



**CANADIAN AVIATION REGULATION ADVISORY COUNCIL  
(CARAC)  
NOTICE OF PROPOSED AMENDMENT (NPA)  
FLIGHT DECK OCCUPANTS**

**EXECUTIVE SUMMARY**

Transport Canada proposes to codify the provisions of [Interim Order No. 3 with Respect to Flight Deck Occupants](#) into the *Canadian Aviation Regulations* (CARs). This change would create a permanent rule by which there would always be two persons present on the flight decks of aircraft operating pursuant to subparts 701 and 705 of the CARs. The proposed change is being introduced in response to the tragic Germanwings crash on March 24, 2015, in which the second flight crew member is believed to have been prevented from returning to the flight deck after a routine break.

The proposed changes would provide prescriptive rules for the procedure to be followed when a flight crew member temporarily exits the flight deck, such that there is never a sole flight crew member on the flight deck. The need for a second flight deck occupant would not apply in respect of an aeroplane that has a Class C or F cargo compartment located on the main deck between the flight deck and the passenger cabin, and it would not apply to aircraft which normally fly with one flight attendant.

Transport Canada believes that the proposed changes are reasonable and necessary for aviation safety in Canada.

**BACKGROUND**

On April 22, 2015, the Minister of Transport issued *Interim Order No. 3 with Respect to Flight Deck Occupants*. This policy change was brought about in the aftermath of the Germanwings crash in the French Alps, where a first officer waited until the Pilot-in-Command of the aircraft left the flight deck, engaged the cabin door lock, and proceeded to set a collision course into terrain. A major tragedy, all 150 lives on board the aircraft were lost. While some other jurisdictions (Singapore, European Aviation Safety Agency (EASA)) recommend two flight deck occupants at all times, Canada did not make such a recommendation. The temporary solution proposed in Interim Order No. 3 was to institute a similar rule in Canada.

This regulatory package now proposes to codify a solution into Canadian law through an amendment to the CARs

**STATEMENT OF THE PROBLEM AND POLICY CONSIDERATIONS**

- There is a significant safety concern about having a locked flight deck door which can only be opened from one side.
- The aftermath of the 9/11 terrorist attacks in New York saw a global change in rules surrounding flight deck access. Where flight decks were previously open to the public, it became mandatory to lock flight deck doors prior to pushback and up until the landing. The sole exceptions to this are brief moments where one member of a flight crew must access the passenger cabin (for instance, for food/drink or bathroom requirements).
- An unintended consequence of the mandatory locked flight deck door can occur when a single occupant of the flight deck develops a malicious or dangerous intent to harm the aircraft and/or its occupants, or when a lone flight crew member develops an acute health condition. According to media reports, it is thought that this is what occurred with the Germanwings crash – a suicidal first officer waited for the captain to exit the cabin, then used the cabin door lock to prevent the captain from returning to the flight deck, while the first officer set a collision course into the French Alps. Information on the cockpit voice recorder suggests that the captain attempted to gain access to the flight deck but was unsuccessful. The final report on the incident has not yet been released.
- Policy considerations to be addressed include the safe operation of aircraft in Canada, as well as the logistics and



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costs of any proposed solution.

- Further considerations include whether foreign air operators (those that fly over Canadian airspace, and those that take-off from Canadian aerodromes) would be included in the two-person rule.

