



Ms. Margaret Gilligan  
Associate Administrator for Safety  
Federal Aviation Administration  
800 Independence Ave., SW  
Washington, DC 20591

Dear Ms. Gilligan:

## Introduction

On behalf of their respective associations, the airline members of the Flight and Duty Time Limitations and Rest Requirements Aviation Rulemaking Committee (ARC) offer the following comments and recommendations for the Federal Aviation Administration (FAA) to consider in its future fatigue risk mitigation rulemaking. ***This is a unified filing that articulates the views of both the cargo and passenger airlines in our associations.***

Association members are generally supportive of a duty-day regulation designed to account for fatigue risks, including circadian cycles, time awake, time on task, and acclimation to time zones. Accordingly, the recommendations below generally are more restrictive than many duty limit and rest regulations around the world. They will mitigate fatigue risk by:

- reducing the duty time of pilots, and
- expanding the amount of time for scheduled rest opportunities, both domestically and internationally, to ensure adequate rest.

These comments are broken down into three sections, General, Passenger Operations and Cargo Operations, and address the core issues of a new duty limit and fatigue management regulation. They are not intended to be comprehensive in scope or to provide a full explanation/justification. The purpose of this submission is to capture in one place the views of the air carrier participants concerning the core issues discussed during the course of the ARC. Having said that, due to the compressed time available to the ARC, full industry vetting and evaluation of the concepts discussed has not been completed and further recommendations and comments will be provided during the formal rulemaking process.

## **Section I: General Recommendations**

### **A. Substantive Issues**

1. We recommend that the regulation address only the understandable, enforceable and unambiguous flight and duty time limits set forth in Appendices 1 and 2, developed by the passenger and cargo carrier representatives, and are providing the full Cargo Airline Association proposal in Appendix 3. We further recommend that the regulation require each air carrier to adopt an FAA-approved fatigue mitigation program documenting an air carrier's fatigue mitigation policies, training and programs. Means of compliance should be provided by an accompanying Advisory Circular incorporating appropriate guidelines that offer more detail and explanatory background than could be included in a regulation. This process will provide flexibility for updating and modifying airline fatigue mitigation programs as needed.
2. We recommend that the regulation recognize and respond to different air carrier operational environments and models, including domestic and international passenger operators, domestic and international cargo operators, and on-demand (nonscheduled) charter operators. While the goal is "one level of safety," this goal does not mean, and is not accomplished by, one form of regulation. Traditionally, "supplemental" rules as an alternative means of compliance have been available, and for good reason. We strongly urge that a new regulation account for this wide variety of operations, just as it does today. Nothing in fatigue/sleep research suggests a need for a one-size-fits-all regulation. Indeed, science recognizes that individual differences and operational contexts impact performance. We believe that science-based guidelines, judiciously blended with many years of operational experience, will allow the various air carrier models to continue to operate safely.
3. We recommend the following regulatory language to address the responsibility of the crew member to properly prepare himself or herself for flight during the prescribed "opportunity for rest": "It is the responsibility of the crew member to report for duty adequately rested and prepared for a scheduled flight duty period. An air carrier is prohibited from assigning a crew member to a flight duty period if the crew member has reported himself as not fit for duty or if the air carrier believes that the crew member is not fit for duty." We believe that this language will help address issues relative to commuting, and establish the framework from which a carrier can develop fatigue policies. We also suggest that any further references to either commuting or fatigue policies belong in guidance material.

4. We also recommend that the FAA endorse controlled cockpit napping. Previous NASA research findings provide overwhelming evidence that controlled napping provides significant operational mitigation to fatigue risk. Other regulatory agencies have endorsed it for many years with no adverse consequences, and it needs to be facilitated by regulation, advisory circular or other FAA guidance.

