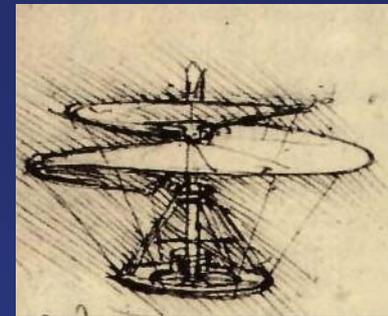


TCCA Presentation to the 9th EASA Rotorcraft Symposium

2/3 December 2015



Andy Stirzaker – Senior Project Certification Manager
Rotorcraft, Balloons & Airships
National Aircraft Certification Branch





Outline

- ❖ TCCA Organization
- ❖ Certification Objectives
- ❖ Certification/Validation Process
- ❖ Post Certification Activities



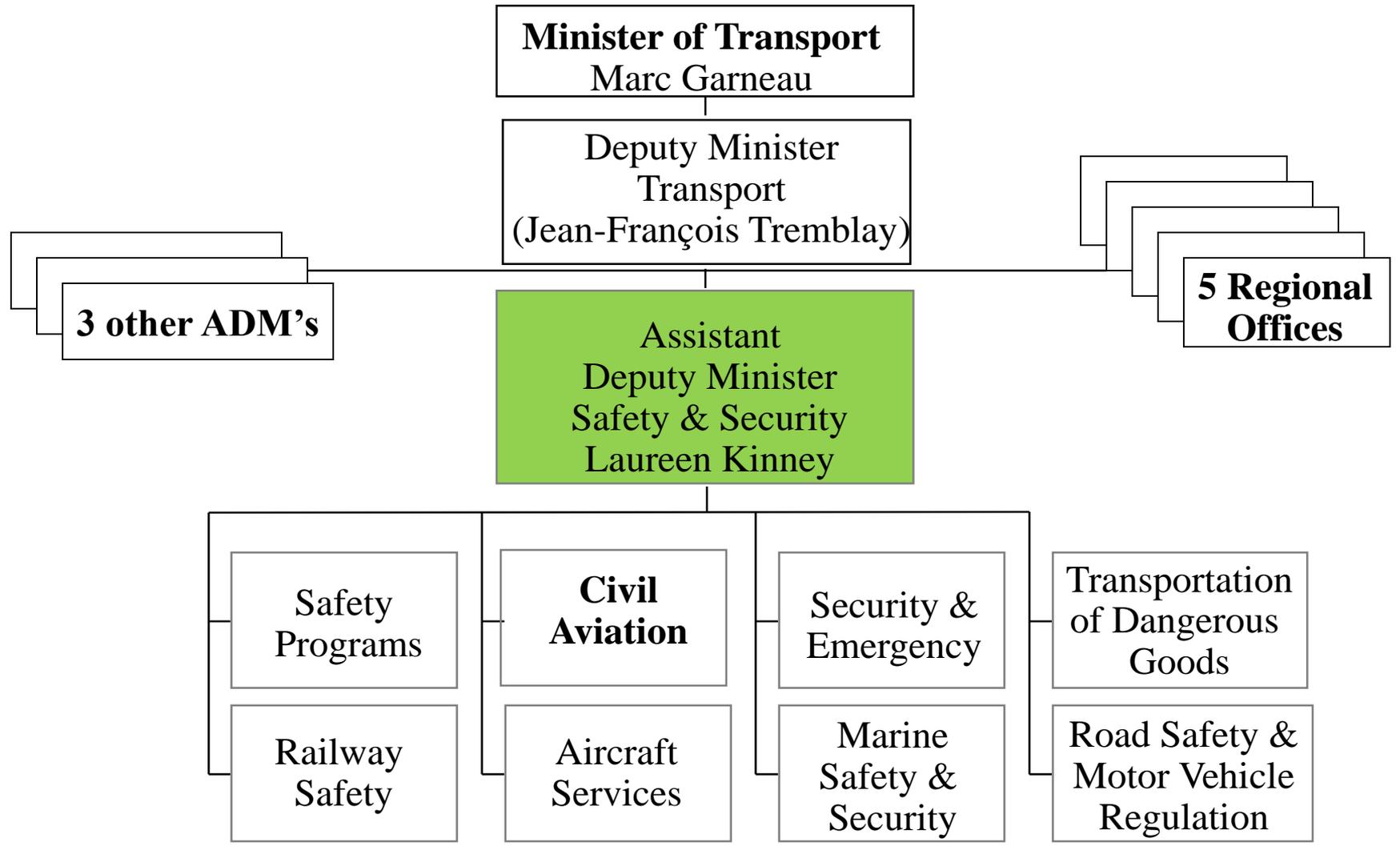
Transport Canada Offices