**ANALYSIS SUMMARY**

**Occurrences**

- Following the Germanwings Flight 9525 crash, on March 24, 2015, Transport Canada instituted an Interim Order, mandating that all aircraft have two authorized personnel in the flight deck at all times. It is believed that the crash was caused deliberately by the co-pilot, who had locked the captain out of the flight deck.
- On February 17, 2014, a co-pilot hijacked Ethiopian Airlines Flight 702, forcing it to divert its course from Milan to Geneva. The co-pilot had locked the other flight crew member out of the flight deck when he left to use the restroom.
- A similar crash to the Germanwings incident occurred when LAM Mozambique Airlines flight 470 crashed in northern Namibia, killing all 33 people on board. It is believed that the pilot intentionally crashed the aircraft.
- A similar incident occurred on October 31, 1999, when EgyptAir flight 990 crashed into the ocean south of Nantucket, Massachusetts, killing 217 people. It is believed that the crash occurred because of the deliberate actions of the first officer.
- A similar incident occurred when SilkAir Flight 185 crashed in Indonesia on December 19, 1997, killing all 104 people on board. Although controversial, the United States' National Transportation Board reported its finding that the captain deliberately crashed the aircraft.

**Risk Assessment**

- A Risk Assessment was conducted by Transport Canada on June 23 and June 24, 2015. The results of that Risk Assessment, combined with the Minister's Interim Order, form the basis for this NPA. In advance of the risk assessment, Transport Canada consulted a group of industry associations on their respective experiences with the Interim Order.

**Domestic and International Facts including International Civil Aviation Organization (ICAO) Standards And Recommended Practices (SARPs)**

ICAO states in Annex 6, Part I, section 13.2:

**13.2 Security of the flight crew compartment**

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 aeroplanes of a maximum certificated take-off mass in excess



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of 45,500 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 behaviour or potential threat.

13.2.4 Recommendation— *All passenger-carrying aeroplanes should be equipped with an approved flight crew compartment door, where practicable, that is designed to resist penetration by small arms fire and grenade shrapnel, and to resist forcible intrusions by unauthorized persons. This door should be capable of being locked and unlocked from either pilot's station.*

13.2.5 Recommendation— *In all aeroplanes which are equipped with a flight crew compartment door in accordance with 13.2.4:*

*a) the door should 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 should 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 behaviour or potential threat.*

The Federal Aviation Administration (FAA) requires that air operators restrict access to the flight deck (section 121.547 of part 121, title 14, of the *Code of Federal Regulations*) and have a procedure in place for two person flight crews where one individual leaves the flight deck. FAA guidance states:

FSIMS 8900.1, Volume 3, Chapter 2, Section 1, 3.47 B. 1) 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.”

EASA is currently understood to be studying the issue of mandating two persons on the flight deck.

Australia is currently understood to have no plans to introduce a two-person rule.

*Canadian Aviation Regulations* (applicable references)

The main applicable *Canadian Aviation Regulations* are as follow:

- [525.795 – Security Considerations](#)



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- [602.89 – Passenger Briefings](#)
- [605.25 – General Use of Safety Belts and Restraint Systems](#)
- [605.26 – Use of Passenger Safety Belts and Restraint Systems](#)
- [605.27 – Use of Crew Member Safety Belts](#)
- [701.23 – Admission to Flight Deck](#)
- [701.26 – Interpretation](#)
- [701.27 – Application](#)
- [701.28 – Admission to Flight Deck](#)
- [701.29 – Closing and Locking of Flight Deck Door](#)
- [701.30 – Doors and Locks](#)
- [705.27 – Admission to Flight Deck](#)
- [705.45 – Closing and Locking of Flight Deck Door](#)
- [705.80 – Doors and Locks](#)

**Triage Statement**

It is believed that the proposed change would minimally affect the operation of certain long-haul flights, for moments at a time, without requiring additional staffing and with a minimal policy change. There would be no effect on flights carrying one flight attendant. Some additional training will be needed, but can be incorporated into existing routine training for flight crew members and crew members. In the case of authorized individuals who are not crew members, a briefing will be given prior to the flight crew member leaving the flight deck.

It is not believed that any additional costs will be incurred due to this regulatory change by industry. Existing procedures would be modified as needed, and some air operators are already compliant with the new procedures.

A preliminary analysis of the impact level according to the Treasury Board Secretariat (TBS) Triage statement suggests that the impact level of this proposal would be low.

