



FEDERATION OF INDIAN PILOTS

FIP/DGCA/26-15

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Director General,
DGCA, Sri Aurobindo Marg,
Opp Safdarjung Airport,
New Delhi-110003

Proposal for Development and Mandatory Implementation of a Comprehensive Fatigue Risk Management System (FRMS) Framework in India

Dear Sir,

1. Reference is made to all the earlier correspondence regarding a CAR on the Fatigue Risk Management System (FRMS).

2. A serious incident occurred wherein FRMS plays a very important role. The most widely reported Indonesian case involved **Batik Air Flight BTK6723** on **25 January 2024**, when both pilots of an Airbus A320 fell asleep during a domestic flight from **Kendari to Jakarta**. The incident triggered an official investigation by Indonesia's National Transportation Safety Committee (KNKT).

3. Key Facts

- a) **Aircraft:** Airbus A320-214 (registration PK-LUV).
- b) **Operator:** Batik Air.
- c) **Route:** Kendari (Sulawesi) to Jakarta.
- d) **Persons on board:** 153 passengers and 4 cabin crew.
- e) **Cruise altitude:** FL360 (36,000 ft).
- f) **Duration both pilots were asleep:** Approximately **28 minutes**.

4. What Happened?

- a) After reaching cruise altitude, the **PIC (32 years old)** requested permission from the **First Officer (28 years old)** to take a controlled rest in the cockpit.
- b) The First Officer continued operating the flight and communicating with ATC.
- c) About an hour later, the PIC briefly woke up and offered the First Officer a rest break, but the First Officer declined.
- d) The PIC went back to sleep.
- e) Shortly afterward, the First Officer **inadvertently fell asleep** while acting as both Pilot Flying and Pilot Monitoring.
- f) For approximately **28 minutes**, both pilots were asleep and failed to respond to repeated calls from Jakarta Area Control Centre. ATC even asked other aircraft to attempt contact.

5. Consequences

- a) The aircraft drifted significantly from its assigned route, reportedly by around **80 nautical miles**.
- b) There was a complete loss of communication with ATC during the sleep period.
- c) The PIC eventually woke up, discovered the aircraft was off course, noticed the First Officer was asleep, and immediately woke him up.
- d) The flight subsequently returned to its cleared route and landed safely in Jakarta with no injuries or damage.

6. Contributing Factors

The investigation found that the First Officer had experienced significant sleep disruption:



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- a) He had recently become the father of **one-month-old twin babies**.
- b) His sleep had been interrupted repeatedly while helping care for the twins.
- c) He had also been involved in moving house shortly before the flight.

7. Findings and Recommendations

The KNKT concluded that fatigue management procedures were inadequate and recommended that Batik Air strengthen its fatigue risk management program, including:

- a) Better guidance on minimum sleep requirements.
- b) Improved pre-duty rest planning.
- c) Enhanced fatigue awareness and monitoring.

8. Aviation Significance

This event is considered one of the most serious recent fatigue-related cockpit incidents because:

- a) Both pilots were asleep simultaneously.
- b) ATC lost contact with the aircraft for nearly half an hour.
- c) The aircraft deviated from its assigned flight path.
- d) It highlighted weaknesses in fatigue risk management despite existing regulations.

9. Batik Air BTK6723 (Indonesia) – Fatigue, Controlled Rest and FRMS Lessons for DGCA/FDTL

a) Event Timeline (25 January 2024)

Time (UTC)	Event
00:05	BTK6723 departed Kendari for Jakarta. First Officer (SIC) was Pilot Flying (PF), Captain was Pilot Monitoring (PM).
~00:37	Aircraft reached FL360. Captain requested controlled rest in the cockpit.
00:37–01:22	Captain slept while First Officer operated the aircraft.
01:22	Captain woke up and offered the First Officer a rest break. The First Officer declined.
Shortly after	Captain went back to sleep.
01:43:42	Last recorded radio transmission from the First Officer to Jakarta ACC.
Immediately after	First Officer inadvertently fell asleep. Both pilots were now asleep.
01:56	Jakarta ACC queried BTK6723 regarding its heading. No response.
01:57	Repeated ATC calls unanswered. Other aircraft asked to relay messages.
02:11	Captain woke up, noticed aircraft was off its assigned track and First Officer was asleep. He woke the First Officer and re-established communications.
After 02:11	Flight returned to assigned route and continued safely to Jakarta.

b) Safety Significance

- Both pilots asleep simultaneously for approximately 28 minutes.
- Loss of ATC communication.
- Aircraft deviated from assigned routing.
- 153 passengers and 4 cabin crew on board.
- No injuries or damage.