## **B. Process Issues**

1. We are particularly concerned about the ultimate scope of the proposed regulation. Numerous proposals presented by the ARC labor participants in the waning moments of the ARC were not fully discussed due to time constraints. These issues are more properly left to collective bargaining, are not safety related, and are not backed by any credible science. They have no place in FAA regulations and would put the FAA squarely in the middle of arbitrating matters that are better left to other processes.
2. An important factor to note is that our discussions to entertain a United Kingdom CAP 371-like regulatory approach assumed that such a regulation would be duty-based with no restrictions on flight time in accordance with most modern international regulatory schemes. We were disappointed that some ARC participants expressed a desire to retain this obsolescent element of the current regulatory scheme. Daily flight time limits will weigh heavily in our analysis and comments on the proposed rule.
3. We are also concerned about the effect of proposed duty and rest regulations on managers, who are also qualified as line pilots. If time spent in administrative duties counts as “duty” for cumulative purposes, or if a management pilot cannot have the discretion to check e-mail or use the telephone during a scheduled rest period, the possible result could be the end of line-qualified pilot managers, chief pilots or directors of operations. Since the beginning of commercial aviation, these pilot managers have played an essential role in safe airline operations and the consequence of this rule on those management positions must be carefully considered. We recognize, of course, the need for appropriate rest prior to flight. This might be more appropriate for inclusion in a fatigue mitigation advisory circular.
4. As in any major regulatory change, it will take all parties involved time to adjust schedules and implement new policies, therefore, we also ask that FAA provide a transition period of at least two years after the final regulation is published.

**Section II: Recommendations for Passenger Operations**

Appendix 1 contains the flight and duty time charts applicable to passenger operations, as well as the proposed rest requirements.

**Section III: Recommendations for All-Cargo Operations**

Appendix 2 contains the charts applicable to all-cargo operations. These charts are designed to reflect the unique operational characteristics of the all-cargo industry segment. To further understand the safety-focused suggestions of the all-cargo carriers, please refer to Appendix 3, which provides the CAA submission to the ARC.

**CONCLUSION**

We appreciate your time and attention to this very important subject, and the opportunity to provide information based on our experience.

Sincerely,

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Continental Airlines

James Bowman  
Federal Express

Steven Predmore  
JetBlue Airways

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Stephen Alterman, Cargo Airline Association  
Roger Cohen, Regional Airline Association

## Recommendations for the Following Specific Regulatory Provisions Applicable to Appendix 1

### Rest Regulations

International rest rules would apply in rest stations outside of the 48 contiguous United States, Canada, Mexico and the Caribbean.

- In **domestic** stations, ten (10) hours of scheduled rest prior to beginning a flight duty period
  - Scheduled rest may be reduced to nine (9) hours in actual operations
- In **international** stations, twelve (12) hours of scheduled rest prior to beginning a flight duty period
  - Scheduled rest may be reduced to eleven (11) hours in actual operations
- Prior to beginning a flight duty period in an **international** station, look-back rest of 30 hours free of duty in the prior 168 hours is required
- If a three-person crew receives **international** rest of between 20 and 28 hours in a different operating “theater” (more than four time zones away from domicile), and the sum of duty time of both duties surrounding the rest period exceeds 24 hours then, upon returning to domicile, the crew must be given:
  - Two physiological night’s rest or
  - One physiological night’s rest and the crew member’s next duty must be limited to less than eight (8) hours.

### Two-pilot duty time limits (recommended)

	FDP	8/17/09						
Time of Start (Home Base)	1 Legs	2	3	4	5	6	7+	Extensions (FDP)
0000-0059	9	9	9	9	9	9	9	2
0100-0159	9	9	9	9	9	9	9	2
0200-0259	10	10	10	10	9	9	9	2
0300-0359	10	10	10	10	9	9	9	2
0400-0459	10	10	10	10	9	9	9	2
0500-0559	12	12	12	12	11.5	11	10.5	2
0600-0659	12	12	12	12	11.5	11	10.5	2
0700-0759	13	13	13	13	12.5	12	11.5	2
0800-0859	13	13	13	13	12.5	12	11.5	2
0900-0959	13	13	13	13	12.5	12	11.5	2
1000-1059	13	13	13	13	12.5	12	11.5	2
1100-1159	13	13	13	13	12.5	12	11.5	2
1200-1259	13	13	13	13	12.5	12	11.5/	2
1300-1359	12	12	12	12	11.5	11	10.5	2
1400-1459	12	12	12	12	11.5	11	10.5	2
1500-1559	12	12	12	12	11.5	11	10.5	2
1600-1659	12	12	12	12	11.5	11	10.5	2
1700-1759	11	11	11	11	9	9	9	2
1800-1859	11	11	11	11	9	9	9	2
1900-1959	11	11	11	11	9	9	9	2
2000-2059	11	11	11	11	9	9	9	2
2100-2159	11	11	11	11	9	9	9	2
2200-2259	10.5	10.5	10.5	10.5	9	9	9	2
2300-2359	9.5/	9.5	9.5	9.5	9	9	9	2