- **Headquarters in Ottawa, ON**
- **5 Regional Offices**



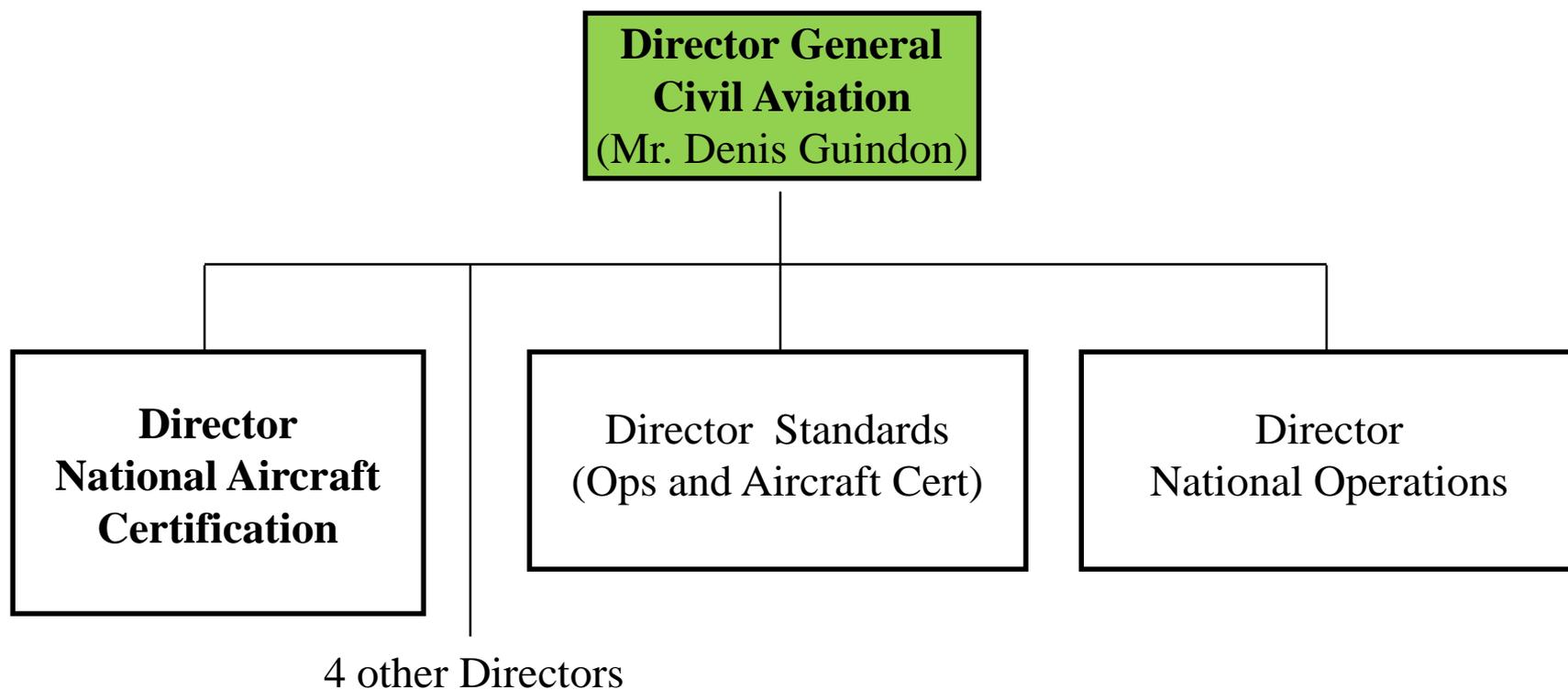


Transport Canada Organization



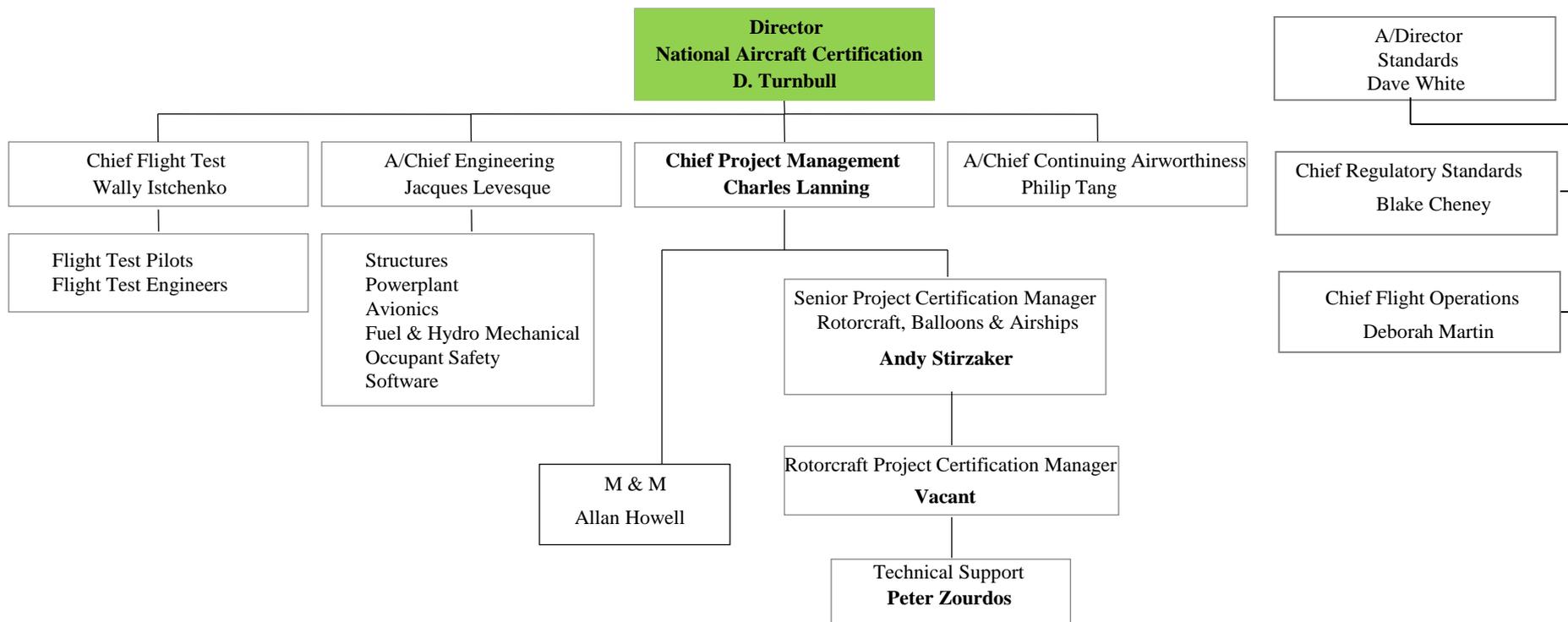


Transport Canada Civil Aviation Organization





