

ICAO / IATA / IFALPA

Asia-Pacific FRMS Seminar
Bangkok - 2012

Captain Jim Mangie

Regulatory Global Activity



Current Activities

→ ICAO SARPs

- Applicable 15 Dec 2011



→ EASA NPA

- Comment Review Document (CRD) 15 Jan 2012
- Opinion 04/2012-28 Sep 2012
- Final Regulation-Mid 2013?

→ FAA NPRM

- Final Regulation December 2011
- 2 Year Implementation Period



ICAO / IATA / IFALPA

Asia-Pacific FRMS Seminar
Bangkok - 2012

Captain Jim Mangie

CAP371 – EASA CRD comparison



CAP371

- Between 0800-1259:
 - 12:30 single-sector
 - 13:15 two-sector
- Overnight
 - 10:15 maximum
- Multiple sectors
 - 45min reduction from the second sector
- Extensions
 - 1h extension only on two-sector FDPs
 - only three per month
 - day off before and after

EASA CRD

- Between 0600-1329:
 - 13:00 single sector
 - 13:00 two-sector
- Overnight 1700-0500
 - 11:00 maximum
- Multiple sectors
 - 30min reduction from the third sector
- Extensions
 - 1h extension twice a week
 - add 2h rest before and after
 - no extension 1900-0615
 - Graduated to max 1h between 0700-1329

Augmented flights

CAP371

- Detailed requirements based on seat / bunk and time of day
- For a bunk
 - extend up to a half of total rest taken
 - 18h maximum FDP
- For a seat
 - extend up to a third of total rest taken
 - 15h maximum FDP

EASA CRD

- Detailed requirements based on rest facility and crew complement
- Max FDP with two additional crew:
 - 18h (bunk)
 - 16h (class 3 seat)
- Max FDP with one additional crew:
 - 17h (bunk)
 - 15h (class 3 seat)
- Not related to time of day

Flying and duty hour limits

CAP371

➤ Flying hours

- 100 in 28 consecutive days
- 900 in any 12 consecutive months
- Don't apply to cabin crew

➤ Duty hours

- 60 in 7 consecutive days
- 95 in 14 consecutive days
- 190 in 28 consecutive days
- Higher for cabin crew

EASA CRD

➤ Flying hours

- 100 in 28 consecutive days
- 900 in a calendar year
- 1000 in any 12 consecutive months

➤ Duty hours

- 60 in 7 consecutive days
- 110 in 14 consecutive days
- 190 in 28 consecutive days
- Apply to cabin crew also

Minimum rest

CAP371

➔ At home:

- 12h or length of the preceding duty

➔ Away from base:

- 11h or length of preceding duty (if >12h)
- increased if travelling time > 30min (up to 12h)

EASA CRD

➔ At home:

- 12h or length of the preceding duty

➔ Away from base:

- 10h or length of preceding duty
- must allow for an 8h sleep opportunity

Unacclimatized crew: definition

CAP371

➔ Less than three local nights on the ground in a time zone 2h wide

EASA CRD

➔ Defined by a table that accounts for:

- Elapsed time since reporting
- Whether or not crew is acclimatized
- Time difference between reference time and local time where crew member begins subsequent duty

Rules for unacclimatized crew

CAP371

➤ Max FDP on layover

- 11.5h after rest between 18-30h
- 13h after rest <18h or >30h
- normal reductions for multiple sector

EASA CRD

➤ Max FDP on layover

- 11h
- 12h only under FRMS
- normal reductions for multiple sector

Rest on return to home base

CAP371

- A 'suggested guide' based on
 - length of return sector
 - duration of trip
 - time zones crossed
- For 4-7 time zones
 - two days off after 2-4d trips
 - three days off >4d trips
- For >7 time zones
 - three days off after 2-4d trips
 - four days off >4d trips
 - an extra day if return sector >14h

EASA CRD

- Minimum rest depends on
 - duration of rotation
 - time zones crossed
 - direction of travel
- Table provided in regulation