## Two-pilot duty time limits and flight time limits (if required)

	FDP/BH	8/17/09						
Time of Start (Home Base)	1 Legs	2	3	4	5	6	7+	Extensions (FDP)
0000-0059	9/7	9/7	9/7	9/7	9/7	9/7	9/7	2
0100-0159	9/7	9/7	9/7	9/7	9/7	9/7	9/7	2
0200-0259	10/8	10/8	10/8	10/8	9/7	9/7	9/7	2
0300-0359	10/8	10/8	10/8	10/8	9/7	9/7	9/7	2
0400-0459	10/8	10/8	10/8	10/8	9/7	9/7	9/7	2
0500-0559	12/10	12/10	12/10	12/10	11.5/9.5	11/9	10.5/8.5	2
0600-0659	12/10	12/10	12/10	12/10	11.5/9.5	11/9	10.5/8.5	2
0700-0759	13/11	13/11	13/11	13/11	12.5/10.5	12/10	11.5/9.5	2
0800-0859	13/11	13/11	13/11	13/11	12.5/10.5	12/10	11.5/9.5	2
0900-0959	13/11	13/11	13/11	13/11	12.5/10.5	12/10	11.5/9.5	2
1000-1059	13/11	13/11	13/11	13/11	12.5/10.5	12/10	11.5/9.5	2
1100-1159	13/11	13/11	13/11	13/11	12.5/10.5	12/10	11.5/9.5	2
1200-1259	13/11	13/11	13/11	13/11	12.5/10.5	12/10	11.5/9.5	2
1300-1359	12/10	12/10	12/10	12/10	11.5/9.5	11/9	10.5/8.5	2
1400-1459	12/10	12/10	12/10	12/10	11.5/9.5	11/9	10.5/8.5	2
1500-1559	12/10	12/10	12/10	12/10	11.5/9.5	11/9	10.5/8.5	2
1600-1659	12/10	12/10	12/10	12/10	11.5/9.5	11/9	10.5/8.5	2
1700-1759	11/9	11/9	11/9	11/9	9/7	9/7	9/7	2
1800-1859	11/9	11/9	11/9	11/9	9/7	9/7	9/7	2
1900-1959	11/9	11/9	11/9	11/9	9/7	9/7	9/7	2
2000-2059	11/9	11/9	11/9	11/9	9/7	9/7	9/7	2
2100-2159	11/9	11/9	11/9	11/9	9/7	9/7	9/7	2
2200-2259	10.5/8.5	10.5/8.5	10.5/8.5	10.5/8.5	9/7	9/7	9/7	2
2300-2359	9.5/7.5	9.5/7.5	9.5/7.5	9.5/7.5	9/7	9/7	9/7	2