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10. KNKT Safety Recommendations

Recommendation 1 – Improve IM SAFE Assessment

KNKT found that Batik Air required pilots to use the **IM SAFE** checklist:

- a) Illness
- b) Medication
- c) Stress
- d) Alcohol
- e) Fatigue
- f) Emotion

11. However, there was no detailed guidance explaining how pilots should assess fatigue or other impairments before flight duty. KNKT recommended development of detailed procedures and guidance for self-assessment.

12. Relevance to DGCA

Indian operators often require self-declaration of fitness, but there is limited objective assessment of fatigue. A structured fatigue self-assessment tool could strengthen compliance.

13. Recommendation 2 – Cockpit Monitoring Procedures

Batik Air's procedures required cabin crew to check the cockpit every 30 minutes, but the investigation found no detailed guidance regarding:

- a) Who should conduct the check.
- b) How the check should be performed.
- c) What actions should be taken if pilots were unresponsive.

KNKT recommended detailed cockpit-check procedures.

14. Relevance to DGCA

Cockpit observation procedures can provide an additional defence against fatigue-related events during long sectors and night operations. Though the procedures exist in the SOP of the airlines however, there is a need to stress this aspect and **requires oversight by DGCA.**

15. Recommendation 3 – Fatigue Management Program

The final KNKT report identified a broader weakness:

- a) No clear guidance on recommended sleep quantity.
- b) No requirement for pilots to plan sleep before duty.
- c) Sleeping during flight had become an informal fatigue-management practice.

KNKT recommended that Batik Air implement a more comprehensive fatigue management system including sleep planning and minimum sleep guidance. **DGCA must ensure that the OM and SOPs of airlines cover these aspects.**

16. ICAO Controlled Rest vs What Happened

ICAO Controlled Rest Principles



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ICAO and modern FRMS guidance generally permit controlled cockpit rest only under tightly controlled conditions:

a) **Before Rest**

- Both pilots assess operational conditions.
- Stable cruise flight.
- No adverse weather.
- ATC communications manageable.
- Rest period agreed and briefed.

b) **During Rest**

- Only one pilot rests at a time.
- The awake pilot remains fully alert and responsible.
- Cabin crew aware of the arrangement.
- Rest duration usually limited (often 20–40 minutes depending on operator procedures).

c) **Recovery Period**

- Pilot waking from rest receives recovery time before resuming critical duties.
- No controlled rest during take-off, climb, descent, or approach.

Objective

Controlled rest is intended to prevent involuntary sleep and maintain alertness.

17. What Occurred on BTK-6723

ICAO Principle	BTK-6723
One pilot awake at all times	Failed
Active monitoring by awake pilot	Failed
Protection against dual sleep	Failed
Effective fatigue assessment	Failed
FRMS mitigation	Failed
Controlled rest managed	Failed

The event demonstrates the difference between **controlled rest** and **uncontrolled fatigue-induced sleep**.

18. Key FRMS Lessons for DGCA and Indian Operators

a) **Lesson 1 – To urgently make a regulation on FRMS and Legal FDTL Compliance Does Not Guarantee Alertness**

The crew met regulatory duty and rest requirements, yet fatigue still occurred. Compliance-based FDTL systems alone cannot eliminate fatigue risk.

b) **DGCA Implication**

Move beyond prescriptive limits toward **evidence-based FRMS**.



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19. Lesson 2 – Sleep Opportunity Is Not Sleep Obtained

The First Officer had sufficient rostered rest but:

- a) Was caring for one-month-old twins.
- b) Experienced repeated sleep interruptions.
- c) Was moving house.

DGCA Implication

FRMS should consider *actual sleep obtained rather than only duty-free periods*.

20. Lesson 3 – Early-Morning Operations Are High Risk

The flight originated from an overnight/early-morning schedule, coinciding with the circadian low period when alertness is reduced.

DGCA Implication

Special fatigue controls should apply to:

- Red-eye operations.
- Ultra-early reporting.
- Consecutive night duties.

21. Lesson 4 – Fatigue Reporting Culture Matters

The First Officer informed the PIC that he had not rested properly, but no formal mitigation was implemented.

DGCA Implication

Pilots must be able to report fatigue without fear of disciplinary action by the operator. The DGCA must take strict action against any operator threatening the pilot.

22. Lesson 5 – Multiple Defences Failed

Swiss Cheese Model:

- a) Personal fatigue assessment failed.
- b) Fatigue reporting failed.
- c) Controlled-rest management failed.
- d) Cockpit monitoring failed.
- e) ATC communication monitoring failed.

Only chance awakening prevented a more serious outcome.

