



Australian Government
Civil Aviation Safety Authority

proactive

circadian rhythm

fatigue reports

shared responsibility

predictive

jet lag

sleep debt

fit to fly

CAO 48.1 2019: Quick Review

Robert ForsterLee, CASA
Aviation Safety Community, 15 November 2019



Thank you for getting us off the ground



Phases of implementation of 48.1 - 2019

Phase 1 - 30 November 2019

High capacity regular public transport submit transition plan or FRMS intention.



Phase 2 - 30 June 2020

High capacity regular public transport implementation of Appendix or FRMS trial start. All others to have transition plan implemented or FRMS.



Phase 3 - 1 October 2020

Operators transitioning to FRMS to be in trial.



Phase 4 - 2021

FRMS trial completions (unless extended).

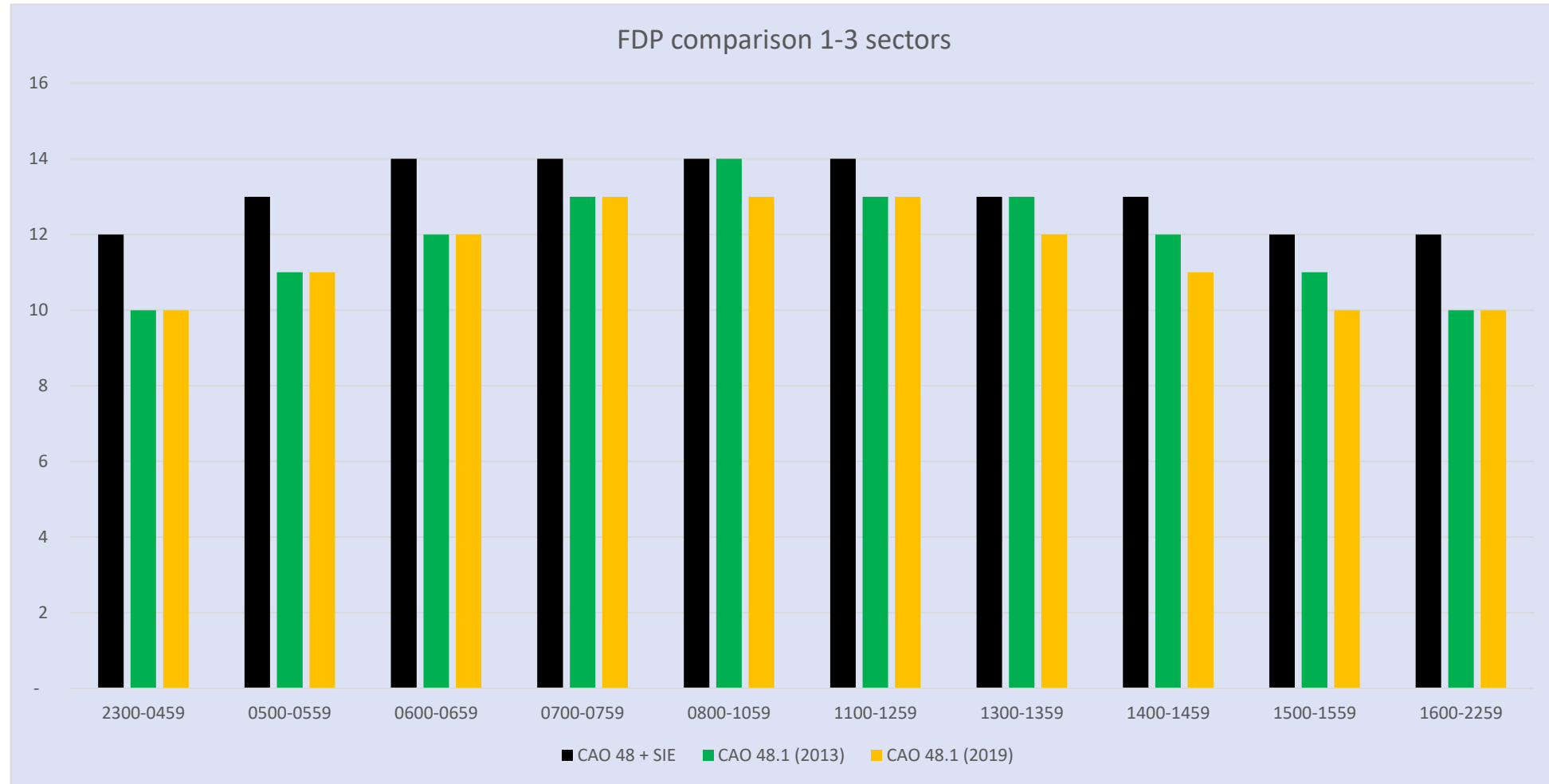


Key changes in 48.1