**Recommended  
acclimatized augmented  
crew duty time limits**

Time of Start (Home Base)	Class 1 Time (AC 121-31) (75% of rest period available)		Class 2 Cabin Lie Flat or near Lie Flat with increased pitch/footrest (75% of class 1- 56%)		Class 3 Seat ~40 w/ footrest (cabin or cockpit) 33% of Class 1-25%)		Extensions
	3 Pilot	4 Pilot	3 Pilot	4 Pilot	3 Pilot	4 Pilot	
0000-0059	13+50	16+05	12+55	14+20	11+45	12+15	3
0100-0159	13+50	16+05	12+55	14+20	11+45	12+15	3
0200-0259	13+50	16+05	12+55	14+20	11+45	12+15	3
0300-0359	13+50	16+05	12+55	14+20	11+45	12+15	3
0400-0459	13+50	16+05	12+55	14+20	11+45	12+15	3
0500-0559	13+50	16+05	12+55	14+20	11+45	12+15	3
0600-0659	15+10	17+40	14+10	15+40	12+55	13+25	3
0700-0759	16+30	19+20	15+25	17+05	14+00	14+30	3
0800-0859	16+30	19+20	15+25	17+05	14+00	14+30	3
0900-0959	16+30	19+20	15+25	17+05	14+00	14+30	3
1000-1059	16+30	19+20	15+25	17+05	14+00	14+30	3
1100-1159	16+30	19+20	15+25	17+05	14+00	14+30	3
1200-1259	16+30	19+20	15+25	17+05	14+00	14+30	3
1300-1359	15+10	17+40	14+10	15+40	12+50	13+20	3
1400-1459	15+10	17+40	14+10	15+40	12+50	13+20	3
1500-1559	15+10	17+40	14+10	15+40	12+50	13+20	3
1600-1659	15+10	17+40	14+10	15+40	12+50	13+20	3
1700-1759	13+50	16+05	12+55	14+20	11+45	12+15	3
1800-1859	13+50	16+05	12+55	14+20	11+45	12+15	3
1900-1959	13+50	16+05	12+55	14+20	11+45	12+15	3
2000-2059	13+50	16+05	12+55	14+20	11+45	12+15	3
2100-2159	13+50	16+05	12+55	14+20	11+45	12+15	3
2200-2259	13+50	16+05	12+55	14+20	11+45	12+15	3
2300-2359	13+50	16+05	12+55	14+20	11+45	12+15	3

**Recommended  
non-  
acclimated  
augmentation**

Time of Start (Home Base)	Class 1 (AC 121-31) (75% of rest period available)		Class 2 Cabin Lie Flat or near Lie Flat with increased pitch/ footrest (75% of class 1- 56%)		Class 3 Seat ~40 w/ footrest (cabin or cockpit) 33% of Class 1-25%)		Extensi
	3 Pilot	4 Pilot	3 Pilot	4 Pilot	3 Pilot	4 Pilot	
0000-0059	13+15	15+20	12+20	13+35	11+15	11+45	3
0100-0159	13+15	15+20	12+20	13+35	11+15	11+45	3
0200-0259	13+15	15+20	12+20	13+35	11+15	11+45	3
0300-0359	13+15	15+20	12+20	13+35	11+15	11+45	3
0400-0459	13+15	15+20	12+20	13+35	11+15	11+45	3
0500-0559	13+15	15+20	12+20	13+35	11+15	11+45	3
0600-0659	14+30	17+00	13+35	15+00	12+15	12+50	3
0700-0759	15+50	18+30	14+50	16+25	13+30	14+00	3
0800-0859	15+50	18+30	14+50	16+25	13+30	14+00	3
0900-0959	15+50	18+30	14+50	16+25	13+30	14+00	3
1000-1059	15+50	18+30	14+50	16+25	13+30	14+00	3
1100-1159	15+50	18+30	14+50	16+25	13+30	14+00	3
1200-1259	15+50	18+30	14+50	16+25	13+30	14+00	3
1300-1359	14+30	17+00	13+35	15+00	12+20	12+45	3
1400-1459	14+30	17+00	13+35	15+00	12+20	12+45	3
1500-1559	14+30	17+00	13+35	15+00	12+20	12+45	3
1600-1659	14+30	17+00	13+35	15+00	12+20	12+45	3
1700-1759	13+15	15+20	12+20	13+35	11+15	11+40	3
1800-1859	13+15	15+20	12+20	13+35	11+15	11+40	3
1900-1959	13+15	15+20	12+20	13+35	11+15	11+40	3
2000-2059	13+15	15+20	12+20	13+35	11+15	11+40	3
2100-2159	13+15	15+20	12+20	13+35	11+15	11+40	3
2200-2259	13+15	15+20	12+20	13+35	11+15	11+40	3
2300-2359	13+15	15+20	12+20	13+35	11+15	11+40	3

**Flights beyond the lengths in the previous table can be approved by the administrator under the following guidelines:**

- Scientifically based method to determine max duty times, preflight, layover and recovery rest requirements, and in-flight prescriptive rest scheme to ensure adequate alertness is maintained during regular and irregular ops
- Suitability of the onboard rest facility needs to be validated as part of the process
- Data gathering methodology in place to validate concepts in #1 above
- Feedback loop to address actual operations
- Process should be approved by the administrator
- Operations to be approved on a theater basis
- FAA-approved training program for all stakeholders on fatigue and sleep education, including mitigation and countermeasures strategies

