# PETITION FOR

# MODIFICATION OF THE BOARD'S

# FINDINGS

***Attempted Takeoff from Wrong Runway***
***COMAIR Flight 5191***
***Bombardier CL-600-2B19, N431CA***
***Lexington, Kentucky***
***August 27, 2006***
***NTSB/AAR-07/05***
***PB2007-910406***

June 6, 2008

National Air Traffic Controllers Association
1325 Massachusetts Avenue, NW
Washington, DC 20005

## I. Introduction

On August 27, 2006, at approximately 0607 eastern daylight time, Comair Flight 5191, a Bombardier CL-600-2B19 (CRJ-100), N431CA, crashed during takeoff from Blue Grass Airport, Lexington, Kentucky. The flight crew was instructed to takeoff from Runway 22 but instead lined up the airplane on Runway 26 and began the takeoff roll. The airplane ran off the end of Runway 26 and impacted the airport perimeter fence, trees and terrain. The captain, flight attendant, and 47 passengers were killed, and the first officer received serious injuries. Impact forces and post-crash fire destroyed the airplane. The flight was operating under the provisions of 14 *Code of Federal Regulations* Part 121 and was en route to Hartsfield-Jackson Atlanta International Airport, Atlanta, Georgia. Night visual metrological conditions prevailed at the time of the accident.

The National Transportation Safety Board (NTSB) conducted an investigation of the accident. At a public NTSB meeting[1] on July 26, 2007, the NTSB announced their determination that the probable cause of the August 27, 2006 accident was the flight crewmember's failure to use available cues and aids to identify the airplane's location on the airport surface during taxi and their failure to cross-check and verify that the airplane was on the correct runway before takeoff. The NTSB also announced that the following two factors contributed to the accident:

[1] This NTSB meeting was not an open public hearing; it was an NTSB meeting that was open to the public but with no participation allowed by the public attendees. NATCA is of the belief that such a public hearing would have been of great benefit to illuminating and addressing various factors that contributed to the accident.

1) The flight crew's nonpertinent conversations during taxi, which resulted in a loss of positional awareness, and:

2) The Federal Aviation Administration's (FAA) failure to require that all runway crossings be authorized only by specific air traffic control clearances.

The NTSB's Final Accident Report reiterated these determinations and articulated a number of safety recommendations to the FAA.

Under the provisions of 49 Code of Federal Regulations at 845.41, parties to the investigation or other interested persons can formally petition the NTSB to reconsider all or part of the analysis, conclusions, or probable cause. By this submission, NATCA hereby formally petitions the NTSB to reconsider and modify their determination of the factors contributing to the accident. It is NATCA's belief that the Board's own findings enumerated in both the Factual Report of Investigation and the Final Accident Report support a determination that FAA inaction relating to staffing was a contributing factor to the accident. Specifically, NATCA asserts that factual evidence and the Board's findings show that the FAA's failure to properly staff the Lexington Air Traffic Control Tower midshifts, the FAA's failure to enforce the Agency's own internal guidance on staffing, and the FAA's failure to respond to the Lexington Tower manager's staffing studies and requests for additional staffing resources all contributed to the crash of Comair Flight 5191. In sum, NATCA asserts that the logic of the Board's analysis of the factors that contributed to the accident was faulty and in error due to the Board's failure to define the

FAA's inaction on staffing as constituting a factor that directly contributed to the Comair 5191 crash.

## II. Facts, Findings, and Evidence in Support of NATCA's Position

### A) *NATCA's March 26, 2007 Submission to the Board*

NATCA has been a party to the investigation of the crash of Comair 5191 since August 28, 2006, the day after the accident. Based upon NATCA's active participation in the accident investigation as well as NATCA's intimate familiarity with the ATC environment at Lexington and in general, NATCA delivered a comprehensive submission to the Board in March of 2007. The submission (Attachment A) reviewed all aspects of potential air traffic control (ATC) involvement in the August 27th crash. The submission reveals the following facts, circumstances, and information regarding both the state of staffing at the Lexington ATC Tower as well as the role of Lexington ATC on the day of the accident (emphasis added):

1) In March of 2005, FAA management at the Lexington ATC Tower produced a study, which determined that ***the staffing level of the tower was not realistic if twenty-four (24) hour service was to be maintained. That study was elevated to senior FAA management but was never acted upon.***

2) On November 16, 2005, in response to verbal guidance from FAA management, the Air Traffic Manager (ATM) of the Lexington Tower issued a memorandum to all supervisors and controllers that ***the midnight shift should always be staffed with two controllers and the radar and tower functions should always be split. That memorandum was never consistently complied with.***

3) On January 12, 2006 the Lexington Tower ATM articulated to his superior via e-mail that ***the tower was unable to meet the Agency requirement to staff the midshifts with two controllers due to the insufficient number of controllers at the facility.*** The ATM requested an additional two controllers or an increase in the annual overtime budget of $75,000.

4) On February 13, 2006, the FAA Hub Manager (the Lexington Tower ATM's immediate superior) responded to the Lexington Tower ATM's request by reiterating that ***the Lexington overtime budget would not be increased*** but would remain at the annual level of $17,000. He also informed the Lexington Tower ATM that ***he expected him to operate within his annual budget*** and that the yearly assessment of his job performance would judge him on his ability to do so.