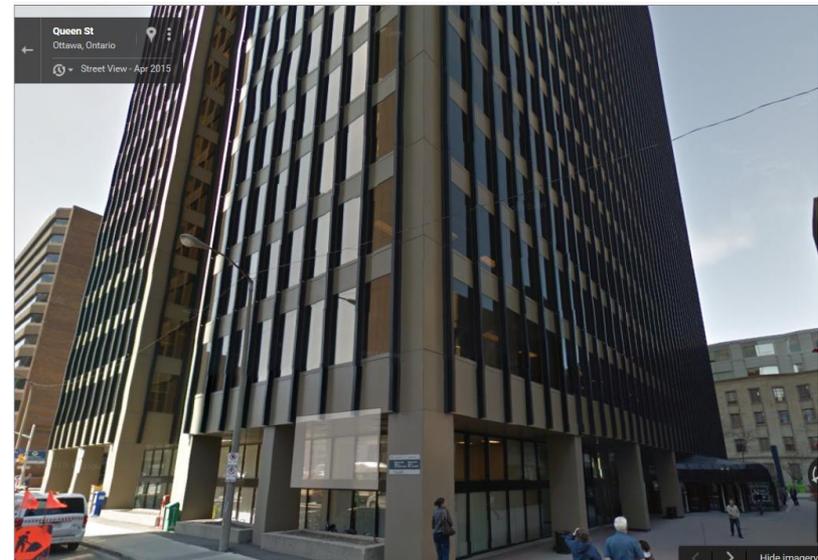
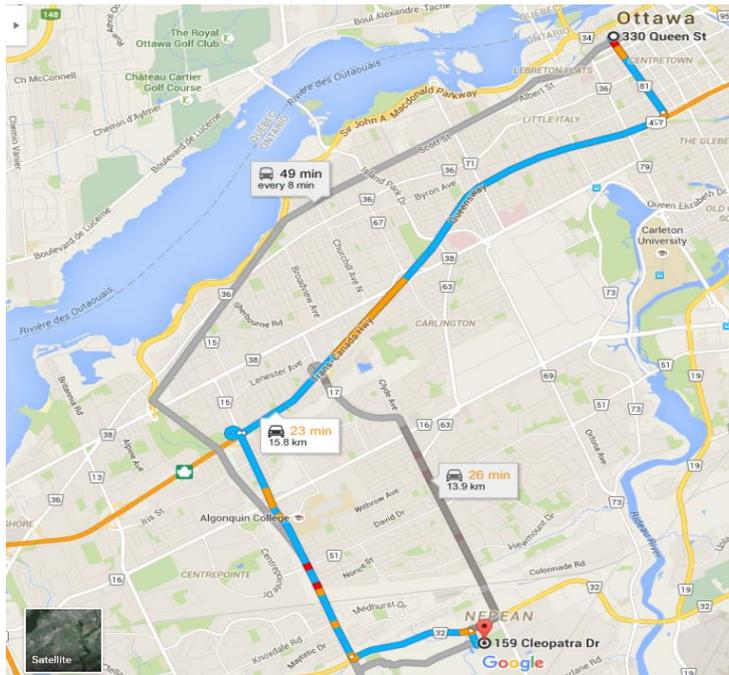
TCCA National Aircraft Certification (NAC)





TCCA NAC Relocation

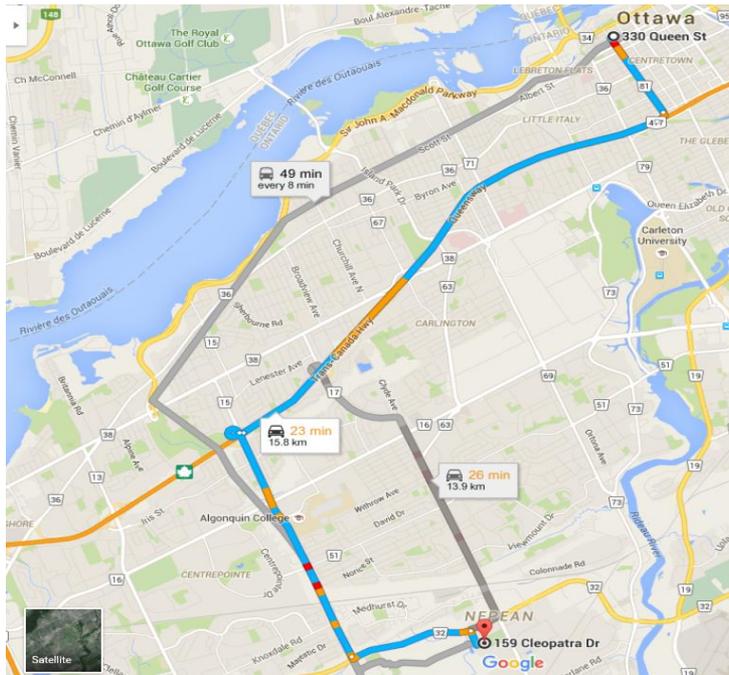
Old Address: 330 Sparks St, Ottawa K1A 0N8





