA, building a career path for our screening officers, and heavily investing in technology (e.g. Computed Tomography and Credential Authentication) to ensure that the traveling public is secure.

Cargo Security Measures
Recognizing that there are risks associated with all-cargo aircraft as well, TSA requires a series of screening actions to minimize the threat to and from all-cargo aircraft. To counter the possibility of a hijacker attempting to smuggle themselves aboard one of these airplanes, TSA requires screening of all cargo [redacted] to ensure no one is hiding in the shipment. In those cases where the nature of the cargo demands that people accompany it (e.g. veterinarians accompanying large animals), TSA first vets those people against the TSDB and then requires the carrier to screen them. TSA allows them to bring aboard items which would otherwise be prohibited, but only those necessary for the care of the cargo they accompany. For

international flights, the carrier submits all crew and supernumeraries to TSA via the Master Crew List.

Conclusion

After reviewing the threats to unauthorized flight deck access, evaluating them against a combination of existing doctrine, training, material, personnel, and policy as well as in-process security enhancements, and accounting for Section 336 of the FAA Reauthorization Act of 2018 requiring FAA to issue an order requiring secondary barriers on new aircraft by October 5, 2019, both FAMS and OS believe that existing measures are appropriate to address flight deck access risks. We do not recommend any revisions to existing security measures.

Attachments:

1. Attachment 1 – TSA Intelligence and Analysis Threat Assessment (to be provided via classified channels)
2. Attachment 2 – Federal Aviation Administration White Paper, dated 14 December 2018

14 Dec 2018

The Federal Aviation Administration (FAA) assesses there are no insurmountable safety issues associated with installation of secondary barriers; however the programmatic costs to industry would be significant, and there is no indication secondary barriers would be substantially more effective in reducing risk over the existing mitigation measures to justify the increased expense.

The FAA has looked at the issue of secondary barriers since 2003[1] for addressing the security risk in the cabin when the flightdeck door is open, and with industry engagement, RTCA developed the safety standard DO-329[2] which provides for three methods of reducing the secondary barrier risk that are in use with part 121 operators today.[3] Existing regulations require a means for the pilots to view the cabin area outside the flightdeck and to only open the flightdeck door when it is safe to do so. There are no requirements for a secondary flightdeck door, although at least two airlines (Delta Airlines and United Airlines) have voluntarily installed them on a portion of their respective fleets.

The fundamental principle for any installed secondary flightdeck barrier is that it be safe, and there are numerous regulatory requirements applicable to a secondary flightdeck door (installed barrier) installation, to ensure it is airworthy and safe.[4] While secondary barrier challenges are not significant from a safety standpoint, any installation would need to be determined to be safe, or it will not be approved.

For most secondary barriers installations, the FAA believes the existing regulations are adequate to maintain the safety and security standards of the Federal Regulations. However, there are currently no regulatory standards (e.g., intrusion resistance, operational reliability, etc.) specific to secondary barriers. Thus, any new security standards for secondary barriers would need to be developed.

The challenge in considering and adopting a secondary barrier requirement is the programmatic cost to industry and the associated operational benefit to warrant the expense. At this time, based on existing data, there is no clear indication of the effectiveness and operational benefit of secondary barrier installation. For programmatic costs, they are as follows:

- Actual item (barrier) cost – could range from $15,000-$25,000, depending on design.
- Weight penalty and fuel consumption increase – one operator reported ~75lbs in additional weight and $90,000 in additional fuel consumption per aircraft, per year.
- Certification and design – one operator reported $215,000.
- Maintenance to assure proper ongoing operation of the installed barrier – unspecified.
- Training of flight and cabin crews for the proper use and procedures – unspecified.
- Airframe structural changes may be required in some airplanes due to lacking existing airframe structure to attach a door or barrier. This would probably double the cost of installation and weight over an airplane with physical provisions already available.

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[1] The requirements for reinforced (secure) flightdeck doors were adopted in 2002, and implemented in 2003, as one of the responses to the terrorist attacks of 9/11.

[2] The FAA tasked the RTCA committee, consisting of various aviation and security experts, to propose options to address the secondary barrier risk concern and comply with § 121.584 and § 121.587. This resulted in the FAA issuance of safety standard DO-329 on September 28, 2011.

[3] DO-329 specifies three options as secondary barriers to address the risk. The FAA's position is all three secondary barriers, along with proper operational procedures are acceptable .

[4] See attachment FAA memo, dated xxxxx, for a more complete description of the safety and cost implications and a listing of regulatory requirements applicable to secondary barriers.