23. Suggested Slide for DGCA/FIP FDTL Presentation

"Batik Air BTK-6723 – Why FRMS Matters"

The event proves that:

- a) Regulatory compliance ≠ alertness.
- b) Rest opportunity ≠ sleep obtained.
- c) Controlled rest ≠ uncontrolled sleep.
- d) Fatigue is a safety risk, not a disciplinary issue.
- e) Effective FRMS must complement FDTL regulations.



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24. Key Message:

"The crew complied with duty-time limits, yet both pilots fell asleep. Fatigue management must focus on actual human performance, not merely hours on a roster."

25. Conclusion: Strengthening FRMS Regulations and Implementation

The Batik Air incident serves as a powerful reminder that compliance with Flight Duty Time Limitations (FDTL) alone does not guarantee pilot alertness or operational safety. Despite operating within prescribed duty and rest limits, fatigue-related performance degradation still occurred, demonstrating the limitations of a purely prescriptive regulatory approach.

26. India is now one of the world's fastest-growing aviation markets, with rapidly expanding fleets, increasing flight frequencies, greater aircraft utilization, and increasing pressure on flight crew resources. In such an environment, fatigue has emerged as a critical safety hazard that cannot be effectively controlled through Flight Duty Time Limitations (FDTL) alone. While FDTL regulations establish important boundaries, they are based on predicted fatigue risk and cannot account for actual sleep obtained, circadian disruption, workload, commuting, roster instability, or individual fatigue vulnerability. ICAO recognizes this limitation and requires States to establish regulations for fatigue management, including Fatigue Risk Management Systems (FRMS), based on scientific principles and operational data.

27. For India, the urgency is even greater. The aviation system is experiencing unprecedented growth, with increasing night operations, ultra-early departures, congested airspace, high-density schedules, and pressure to maximize aircraft productivity. These operational realities create fatigue risks that cannot be adequately managed through prescriptive limits alone. A robust FRMS framework would enable operators and regulators to identify fatigue hazards proactively, collect fatigue-related data, assess operational risks scientifically, and implement targeted mitigations before safety is compromised.

28. As India's aviation sector continues to expand rapidly, with increasing aircraft utilization, growing pilot populations, and more complex operating schedules, fatigue must be addressed as a systemic safety risk rather than an individual shortcoming. An effective **Fatigue Risk Management System (FRMS)** provides the necessary framework to identify, assess, mitigate, and continuously monitor fatigue hazards using scientific principles, operational data, and proactive safety management.

29. Therefore, DGCA should move towards a stronger regulatory framework that:

- a) Mandates FRMS implementation for all scheduled operators.
- b) Establishes clear standards for fatigue reporting, risk assessment, and mitigation.
- c) Requires operators to demonstrate actual fatigue risk management rather than mere compliance with duty-time limits.
- d) Incorporates data-driven monitoring, fatigue reporting systems, and periodic independent audits.
- e) Promotes a non-punitive reporting culture that encourages pilots and crew members to report fatigue without fear of adverse consequences.
- f) Integrates FRMS into the operator's Safety Management System (SMS) with direct accountability at the highest management level.

30. The objective should not be simply to prevent crews from exceeding duty limits, but to ensure **they are sufficiently rested and alert to perform safety-critical tasks**. International experience has shown that the most resilient aviation systems **combine robust FDTL regulations with a mature FRMS framework**.

31. "The continued growth of Indian aviation demands a corresponding evolution in fatigue management regulation. While FDTL regulations provide essential safety boundaries, they cannot by themselves ensure that flight crew are sufficiently rested and alert to safely perform their duties. Modern aviation safety



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requires a transition from a purely compliance-based approach to a performance-based fatigue management framework. A robust and enforceable Fatigue Risk Management System (FRMS), integrated with FDTL and Safety Management Systems, is therefore no longer optional but a safety necessity. The cost of implementing FRMS is insignificant when compared to the potential consequences of a fatigue-related accident. India has an opportunity to adopt a proactive, science-based regulatory framework that protects passengers, supports crew wellbeing, strengthens public confidence, and aligns Indian aviation with global best practices. The question is no longer whether India needs stronger FRMS regulations, but how quickly they can be implemented before fatigue becomes a contributing factor in a major aviation occurrence."

32. A modern aviation safety system cannot rely solely on hours-based limitations; it must actively manage human fatigue as a predictable and measurable operational risk. Strong FRMS regulations, backed by effective implementation and oversight, are therefore essential to protecting flight safety, maintaining public confidence, and supporting the sustainable growth of Indian aviation.

Yours Sincerely

(Capt. CS Randhawa)

President, Federation of Indian Pilots (FIP)

Copy To:

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