CAP371

- ➔ A day off includes two local nights (30h minimum)
- ➔ One day off in eight days
 - 34h with two local nights
- ➔ Two consecutive days off in any 14 consecutive days
 - 54h with three local nights
- ➔ Seven days off in any four weeks
- ➔ Eight days off in four weeks averaged over 12 weeks

EASA CRD

- ➔ A day off includes two local nights (30h minimum)
- ➔ No more than 168h between weekly rests
 - 36h with two local nights
- ➔ Two days off twice in 28 days
 - 48h with two local nights
- ➔ Weekly rest increased to 60h after four or more early / late or night duties (don't need to be consecutive)

Early / late / night duties

CAP371

➔ Definitions:

- early start 0500-0659
- late finish 0100-0159
- nights encroach 0200-0459

➔ No more than three consecutive or four in seven days

➔ Five consecutive permitted with a limit of 9h (8h night)

EASA CRD

➔ Definitions:

- early start 0500-0659
- late finish 0000-0159
- nights encroach 0200-0459

➔ No limit on consecutive duties

➔ Nights limited to four sectors

➔ Transition from late/night to early requires one local night's rest

CAP371

- ➔ Airport standby counts as duty
- ➔ Home standby limit 12 h
 - FDP starts after 6h
- ➔ Contactable
 - 10h notice

EASA CRD

- ➔ Airport duty (no accom)
 - counts as duty and FDP
- ➔ Airport standby (with accommodation)
 - can be increased up to 4h/FDP starts after 4h
- ➔ Stby other than the airport
 - 16h max/FDP start after 8h
- ➔ Reserve
 - 10h notice

CAP371

- ➔ Split must be at least 3h
- ➔ Extension of half the rest time allowed
- ➔ Rest in a hotel if > 6h

EASA CRD

- ➔ Split must be at least 3h
- ➔ Extension of half the rest time allowed
- ➔ Rest in a hotel if > 6h or in the WOCL

Commander's discretion

CAP371

- 2h at the start of a multi-sector flight
- 3h single-sector or at start of final sector

EASA CRD

- 2h
- 3h on augmented flights
- Operator responsibilities specified

ICAO / IATA / IFALPA

Asia-Pacific FRMS Seminar
Bangkok - 2012

FAR Part 117 - Flightcrew Member Duty and Rest Requirements



Significant Changes/Revisions

- Definitions
- Flight Time Limitations
- Flight Duty Periods (FDP)
- Reserve
- Rest
- Cumulative Limitations
- Fatigue Risk Management Systems (FRMS)

Definitions

→ Acclimated

- In theater for 72 hours or 36 consecutive hours free of duty

→ Duty

- Tasks performed as required by the certificate holder (administrative work is included)

→ Flight Duty Period (FDP)

- Sign in to block in

→ Reserve Availability Period (RAP)

- Available assignment period for a short call reserve

→ Unforeseen Operational Circumstance

- Unplanned event of insufficient duration to allow to adjustments to schedules

Flight Time Limitations

******Limits Are Hard******

➤ Maximum Flight Time Limits, Unaugmented Flightcrew

<i>Time of Report (Acclimated)</i>	<i>Maximum Flight Time (hours)</i>
0000 – 0459	8:00
0500 – 1959	9:00
2000 – 2359	8:00

➤ Maximum Flight Time Limits, Augmented Flightcrew

- 13 Hours-3 Pilots
- 17 Hours-4 Pilots

Flight Duty Period Limits - Unaugmented Operations

- Can be extended 2 hours
- Need 30 hr free from duty for additional extensions
- 30 minute extensions unlimited

Scheduled Time of Start (Acclimated Time)	Maximum Flight Duty Period (hours) For Lineholders Based on Number of Flight Segments						
	1	2	3	4	5	6	7+
0000 – 0359	9:00	9:00	9:00	9:00	9:00	9:00	9:00
0400 – 0459	10:00	10:00	10:00	10:00	9:00	9:00	9:00
0500 – 0559	12:00	12:00	12:00	12:00	11:30	11:00	10:30
0600 – 0659	13:00	13:00	12:00	12:00	11:30	11:00	10:30
0700 – 1159	14:00	14:00	13:00	13:00	12:30	12:00	11:30
1200 – 1259	13:00	13:00	13:00	13:00	12:30	12:00	11:30
1300 – 1659	12:00	12:00	12:00	12:00	11:30	11:00	10:30
1700 – 2159	12:00	12:00	11:00	11:00	10:00	9:00	9:00
2200 – 2259	11:00	11:00	10:00	10:00	9:00	9:00	9:00
2300 – 2359	10:00	10:00	10:00	9:00	9:00	9:00	9:00