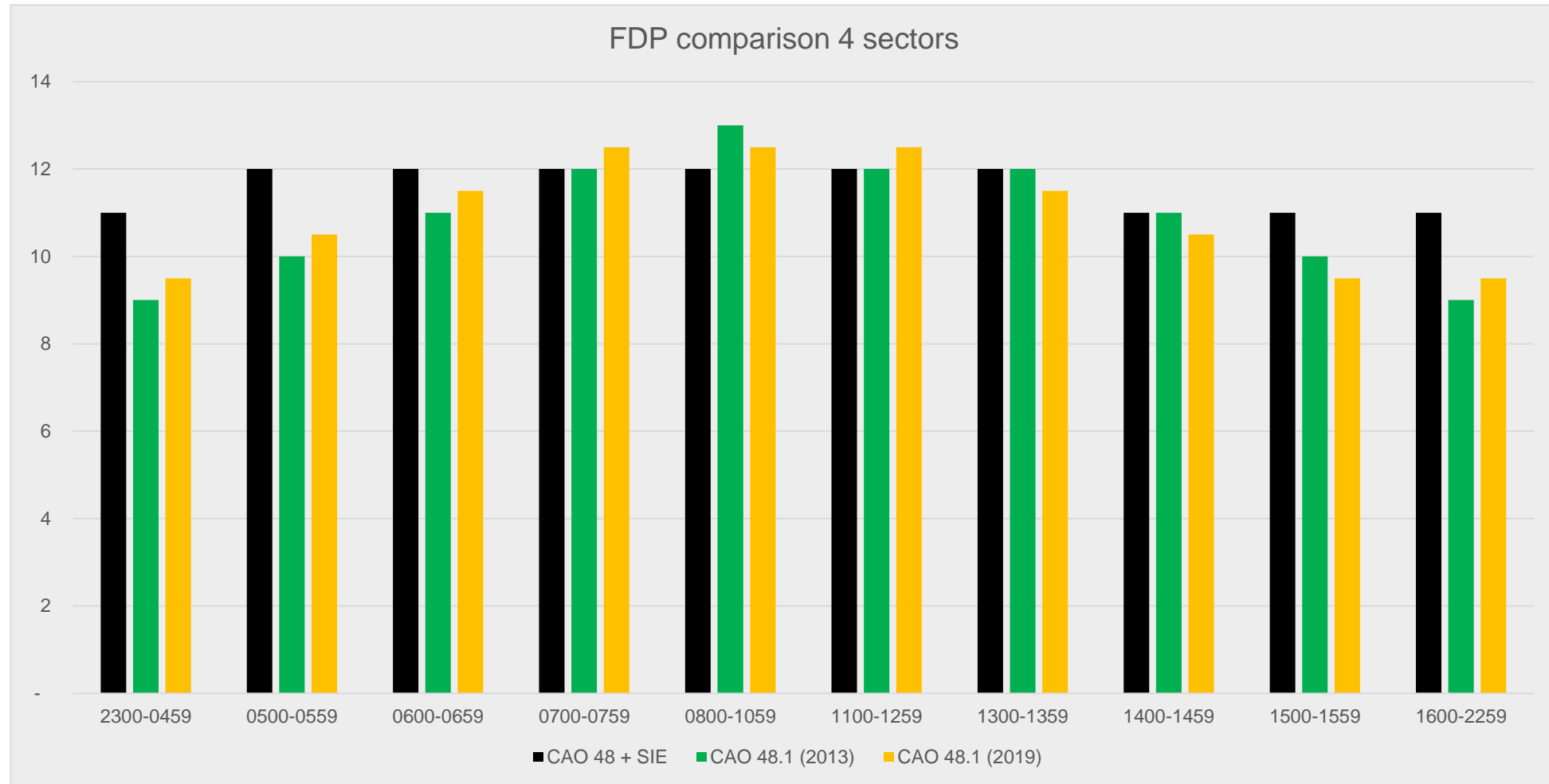
- a new maximum flight time limit (non flight training)
- additional protections for the infringements on the window of circadian low, including consecutive early starts
- amended Appendix 2 and Appendix 3 FDP limits (see tables to follow)
- pro forma for operators to be granted minor variations to the prescriptive rules
- improved distinction between legal requirements, guidance material and acceptable means of compliance
- incorporation of the policy in instrument CASA EX92/16 – Exemption CAO 48.1 Instrument 2013 – aerial application operations (in aeroplanes)
- alignment of ‘dual responsibility’ provisions with Part 91 of CASR
- outcome-based approach to reassignment of duties
- amended standby rules
- amended cumulative off-duty day requirements
- amended transition dates