**Recommended Consultation Stream**

TCCA intends to conduct consultation on the NPA to be posted online through the CARAC Activity Reporting System and sent by email to CARAC stakeholders and additional targeted stakeholders for a consultation period of 45 days.

**RECOMMENDED SOLUTION**

- Transport Canada would propose to integrate the policy contained in the Interim Order into the CARs, with some modifications.
- Specifically, Transport Canada would propose that, in the case of two-person flight crews, when a flight crew member leaves the flight deck, another authorized person would enter or remain on the flight deck in the observer seat until that flight crew member returns. This rule would not apply for aircraft where there is normally one flight attendant, as that crew member is responsible for cabin safety. It would furthermore not apply to combination cargo and passenger aircraft where the flight deck is separated from the passenger cabin by a cargo segment (Class C or F). The proposed regulation would also alleviate the need for the current exemptions which allow commuting and travelling pilots to occupy the jump seat, by incorporating this allowance into the CARs as authorized persons who can fulfill this requirement. Foreign operators landing in Canada will be included in the



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two-person rule, however foreign operators flying through Canadian airspace will be exempt. It is intended that the solution create as minimal disruption in the flight deck environment as possible, and should not cause the flight deck door to be unlocked more than absolutely necessary.

- A further objective is to mitigate the hazard above while introducing as little additional cost and administrative burden to air operators as possible.
- This solution addresses a safety problem, while giving due consideration to logistical and financial concerns. The solution has minimal costs attached, and should be practical to implement. Under the current Interim Order, most operators are already meeting the proposed requirements.

**OBJECTIVES**

- The objectives of this proposed amendment are to reduce the safety risk associated with having one flight crew member alone in the locked flight deck for temporary periods of time while the second flight crew member is out of the flight deck, by having a second authorized person remain in the flight deck with the lone flight crew member.

**PROPOSED CHANGES**

**A prescriptive approach for aircraft used in a passenger carrying air transport service, certificated under Part 7, subpart 1 and subpart 5 of the CARs.**

The prescriptive approach would require that an air operator ensure that, if a flight crew member leaves the flight deck during flight time, one flight crew member and one other authorized person are present on the flight deck and that the other authorized person has been briefed about and accepts the person's role associated with unlocking the door manually, should it become impossible to unlock it through other means, while the flight crew member who left the flight deck is absent, in accordance with section 705.45 of the CARs.

For subpart 705 air operators the list of authorized persons would be found in section 705.27 of the CARs. For subpart 701 foreign air operators the list of authorized person would be found in section 701.28. Physical, cognitive and language capabilities for the authorized persons, would be created in either a Standard or in guidance materials.

The need for a second flight deck occupant would not apply in respect of an aeroplane that has a Class C or F cargo compartment located on the main deck between the flight deck and the passenger cabin.

Where there is only one flight attendant normally required in the passenger cabin of an aircraft, that aircraft would not be subject to the two-person-in-flight-deck requirement.

The proposed regulation would codify the current exemptions which authorize travelling and commuting pilots to occupy the observer seat in aircraft, even when a seat in the passenger cabin is available. Admittance to the flight deck would continue to be at the discretion of the pilot-in-command, and requirements for security screening and identification would still apply.

It is anticipated that some changes will be required to each individual company's operations manual and operator procedures, as well as to approved training programs, for both domestic air operators, and holders of Canadian foreign air operator certificates operating pursuant to subpart 701 of the CARs where those operations land in or depart from Canada.



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CARAC ACTIVITY REPORTING NOTICE #: 2015-016

DATE: July 24, 2015

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**\*UNTIL SEPTEMBER 9, 2015, COMMENTS ON THIS NOTICE MAY BE ADDRESSED, IN WRITING, TO: [CARRAC@tc.gc.ca](mailto:CARRAC@tc.gc.ca)**

\*Comments received after the above mentioned deadline will not be considered in subsequent updates to this document.