## Cargo operator domestic proposal

	Time of Start (Designated Base)	Flight Duty Period			Flight Time		Domestic Rest	
		1 to 4 Sectors	5 + Sectors	Extensions for Operational Irregularities	1 to 4 Sectors	5+ Sectors	Minimum	In 168 look back
(In Hours)	0000-0459	11	9	+ 2 *	8	7	10**	24***
	0500-1459	13	11	+ 2 *	11	9		
	1500-1659	12	10	+ 2 *	10	8		
	1700-2359	11	9	+ 2 *	8	7		

\* Extensions for Operational Irregularities include conditions and requirements unforeseen or beyond the control of the certificate holder, including but not limited to weather conditions, aircraft equipment, air traffic control, acts of God, hostilities, etc.

\*\* Reducible to 9 at certificate holder's discretion (can only occur once in any 168 hour look back)

\*\*\* Applies when report to a FDP

## Cargo operator international proposal

2 Pilot (or 2 Pilot and Flight Engineer)								
		Flight Duty Period			Flight Time		International Rest	
		International 2 Pilot/2 Pilot and Flight Engineer 1 to 4 sectors	International 2 Pilot/2 Pilot and Flight Engineer 5+ sectors	Extensions for Operational Irregularities	2 Pilot	2 Pilot and Flight Engineer	Minimum	In 168 look back
(In Hours)	Unacclimatized**/WOCL*****	12:30	11:30	+ 2 *	8	12	12***	30****
	Unacclimatized**/Non-WOCL	13:00	12:00	+ 2 *	10	12	12***	30****
	Acclimatized/WOCL*****	13:30	12:30	+ 2 *	8	12	12***	30****
	Acclimatized/Non-WOCL	14:00	13:00	+ 2 *	10	12	12***	30****

\* Extensions for Operational Irregularities include conditions and requirements unforeseen or beyond the control of the certificate holder, including but not limited to weather conditions, aircraft equipment, air traffic control, acts of God, hostilities, etc.

\*\* Crews become unacclimatized after duties that exceed 4 time zones -- 30 hours free from duty to become acclimatized. Continental U.S. is considered one time zone for acclimatization purposes.

\*\*\* Reducible to 11 at certificate holder's discretion (can only occur once in any 168 hour look back)

\*\*\*\* Applies when report for a FDP

\*\*\*\*\* If any portion of the FDP occurs between 0200-0559, time computed at crewmember's acclimatized location.

## Cargo operator augmentation proposal

### 3 Pilot Augmentation (or 3 Pilot 2 Flight Engineer) (In Hours)

Flight Duty Period					Flight Time	International Rest	
International 3 Pilot with horizontal sleep opportunity 1 to 2 sectors	International 3 Pilot with horizontal sleep opportunity 3 to 4 sectors	International 3 Pilot seat 1 to 2 sectors	International 3 Pilot seat 3 to 4 sectors	Extensions for Operational Irregularities		Minimum	In 168 look back
16:30	15:45	14:45	14:30	+ 2 *	12	12**	30***

4 Pilot Augmentation (or 4 Pilot 2 Flight Engineer)				
Flight Duty Period			International Rest	
International 4 Pilot with horizontal sleep opportunity 1 to 2 sectors	International 4 Pilot with horizontal sleep opportunity 3 to 4 sectors	Extensions for Operational Irregularities	Minimum	In 168 look back
19:30	18:45	+ 2 *	12**	30***

\* Extensions for Operational Irregularities include conditions and requirements unforeseen or beyond the control of the certificate holder, including but not limited to weather conditions, aircraft equipment, air traffic control, acts of God, hostilities, etc.

\*\* Reducible to 11 at certificate holder's discretion (can only occur once in any 168-hour look back)

\*\*\* Applies when report to a FDP

### **Appendix 3, Cargo Airline Association Submission**

<http://www.airlines.org/NR/rdonlyres/CE423E46-4F9C-49A1-8340-1470790955AB/0/CAAAttachment3.pdf>