

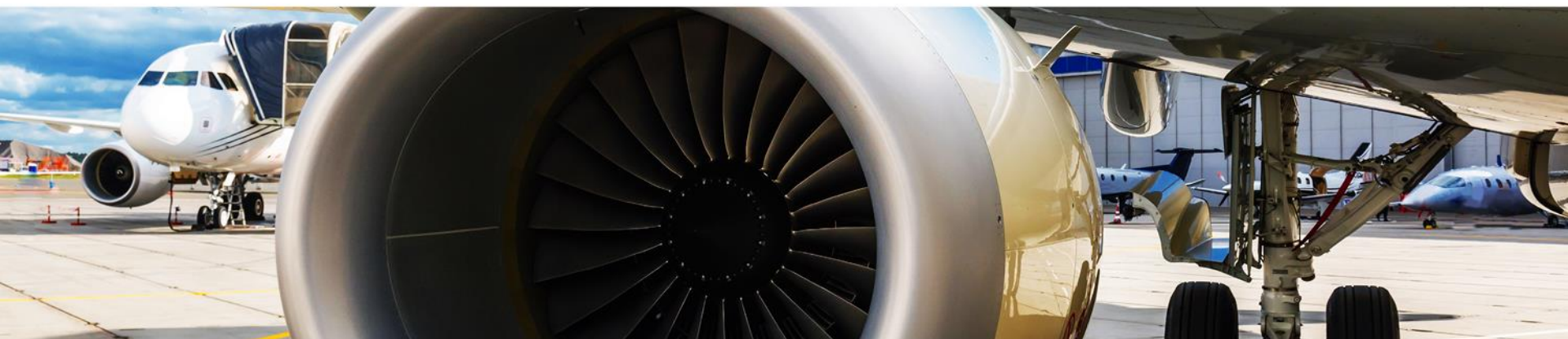


Flight Crew Fatigue Management CARs 700.100 Medevac Regulations

Presentation to the All Canada Aeromedical Transport Safety Conference

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Stuart Doyle - Commercial Flight Standards – Transport Canada



Introduction

- Stuart Doyle
- Civil Aviation Safety Inspector
- TCCA Standards Branch
- Commercial Flight Standards Division
- Tower C, Ottawa. Currently working from home

Agenda

- • Changes coming into effect in December 2022.
- • Clarification on what is/is not applicable for FCFM for this sector of industry.
- • What regulations apply to operators and pilots who cross between 703/704 operations?
- • What changes are planned or anticipated for future FRM regulations?
- • What, if any additional FRM regulations are being considered to address fatigue in the air ambulance sector?

Information

- Interpretations are found in the Advisory Circular AC 700-047
- Issue 3 of the AC is due for publication June 30, 2021
- Video – off & Microphone – muted please
- Questions in chat or please raise your hand in MS Teams
- Scenario questions in email please

Approaches to fatigue management

- New requirements for managing flight crew fatigue were published in December 2018 in the *Canada Gazette*, Part II. The amended regulations include 2 approaches to fatigue management: prescriptive and performance-based.
- You can find a summary of changes in 9 key areas of the regulations in Annex A of the Regulatory Impact Analysis Statement.

Prescriptive

- Under the prescriptive approach, air operators and flight crew comply with set requirements that define:
- maximum hours of work (duty), flight time, and flight duty periods
- minimum rest periods and time free from duty for flight crew members

Performance-based

- This approach allows air operators to vary from prescriptive requirements for a flight or series of flights using a fatigue risk management system (FRMS) to predict and prevent flight crew fatigue.

CARs Operating Rule	Prescriptive approach (Regulations)	Performance-based approach (FRMS)
Subpart 702 (Aerial Work)	New Division X 702.91 In force December 12, 2018	Optional – comes into force December 12, 2020
Subpart 703 (Air Taxi Operations)	New requirements come into force December 12, 2022	Optional – comes into force December 12, 2022
Subpart 704 (Commuter Operations)	New requirements come into force December 12, 2022	Optional – comes into force December 12, 2022
Subpart 705 (Airline Operations)	In force December 12, 2020	Optional – In force December 12, 2020
Medevac Flights	New Division IV (700.100)	Optional – coming-into-force date depends on operating rule

Medevac Rules Division IV

700.100

- What is a medical evacuation flight?
 - a flight that is carried out for the purpose of facilitating medical assistance and on which one or more of the following persons or things is transported:
 - (a) medical personnel,
 - (b) ill or injured persons,
 - (c) human blood products or organs,
 - (d) medical supplies;
- 700.100 (3) For the purposes of this Division, a flight to position an aircraft before or after a medical evacuation flight is considered to be a medical evacuation flight.