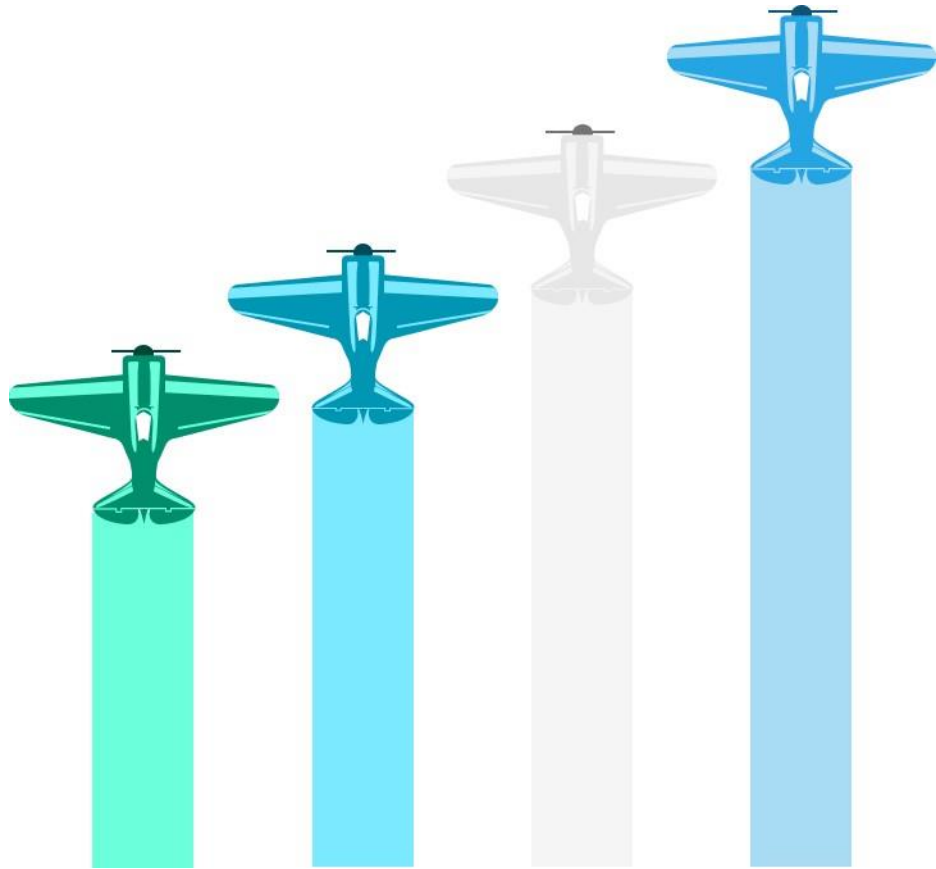
FDP Appendix 2 comparison 1-3 sectors



FDP Appendix 2 comparison 4 sectors



Flexibility of Appendices



One size does not fit all

AOCs:

- Appendix 1
- Appendices 2-6
- Appendices 2-6 + Minor Variation (exemption)
- Appendix 7 FRMS

48.1 Appendix Exemption Application Checklist

- Present** There is evidence that the element is documented within the operator's manual suite.
- Suitable** The element is suitable based on the size, nature, complexity of the operator and the inherent risk in the activity. 'Suitable' is specific to the individual operator based on their type and size of organisation.
- Operating** There is evidence that the element is in use and an output is being produced.
- Effective** There is evidence that the element is achieving the desired outcome and has a positive safety impact.