Although, this would generally only apply to existing airframes, if fleet backfitting were to be required.[5] [6]

In addition, a requirement for secondary barrier installation could result in a competitive disadvantage to U.S. industry partners. There is a high likelihood such a regulatory requirement would be unique to the United States, which would create an economic disparity between U.S. and foreign airlines operating in the U.S. or overseas.

The FAA assesses the existing mitigating measures are sufficient to reduce the risk. In comparison, any mandatory secondary barrier requirement would have significant cost consequences (for just fuel, it could be $90,000/aircraft per year or roughly $54M per year for the fleet), generate significant additional certification efforts and new regulatory standards, and require substantial justification for regulating the need for industry to backfit the fleet or require changes to future aircraft designs.

[5] On November 16, 2018, the FAA received a letter from Senator [redacted] Chairman of the Committee on Transportation and Infrastructure. The letter informed the FAA the provisions of section 336 of PL 115-254 should be read as applying only to new aircraft types, certificated after October 5, 2018. Furthermore, the letter stated existing aircraft types should not require re-engineering to satisfy this section.

[6] There is at least one new aircraft type that will be certificated after October 5, 2018 which has been in development for several years. So, the requirement would effectively amount to a retrofit for this design.

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Exhibit 6a

Section 1961 (a) of the TSA Modernization Act: Flight Deck Safety and Security

~~SENSITIVE SECURITY INFORMATION~~

U.S. Department of Homeland Security
601 South 12th Street
Arlington, VA 20598

Transportation Security Administration

ACTION

MEMORANDUM FOR: [redacted]
Acting Deputy Administrator

FROM: [redacted] /s/
Executive Assistant Administrator
Operations Support

[redacted] /s/
Executive Assistant Administrator
Law Enforcement/Federal Air Marshal Service

SUBJECT: Section 1961(a) of the TSA Modernization Act: Flight Deck Safety and Security

Purpose

To provide responses to Administrator [redacted]'s questions from the February 19, 2019 briefing regarding section 1961(a) of the *Transportation Security Administration (TSA) Modernization Act*, and to request your approval to close the section 1961(a) requirement by:

- approving the attached Information Memorandum on Section 1961(a) of the *TSA Modernization Act*; and
- authorizing Operations Support to brief the Hill on the findings of the attached Information Memorandum.

After reviewing the threats to unauthorized flight deck access and evaluating them against TSA's existing security regimes and ongoing enhancements – both domestically and internationally – we remain confident TSA is appropriately addressing this potential threat, in addition to many other higher threats to aviation security.

Background

On February 19, we briefed Administrator [redacted] on our findings pursuant to Section 1961(a) of the *TSA Modernization Act*: *Flight Deck Safety and Security*, which requires TSA to identify any additional appropriate measures needed to reduce the risk associated with unauthorized access to the flight decks on commercial aircraft. He had several questions focusing on the views of various stakeholders. Below are our responses to those questions.

On March 15, Operations Support Deputy Executive Assistant Administrator [redacted] briefed Senate Commerce, Science, and Transportation Committee Majority Staff on the threat assessment. During that briefing, congressional staff expressed an interest in receiving a briefing on whether TSA recommends further implementation of secondary barriers (e.g., retrofitting existing aircraft) or other processes as a result of the threat assessment. Committee minority staff have since expressed an interest in receiving this briefing.

Discussion

At the February briefing, Administrator [redacted] asked three Hill-related questions:

1) *Will the Federal Aviation Administration (FAA) brief Members of Congress with us?*

   Per [redacted], Associate Administrator for Aviation Safety, FAA would send an executive from Aircraft Certification Service to support TSA briefings should there be technical questions.

2) *Is there any draft legislation on this topic?*

   In the 116th Congress, Representative [redacted] introduced HR 911, *Saracini Enhanced Aviation Safety Act of 2019* on January 30, 2019, which would require secondary barriers on all existing passenger aircraft. While there is no companion legislation in the Senate, Senator [redacted] sponsored Saracini legislation in the 115th Congress.

   Section 336 of the *FAA Reauthorization Act of 2018* requires the Administrator of FAA to issue an order requiring installation of a secondary cockpit barrier on each new aircraft manufactured for delivery to a passenger air carrier in the United States by October 5, 2019. FAA is forming a working group under the Aviation Rulemaking Advisory Committee to address how to satisfy the requirements of the Act.

   Representative [redacted] has a draft bill on Air Cargo Security requiring a threat assessment of the impact of the absence of barriers between the flight deck and cabin on certain all-cargo aircraft. TSA provided technical drafting assistance to change the language from a threat assessment to a risk assessment.