Flight Duty Period Limits - Augmented Operations

- Can be extended 2 hours
- Need 30 hours free from duty for additional extensions
- 30 minute extensions unlimited

Scheduled Time of Start (Acclimated Time)	Maximum Flight Duty Period FDP (hours) Based on Rest Facility and Number of Pilots					
	Class 1 Rest Facility		Class 2 Rest Facility		Class 3 Rest Facility	
	3 Pilots	4 Pilots	3 Pilots	4 Pilots	3 Pilots	4 Pilots
0000 – 0559	15:00	17:00	14:00	15:30	13:00	13:30
0600 – 0659	16:00	18:30	15:00	16:30	14:00	14:30
0700 – 1259	17:00	19:00	16:30	18:00	15:00	15:30
1300 – 1659	16:00	18:30	15:00	16:30	14:00	14:30
1700 – 2359	15:00	17:00	14:00	15:30	13:00	13:30

- (1) **“Class 1 rest facility”** means a bunk (1) or other surface that allows for a flat sleeping position and is located separate from both the flight deck and passenger cabin in an area that is temperature-controlled, allows the flightcrew member to control light, and provides isolation from noise and disturbance. **Approved by AEG**
 - (2) **“Class 2 rest facility”** means a seat in an aircraft cabin that allows for a flat or near flat sleeping position; is separated from passengers by a minimum of a curtain to provide darkness and some sound mitigation; and is reasonably free from disturbance by passengers or flightcrew members. **Approved by POI and AEG**
 - (3) **“Class 3 rest facility”** means a seat in an aircraft cabin or flight deck that reclines at least 40 degrees and provides leg and foot support. **Approved by POI and AEG**
- ***NOTE-FAA will inspect and approve each aircraft by tail number**

→ Long Call

- After a legal rest
- Same limits as a lineholder

→ Short Call

- Max time eligible (phone available) for assignment (RAP)
 - 14 hours
- Total time from beginning of RAP to end of FDP
 - *Unaugmented-lesser of 16 hours or Table B+4 hrs.*
 - *Augmented-Table C+4 hrs.*
- FDP begins before and operates into the WOCL
 - 12 hours min notice
- Long Call to Short Call
 - 10 hours with 8 hour uninterrupted sleep opportunity

- 10 Hours (non-reducible) with an 8 hour uninterrupted sleep opportunity
- 30 consecutive hours free from all duty in any 168 consecutive hour period
- More than 60 degrees travel while away from base for 168 hours or greater
- 56 consecutive hours upon return to base to include 3 physiological nights (2200 - 0700)

Cumulative Limitations

✈ Flight Time Limitations

- 1000 block hours in any 365 consecutive calendar day period
- 100 block hours in any 672 consecutive hours (28 days)

✈ Flight Duty Period Limitations

- 60 FDP hours in any 168 consecutive hours (7 days)
- 190 FDP hours in any 672 consecutive hours

NOTE: There are no cumulative duty limitations

→ Fatigue Risk Management Systems

ICAO definition:

A data driven means of continuously monitoring and managing fatigue-related safety risk based upon scientific principles and knowledge as well as operational experience that aims to ensures relevant personnel are performing at adequate levels of alertness.

P.L. 111-216, § 212 (b)

- **Requires each part 121 air carrier to develop and submit for review a FRMP.**
- **Contents of the FRMP.**
- **FAA Review.**
- **FAA Acceptance.**
- **Plan updates.**
- **Compliance with FRMP.**
- **Civil Penalties for noncompliance of the FRMP.**



FRMS Authority

- **Contained in the FD&R NPRM (§ 117.7).**
- **Currently, no rule addressing FRMS.**
- **It is an optional fatigue mitigation and management system.**
- **Primarily will be used as an alternative to a prescriptive rule.**
- **An equivalent level of safety that meets or exceeds that of the prescriptive rule.**



What is an FRMP?