Variation Checklist Item				
a. Background and history of the AOC covered by the variation:				
1. appendix from which the air operator and flight crew members are operating				
2. the provisions of the appendix which the air operator and flight crew members are seeking a variation				
3. a description of how the flight(s) in question are being conducted that results in a variance from the requirements of the provisions referred to in paragraph (a.2).				
Variation Checklist Item	Present	Suitable	Operating	Effective
b. The AOC holder's fatigue risk assessment process includes:				
1. identifying the fatigue-related hazards of the variation	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
2. assessing the likelihood that a fatigue-related event will occur and the severity of its consequences	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
3. identifying and prioritising the risks that need to be managed	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
4. a means of creating and updating a record of the risks that are identified	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
5. determining the actions to be taken to manage the risks referred to in paragraph (b.1), including the preventive measures (c.5) or corrective actions	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
6. developing safety performance indicators to measure the effectiveness of the measures and actions taken under paragraph (c.8).	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
c. The AOC holder's monitoring system must demonstrate:				
1. the data collection methodology and data used initially to establish, in respect of the flight(s), the baseline levels of fatigue and alertness of the flight crew members and to identify fatigue-related hazards and risks	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
2. the data collection methods used to evaluate the safety case on an ongoing basis	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
3. any scientific studies used to demonstrate that the variance referred to in paragraph (a.3) is not likely to have an adverse effect on the flight crew members' levels of fatigue and alertness	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
4. an analysis of the effect of the variance on the levels of fatigue and alertness of flight crew members that takes into account the flight crew members' schedule before and after the flight in respect of which the exemption applies and the findings of the fatigue risk assessment	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

Variation Checklist Item

5. the fatigue risk controls that are implemented to address the findings of the risk assessment	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
6. procedures to measure the effect of the variance on the levels of fatigue and alertness of the flight crew members	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
7. the preventive measures or corrective actions that are taken to remedy any adverse effect of the variance on the levels of fatigue and alertness of the flight crew members	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
8. the means that will be used to monitor the effectiveness of the fatigue risk management system in managing the safety case.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
d. The following preconditions to the grant of a variation are demonstrated by the AOC holder:				
1. fatigue and alertness data have been collected, post the date of the implementation of the variance, for a minimum number of 30 consecutive flights associated with the variance	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
2. the data from the collection must demonstrate a 95% non-adverse effect from the implementation of the variance from the baseline levels of fatigue and alertness of flight crew members	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
3. the mitigation measures have been analysed for their effectiveness on flight crew members' level of fatigue and alertness	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
4. any necessary corrective actions have been taken if the mitigation measures being monitored under (d.3) do not achieve the expected or desired effect	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
5. the effectiveness of the mitigation measures and, if applicable, any corrective actions have been shown to be effective.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
e. The AOC holder's feedback system demonstrates:				
1. findings shared with flight crew members	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
2. records of findings shared with CASA	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
3. findings used to inform the managing of the fatigue and alertness levels of aircrew (d.4).	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>



Future-proofing 48.1



Ongoing monitoring of changes

- Commitment to researching changes to 48.1
- Ongoing monitoring of variations
- Project “Baseline” 2019



CASA internal transformation

- FRMS Section – Reliability of Assessments
- Development of fatigue guidance and tools
 - Compliance Matrix (Transition Checklist)
 - FRMS Gap Analysis
 - Variation Checklist
 - Review and update biomathematical models
 - Review and update fatigue training guidelines
 - Develop Appendix compliance checklists



Transition or change management to FRMS is HF driven

Focus on Human Factors

Develop & Promote:

Commitment & Relationships

Understanding & Awareness

Trust & Communication

Monitoring / Looking after

Mentoring & Promotion of well-being

Measurement and feedback / Attention
& Consideration

Professional Health checks &
appropriate responses

Mantra of Change Management

Activation – decision to initiate the behaviour to reach the goal

Persistence – continued effort toward the goal

Intensity – concentration and focused energy toward the goal



Questions?



Thanks for listening

*In safety there are two positions
I like the view from the front*