TCCA NAC Relocation (cont'd)

Old Address: 159 Cleopatra Drive, Ottawa K1A 0N8





TCCA NAC Relocation (cont'd)

- ❖ Phone number and e-mail changes:
 - Andy Stirzaker was 613 941 2524 now 613 462 1084 and
 - Andrew.stirzaker@tc.gc.ca

 - Peter Zourdos was 613 952 4350 now 613 773 8249 and
 - Peter.zourdos@tc.gc.ca

- ❖ E-mail address are due to change in December/January to name@canada.ca



TCCA Type Certification Objectives

- ❖ Determine if the proposed domestic Certification basis is adequate for Canadian operations.
- ❖ Understand how the aircraft complies with the Basis (includes SCA, ESF, Exemptions) and environmental standards.
- ❖ Review and accept RFM, MMEL & AWL/CMR
- ❖ Establish configuration of aircraft eligible for approval (incl. required kits)
- ❖ Establish procedures for approval of Post Certification changes to configuration and flight manual (TCCA/EASA) including domestic approval process for design changes
- ❖ Familiarization with the Aircraft



Certification Process Elements & Objectives

- ❖ Application via the domestic Airworthiness Authority
- ❖ Initial Briefing to Transport Canada
- ❖ Establish the proposed Canadian Certification Basis
- ❖ Obtain knowledge of the domestic Aviation Authority certification process giving full credit to the domestic authorities work
- ❖ Obtain knowledge of product to support Canadian Certification, operation and continuing airworthiness





Certification Process Elements & Objectives

- ❖ Focus on unique Canadian requirements ie AAR's
- ❖ Areas of high risk for TCCA – Canadian operations, LOL, FBW etc etc
- ❖ On-Site Review (draft findings will be provided upon departure)
- ❖ TCCA Validation complete
- ❖ Post Certification Activities





Additional Airworthiness Requirements

TCCA Additional Airworthiness Requirements at the time of application to the domestic authority:

TCCA Additional Airworthiness Requirements in AWM 527 compared to CS 27 & FAR 27

- 527.1093 Induction System Icing Protection
- 527.1301-1 Rotorcraft Operations after ground Cold Soak
- 527.1557(c)(3) Miscellaneous Markings and Placard
- 527.1583(h) Operating Limitations, Ambient temperature

TCCA Additional Airworthiness Requirements in AWM 529 compared to CS 29 & FAR 29

- 529.807(c)(6) Passenger Emergency Exits
- 529.813 Emergency Exit Access
- 527.1093 Induction System Icing Protection
- 527.1301-1 Rotorcraft Operations after ground Cold Soak
- 527.1557(c)(3) Miscellaneous Markings and Placard



Additional Airworthiness Requirements (cont)

