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Fatigue played an important role in the crash of Comair Flight 5191...

By Sarah Vos HERALD-LEADER STAFF WRITER

Fatigue played an important role in the crash of Comair Flight 5191, according to unions for pilots and air traffic controllers.

Lack of sleep hindered the performance of three important players in the crash -- the captain, the co-pilot and the air traffic controller -- the unions said in documents released yesterday by the National Transportation Safety Board. The unions made their statements as part of a response to the NTSB's factual analysis of the Aug. 27 crash at Blue Grass Airport.

The National Air Traffic Controllers Association proposed that the Federal Aviation Administration and the union study the effects of fatigue on air traffic controller performance and asked that limits be set on working hours based on fatigue research.

The Air Line Pilots Association commissioned a study by a sleep performance expert who concluded that the early hour of the flight and lack of adequate sleep probably played a role. But tired pilots and air traffic controllers should not be blamed for their fatigue, concluded Dr. Gregory Belenky, director of the Sleep and Performance Research Center at Washington State University, who wrote the study.

The time of the 6 a.m. flight meant that all three were working during their least productive hours, as assessed by circadian rhythms, the internal clocks that all humans have.

"It is also clear that all three made nearly maximal use of sleep opportunity they did have," Belenky wrote.

Circadian rhythms make it hard for people to fall asleep before 10 p.m., unless they are already sleep deprived, Belenky said. In addition, the hours between 4 and 6 a.m. are the most conducive to sleep, because of body temperature. (The captain and first officer were up by 4:30 a.m.) And the hours between 6 a.m. and 8 a.m., when the flight took off, are the worst hours to perform work or other tasks.

In the study, Belenky points to evidence of fatigue in all three men in the 30 minutes before the crash. Co-pilot James Polehinke yawned twice and called out the wrong flight number. He and Capt. Jeffrey Clay did not obey rules about extraneous conversation in the cockpit. The two started their shift by getting on the wrong plane.

The air traffic controller didn't notice that the plane was positioned on the wrong runway when it requested clearance, waited as long as 45 seconds after the crash to notify emergency crews and didn't help the crews find the crash site, wrote Belenky, who could not be reached for comment yesterday because he was on vacation.

Belenky reconstructed the schedules of the three men in the days before the crash. "It appears that all three were both sleep restricted and at the low point in their circadian rhythm performance at the time of the accident," he concluded.

Clay arrived in Lexington around 3:30 p.m. the afternoon before the accident. He went to bed around 10:30 p.m. and rose at 4:30 a.m. Belenky estimated that the pilot actually slept for 5 1/2 of the 6 hours possible.

Less information was available about the first officer's schedule. He arrived in Lexington on Aug. 25, two days before the accident, and Belenky concludes that his schedule the day before was similar to Clay's and that Polehinke experienced fatigue for similar reasons.

Christopher Damron, the air traffic controller, had the most compromised schedule. On Aug. 25, he slept for about 7 hours, and then worked an eight-hour shift on Aug. 26. During the 9 hours he had off, he took a two-hour nap. Two hours is probably the most sleep that could be reasonably expected, given the time of day and the controller's schedule.