- A FRMP is an air carrier's management plan outlining policies and procedures for reducing the risks of flightcrew member fatigue and improving flightcrew member alertness.
- The FRMP policies and procedures focus on the air carrier's specific kind of operations (e.g., domestic, flag, and supplemental) and the type operations (e.g., multiple segments, continuous duty overnights, night vs. day operations, cargo vs. passenger operations, short-haul vs. long-haul, etc.) .
- Manages the effects of flightcrew member fatigue associated with day-to-day operations within a regulatory structure.

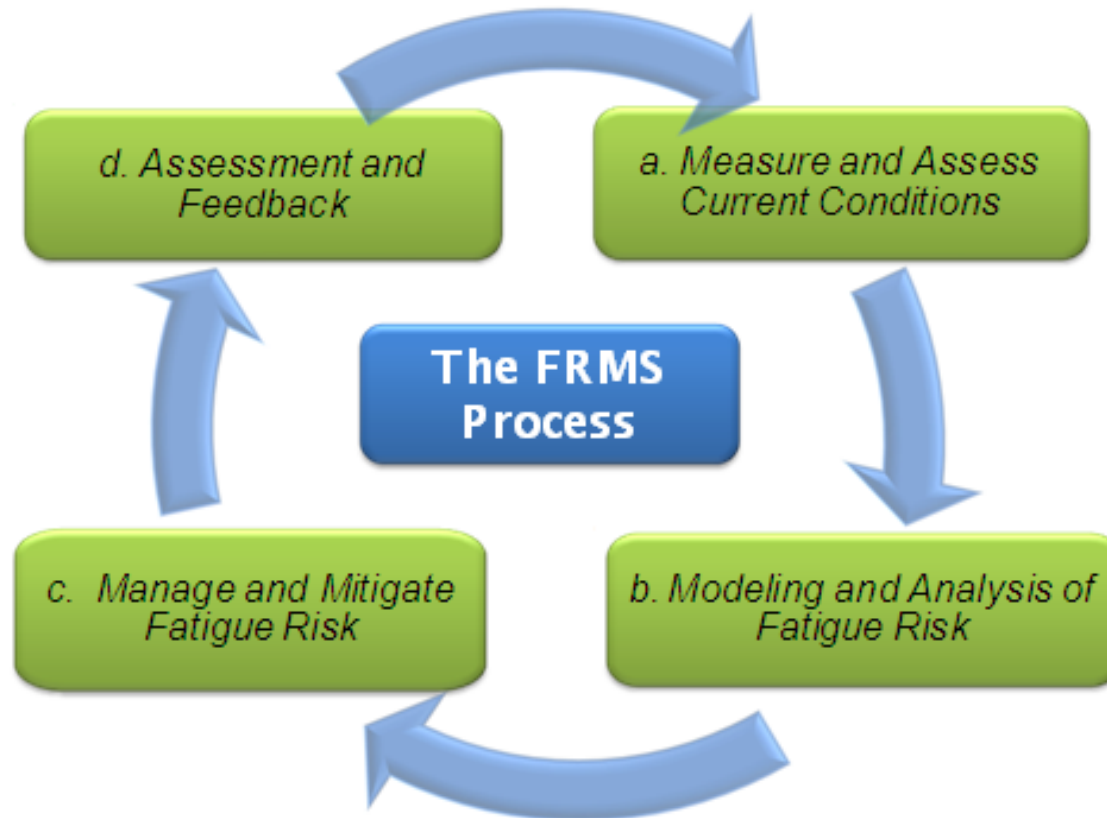


What is an FRMS?

- **An alternative to a prescriptive rule.**
- **Must establish an equivalent level of safety.**
- **A fatigue mitigation tool that minimizes the acute and chronic sources of fatigue and manages the potential risks associated with fatigue associated with a specific operation.**
- **A management system operator's use for mitigating the effects of fatigue in its operations.**



FRMS Process





Questions?

→ Thank you for your attention