3) *Has Representative [redacted] said anything on this topic?*

Other than a press release introducing the Saracini bill,[1] Representative [redacted] has not recently commented on this topic. In a change from last Congress, he is on the House Committee on Transportation & Infrastructure, and no longer on the House Committee on Homeland Security.

The Administrator also had questions about the views of a number of domestic stakeholders:

4) *What is the Airline Pilots Association's (ALPA) view of hardened flight deck doors/secondary barriers for both passenger and all-cargo aircraft?*

The mandatory installation of physical secondary barriers on every commercial airliner, including all-cargo aircraft, is a high priority for ALPA. ALPA also believes all existing aircraft should be retrofitted to include secondary barriers, not just new aircraft.

The Aviation Security Advisory Committee (ASAC) report was inconclusive, and only listed the views of the various stakeholders.

5) *What is the view of the Association of Flight Attendants-Central Wisconsin Airport (AFA)?*

AFA supports the installation of secondary flight deck barriers.

6) *Have other stakeholders indicated a position?*

The Cargo Airline Association argues that a secondary barrier mandate is not necessary for cargo aircraft as there is a limited number of people who fly on all-cargo aircraft beyond pilots, animal handlers, or couriers, and they are subject to screening. Airlines for America wants Congress to allow air carriers decide if secondary flight deck barriers should be added to existing aircraft.

Lastly, the Administrator asked about what other nations require:

7) *What do International Civil Aviation Organization (ICAO)/ European Union Aviation Safety Agency (EASA)/Five Eyes (FVEY) countries require?*

There is an ICAO requirement in Annex 6 for hardened, lockable flight deck doors on flights with takeoff weight over 45,500 kg or 60+ seats. Since November 2002, EASA has mirrored the ICAO requirement and does not require secondary door barriers. There is no officially coordinated FVEY position on flight deck door requirements.

[1] https://fitzpatrick.house.gov/media-center/press-releases/fitzpatrick-gottheimer-carson-and-king-introduce-saracini-aviation.

8) *Do other countries require hardened flight deck doors and/or secondary barriers?*

- For Europe:
  - European countries follow EASA requirements.
  - All Israeli aircraft have hardened flight deck doors.

- For Africa, Middle East, Asia Pacific, and Western Hemisphere:
  - The majority of countries follow ICAO standards regarding hardened flight deck doors, and they do not require secondary barriers.

Recommendation

Recommend you approve the attached Information Memorandum, and authorize Operations Support to brief the Hill on its findings.

Approve _[redacted]_\ 6/17/19 Date Disapprove __________ Date

Modify __________ Date Needs more discussion __________ Date

Attachments:

1. Information Memorandum, "Section 1961(a) of the TSA Modernization Act: Flight Deck Safety and Security," with attachments
2. Proposed Congressional Briefing Deck

I18 00099

Exhibit 6b

Document: LA Weekly Report September 16 – September 20, 2019

116TH CONGRESS, 1ST SESSION

SEPTEMBER 16 – SEPTEMBER 20, 2019

Transportation Security Administration

TSA ON THE HILL

Weekly Newsletter

Presented by the Transportation Security Administration Office of Legislative Affairs

IN THIS ISSUE:

- **TSA appoints [redacted] to lead security advisory committee**
- **On Senate Floor, [redacted] Details Costs of Government Shutdowns**
- **[redacted] pushes for more aggressive awareness campaign as REAL ID deadline approaches**

NEXT ON CAPITOL HILL:

M	T	W	Th	F
23	24	25	26	27

Both chambers in session

Senate only in session

UPCOMING EVENTS

HEARINGS/MARKUPS:

Date/Location	Committee	Subject	Witness(es)	POC(s)
October 29 10:00 a.m. Cannon 310	House Committee on Homeland Security	**Hearing:** *TSA Modernization Act* Implementation	ADADM [redacted]	[redacted]

BRIEFINGS/MEETINGS

Date/Location	Committee/Member	Subject	Briefer(s)	POC(s)
September 25 10:00 a.m. Rayburn 2154	House Committee on Oversight and Reform - Members	**Classified Briefing (Secret):** GAO/IG Recommendations and Threat Updates	ADADM [redacted]	[redacted]

WEEK IN REVIEW

TUESDAY, SEPTEMBER 17, 2019

- [redacted] (C&P), [redacted] (APM) and [redacted] (OS) updated House Committee on Homeland Security and Senate Committee on Commerce, Science, and Transportation staff on the status of *TSA Modernization Act* implementation. The meeting included programmatic briefings on Sections 1924(b) and 1961(a) to close out those specific requirements.