Medevac Rules Division IV

700.100

- Rules largely unchanged
- No Standards = No Ops Specs or SAs
- Editorial error in 700.119
 - Options should be exclusive
 - Additional option added by exemptions NCR 036-2007 (704) and NCR 135-2020 (705)
 - 36 consecutive hours off in 7 days;
 - 3 consecutive days off in 17 days; or
 - 4 consecutive days off in 19 days.
 - Search for 700.19 or 700.119
 - CARs change proceeding – estimating Fall 2021

Medevac Rules Division IV

700.100

- Switching between rules for 703/704 and Medevac rules
- The air operator and flight crew member must comply with the most restrictive rules in force for the subpart at all times during the flight duty period.
- All of the provisions of Division III still apply
- Hybrid or separate? POI + COM + TRG.

Medevac Rules Division IV 700.100

- Fatigue Risk Management System
- Requires considerable horsepower to establish and maintain
- Difficult to model fatigue in an on-demand operation
- May not generate enough data to validate the safety case
- CARs 700.200 Division V
- Advisory Circulars 700-045 & 700-046

Medevac Rules Division IV 700.100

- What, if any additional FRM regulations are being considered to address fatigue in the air ambulance sector?
- Nothing planned
- What are you doing?
- RA, mitigation, more restrictive program.

Prescriptive rules applicable to 703/704/705 operations

Changes

1. Maximum Flight Time 700.27

- 112 hours in any 28 consecutive days (new)
- 300 hours in any 90 consecutive days (unchanged)
- 1000 hours in any 365 consecutive days (down from 1200)
- Single-pilot: 8 hours in any 24 consecutive hours (new: includes IFR and VFR)

Changes

2 Maximum Flight Duty Period 700.28

- Start and finish – clearly defined in CARs and AC 700-047
- Predicated on
 - Start time – acclimatized time
 - Number of sectors flown/planned
 - Positioning is not counted as a flight for this calculation 700.28 (6)
 - Average flight duration of each sector

Changes

3 Maximum Number of Hours of Work 700.29

- Duty = work.
 - Undefined in CARs, explained in AC 700-047
- 60 or 70 hours in any 7 consecutive days
- 192 hours in any 28 consecutive days
- 2200 hours in any 365 consecutive days
 - (CLC III – 2080 hrs)
- Time Free from Duty

Changes

4 Rest Periods – General 700.40

- Flowchart
- Start and finish times for rest periods are clearly defined, an FCM cannot perform any duties during a rest period.

Changes

5 Rest Periods - Additional

- Flowchart
- Disruptive Schedules 700.41
- Time Zone Differences 700.42
- Consecutive FDP 700.51
- Positioning 700.43(4)

Changes

6 FDP due to in-flight rest and Augmented Flight Crew 700.60

- Three classes of In-flight rest facilities are defined
- Controlled rest on the flight deck is a separate item and does not offer any benefit in terms of extending FDP or flight times. (Napping under control).

Changes

7 Long-range Flights 700.61

- Not permitted if:
- If any part of the FDP falls within an FCM's WOCL (window of circadian low) and
- Includes a flight, following a scheduled flight of more than seven hours.

Changes

8 Ultra long-range flights 700.62

- 18 hours FDP
- 16 hours flight time

Changes

9 UOC = flight duty period and rest period
700.63

- Unforeseen = unexpected = unanticipated
- Up to 60 minutes prior to the beginning of an FDP can be considered to be unforeseen
- More than 60 minutes = foreseen
- At the discretion of the PIC only
- Rest period possibly extended - see flowchart
- Notification by the PIC to the air operator

Changes

Other

- Acclimatization 700.28
 - The start of an FDP is predicated on the FCM's acclimatized time.
 - One hour per 24 hours in the new time zone
- Notice of schedule change 700.70

Tricks and Tips

- Read the regulations in its entirety and holistically
- Read the definitions found in the AC, CARs 101.01 and CARs 700.01
- Read the Advisory Circular 700-047
- Use the FCFM mailbox at the bottom of this slide
- Ask me anything

Related guidance and references

- AC 700-047 – Flight Crew Fatigue Management – Prescriptive Regulations
- AC 700-046 – Fatigue Risk Management System Requirements
- AC 700-045 – Exemption and Safety Case Process for Fatigue Risk Management Systems
- <https://tc.canada.ca/en/aviation/commercial-air-services/fatigue-risk-management>
- <https://canadagazette.gc.ca/rp-pr/p2/2018/2018-12-12/html/sor-dors269-eng.html>
- TC.FCFM-GFEC.TC@tc.gc.ca



End of Presentation.

Questions, comments or concerns?