<p>AWM 527/529.1093 Induction System Icing Protection</p> <p>(b)(ii) In falling, blowing, and recirculating snow without adverse effect on engine operation; or</p> <p>(iii) If certification for flight in snow has not been requested, the engine tolerance to snow shall be demonstrated.</p>	<p>CS/FAR 27/29.1093 Induction System Icing Protection</p> <p>(b)(ii) In snow, both falling and blowing, without adverse effect on engine operation, within the limitations established for the rotorcraft.</p> <p>No equivalent text.</p>
<p>AWM 527/529.1301-1 Rotorcraft Operations After Ground Cold Soak</p> <p>Substantiation of satisfactory operation of the rotorcraft as a total system, by cold weather testing or by documented evidence of satisfactory operation at low temperature, is required after the rotorcraft has experienced a prolonged exposure to ground ambient temperatures equal to or less than -35°C unless an alternative minimum ground ambient temperature has been proposed by the applicant and accepted by the Minister.</p>	<p>No equivalent text</p>
<p>AWM 527/529.1557 Miscellaneous Markings and Placards</p> <p>(c) (3) If placards and markings at the fuel or oil opening include tank capacity, the capacity must be specified in litres. Imperial or U.S. gallons may be included.</p>	<p>CS/FAR 27/29.1557 Miscellaneous markings and placards.</p> <p>No equivalent text</p>
<p>AWM 527.1583 Operating Limitations</p> <p>(h) Ambient temperature. Maximum and minimum ambient temperature limitations must be furnished.</p>	<p>CS/FAR 27.1583 Operating limitations.</p> <p>No equivalent text</p>



Additional Airworthiness Requirements (cont)

<p>AWM 529.803 Emergency Evacuation</p> <p>(d) Except as provided in (e) of this section, the following categories of rotorcraft shall be tested in accordance with the requirements of Appendix D of this Chapter to demonstrate that the maximum seating capacity, including the crew members required by the operating rules, can be evacuated from the rotorcraft to the ground within 90 seconds:</p> <p>(e) A combination of analysis and tests may be used to demonstrate that the rotorcraft is capable of being evacuated within 90 seconds under the conditions specified in section 529.803 (d) if the Minister finds that the combination of analysis and tests will provide data, with respect to the emergency evacuation capability of the rotorcraft, equivalent to that which would be obtained by actual demonstration.</p>	<p>CS/FAR 29.803 Emergency Evacuation</p> <p>(d) Except as provided in paragraph (e) of this section, the following categories of rotorcraft must be tested in accordance with the requirements of Appendix D of this part to demonstrate that the maximum seating capacity, including the crewmembers required by the operating rules, can be evacuated from the rotorcraft to the ground within 90 seconds.</p> <p>(e) A combination of analysis and tests may be used to show that the rotorcraft is capable of being evacuated within 90 seconds under the conditions specified in Sec. 29.803(d) if the Administrator finds that the combination of analysis and tests will provide data, with respect to the emergency evacuation capability of the rotorcraft, equivalent to that which would be obtained by actual demonstration.</p>
<p>AWM 529.813 Emergency Exit Access</p> <p>(b) For each emergency exit covered by section 529.809 (f), there shall be enough space adjacent to that exit to allow a crew member to assist in the evacuation of passengers without reducing the unobstructed width of the passageway below that required for that exit.</p> <p>(c) There shall be access from each aisle to each Type III and Type IV exit, and:</p> <p>(1) for rotorcraft that have a passenger seating configuration, excluding pilot seats, of 20 or more, the projected opening of the exit provided shall not be obstructed by seats, berths, or other protrusions (including seatbacks in any position) for a distance from that exit of not less than the width of the narrowest passenger seat installed on the rotorcraft;</p> <p>(d) It shall be demonstrated through the design of the rotorcraft that there is easy access to each usable emergency exit when the rotorcraft is resting on its side.</p>	<p>CS/FAR 29.813 Emergency Exit Access</p> <p>(b) For each emergency exit covered by Sec. 29.809(f), there must be enough space adjacent to that exit to allow a crewmember to assist in the evacuation of passengers without reducing the unobstructed width of the passageway below that required for that exit.</p> <p>(c) There must be access from each aisle to each Type III and Type IV exit, and</p> <p>(1) For rotorcraft that have a passenger seating configuration, excluding pilot seats, of 20 or more, the projected opening of the exit provided must not be obstructed by seats, berths, or other protrusions (including seatbacks in any position) for a distance from that exit of not less than the width of the narrowest passenger seat installed on the rotorcraft:</p> <p>No equivalent text</p>

Additional Airworthiness Requirements (cont)



Remember to consider the Additional Airworthiness Requirements when applying to TCCA

Thank you and we look forward to working with you!