- Representatives from the State Department and TSA, [redacted] (I&A), [redacted] (I&A) and [redacted] (OS), provided two classified briefings on Egypt to House and Senate authorization and appropriations committees staff.

FRIDAY, SEPTEMBER 20, 2019

- [redacted] (CC) and [redacted] had a telcon with the Senate Committee on Homeland Security and Governmental Affairs staff regarding a FAMS Personnel matter.

CONGRESSIONAL NOTIFICATIONS

- None to report

LEGISLATION OF INTEREST

- H.R. 4383, (Sponsor – Rep. [redacted] (R-AR), Introduced 9/18/2019), a bill to ensure that unclaimed money recovered at airport security checkpoints is transferred to a fund for certain border security activities, and for other purposes; to the House Committee on Homeland Security.

- H.R. 4306. Protecting Communities from Liquefied Natural Gas Trains Act. (Sponsor – Rep. [redacted] (D-OR), Introduced 9/12/2019) a bill to require the Administrator of the Federal Railroad Administration to conduct an evaluation of the safety, security, and environmental risks of transporting liquefied natural gas by rail, and for other purposes.

TSA IN THE NEWS

TSA appoints [redacted] to lead security advisory committee
Progressive Railroading - September 16, 2019

The Transportation Security Administration (TSA) recently named [redacted] chairperson of its Surface Transportation Security Advisory Committee and [redacted] vice chairperson.

[redacted] is assistant vice president for security at the Association of American Railroads. [redacted] is director of security, risk and emergency management at the American Public Transportation Association (APTA).

The advisory committee advises TSA officials on surface transportation security issues, such as policy development, refinement and implementation, as well as programs, initiatives, rulemakings and other surface transportation security directives, APTA reported today in Passenger Transport.

TSA Acting Deputy Administrator [redacted] cited [redacted] and [redacted] for their expertise and experience as leaders from the surface transportation field, APTA officials said.

On Senate Floor, [redacted] Details Costs of Government Shutdowns
[redacted] Newsroom - September 18, 2019

On the U.S Senate Floor, U.S Senator [redacted] (R-OH) highlighted the findings of a nine-month investigation by the Permanent Subcommittee on Investigations, which he chairs, detailing the real world cost of the last three government shutdowns.

In his remarks referenced the TSA and expressed "Federal employees, themselves, of course, get hurt, especially those who are considered essential. They have to go to work even though they are not getting paid. A lot of people, whether it is TSA personnel at the airports or our Border Patrol down at the border, are doing their best to protect us. Yet they are told they can't get paid, so they can't make their car payment, their mortgage payment, or their rent. It puts them in a tough situation. Again, it also hurts taxpayers and families and communities all across the country.

I also heard from TSA employees every time I flew. I asked them: How are you doing? They would tell me, and it was tough--missed paychecks, mounting mortgage payments that I talked about. In some cases, medical bills were piling up. Morale was down. Families were hurting. Again, even after the government opened and back pay was sent to the furloughed workers, a lot of that damage had already been done.

The National Transportation Safety Board stopped an investigation of a plane crash in Wayne County, OH, that took the lives of two individuals in January because of the government shutdown. It doesn't just affect the border or TSA or others I have talked about; it affects a lot of our constituents. Ohioans applying for Customs and Border Protection Trusted Traveler Programs had their applications suspended during the shutdown and then faced long delays in getting their applications approved once the government reopened because of the backlog."

[redacted] **pushes for more aggressive awareness campaign as REAL ID deadline approaches**
Politico Pro – September 19, 2019

Senate Commerce Chairman [redacted] (R-Miss.) wants to know how DHS and travel groups are publicizing the need for citizens to have a REAL ID-compliant identification card, saying he's "increasingly concerned" that air travel could be disrupted when the deadline hits next fall.

[redacted] wrote in a letter to DHS and TSA that he is "increasingly concerned about the potential disruption for air travel if there is widespread lack of compliance with the law among the flying public."
DHS has said that it will stop accepting non-compliant identification at airports and other ports of entry, beginning Oct. 1, 2020.

TSA announced last month that its screeners would begin verbally advising travelers still using non-compliant licenses about the deadline. The agency also started posting signs at airports earlier this year.
But [redacted] said he wants more information on how DHS is working with the aviation and travel industry to "amplify" the message and whether it also is engaging with state and local officials.
He also sent letters to Airlines for America, Global Business Travel Association, Travel Technology Association and U.S. Travel Association requesting details about their roles in DHS' public awareness campaign.