5) On April 21, 2006, the Lexington Tower ATM again ***advised his superior that he was still not in a position to staff the tower on the midshifts as required***, due to a lack of personnel and monetary resources. Despite this third request, ***no additional personnel or overtime funds were forthcoming.***

6) Per FAA policy in effect at the time of the accident, ***Lexington Tower was required to have two (2) controllers on duty and present at the time of the accident. However, on the day of the accident, there was only one (1) controller performing both the radar functions and the tower functions.***

7) During the midshift on August 27, 2006, Comair 5191 attempted to takeoff on an incorrect runway. The sole controller on duty did not observe the mistake.

8) On the morning of August 27, 2006, the sole controller on duty at the time of the accident performed over thirty-one (31) separate and distinct ***radar and tower functions*** in the twenty-three (23) minutes preceding the accident.

9) ***Fourteen (14) of the thirty-one (31) functions performed by the controller during that time period would have been performed by the second controller,*** had the radar and tower positions been split and had the additional controller been on duty as required by the Agency policy in effect at the time.

10) At the time that Comair 5191 called for takeoff clearance, ***the sole controller on duty was dedicating his attention to radar duties*** and looking at the D-BRITE display, ***duties that would have otherwise been performed by the second controller.***

11) If a second controller been on duty, and regardless of whether or not the second controller had been physically located in the tower or in the radar room, ***the tower controller on duty that morning would have had more time to manage the airport surface activities while the radar controller would have been engaged in the airborne air traffic activities.***

Many of these specific points and findings were confirmed as accurate and reiterated in the NTSB's Report of the Investigation as well as in the NTSB's Final Accident Report and will be discussed further below. Suffice it to say that NATCA's March 2007 Submission to the Board clearly demonstrated to the NTSB early on in the investigation how the FAA had failed to follow its own directives and guidance related to staffing and how the Agency's failure to properly staff the Lexington Tower directly contributed to the Comair 5191 crash. Despite this, the NTSB failed to identify the FAA's inaction as a factor that contributed to the accident.

B) *The NTSB's Factual Report of Investigation*

The NTSB's own Factual Report of Investigation also reveals how a staffing shortage of controllers on the midshifts at Lexington Tower, in direct violation of FAA policy, contributed to the crash. The Report of Investigation contains the following facts and evidence in support of NATCA's argument (emphasis added):

1) On August 27, 2006 at the time of the crash, ***all Lexington tower and radar positions were combined and being worked from the local control position in the tower cab.*** In addition to those functions, the tower controller was responsible for obtaining release from the ZID ARTCC TMU, recording the ATIS broadcasts, and all other operational and administrative duties required of a tower/radar facility. (Page 2).

2) According to the controller on duty that morning, ***it was common to combine the positions to one person*** and while there had been two person midshifts at the beginning of 2006, ***the facility went back to one person midshifts in March of 2006.*** (Page 8).

3) The controller was asked how working the tower alone made the job different on the midshifts. He stated, "It makes a difference when all the guys call in the morning; ***you're not doing all of it yourself.*** It's nice knowing you have somebody there if something was to happen." (Page 19).

4) The controller was asked how tasks were allocated when the midshift was staffed with two controllers. He stated that sometimes one controller would work up in the tower while the other worked approach in a downstairs facility. Other times approach radar was worked from the D-BRITE in the tower. ***He stated that the controller that normally worked the midshifts with him, when***

***the tower was properly staffed with two controllers, would normally work in the tower with him, not downstairs.*** (Page 20).

5) The controller stated that ***when there were two controllers in the tower, they would keep the radar and tower functions split*** except when one controller needed a break. (Page 20).

6) The Lexington Tower facility manager stated that John McCartney, the Acting FAA Eastern Terminal Services Unit Director, gave guidance to facility managers who have facilities that have radar and tower responsibilities that ***they should staff 2 controllers on the midnight shift in order to split the radar and tower functions. The guidance was never provided in writing. The direction to have 2 controllers on the midshifts was "do it."*** The directive was precipitated by an August 2005 incident at Raleigh-Durham airport.[2] (Page 21).

7) On November 16, 2005, in response to the verbal guidance from FAA management, ***the Lexington Tower manager issued a memo to all supervisors and controllers that the midnight shift should always be staffed with two controllers and the radar and tower functions should always be split.*** (Page 21). However, because of staffing shortages at Lexington, ***the***

[2] The August 17, 2005 Raleigh-Durham operational error (a near mid-air collision) occurred when only one controller was working the midshift and was severe enough to prompt the Agency to initiate a policy requiring two air traffic controllers on all midshifts. (See Attachment B for a full description of the August 17, 2005 event).

***manager was not able to comply on a consistent basis with his own memorandum or the guidance from his superiors***. From January to March of 2006, the facility staffed two controllers on the midshifts on only forty (40) out of seventy (70) shifts. (Page 22).

8) In April of 2006, ***the Lexington Tower manager took the second controller off of the midshifts permanently, despite the guidance***. (Page 22).

9) The FAA Hub Manager, Daryl Collins, worked with the Lexington Tower manager to draft a request for increased staffing from nineteen (19) to twenty-one (21) controllers. ***At the time of the accident, the facility did not have twenty-one (21) controllers, which was the authorized level at that time.*** The day after the accident, only fifteen (15) controllers were available. ***The Hub manager did not object to the Lexington Tower manager decreasing staffing on the midshifts***. (Page 22).

10) In 2004, the Lexington Tower manager prepared a staff study and sent it to the FAA Eastern Terminal Services Unit Director. The study requested that due to a shortage of staff, the FAA should close the Lexington Tower on the midshifts. ***The FAA never acted on the 2004 study and request*** – in fact, since the day of the accident, the manager had never received a response on the 2004 study or on the 2005 study.[3] (Page 23).

[3] In March of 2005, FAA management at the Lexington ATC Tower produced a study, which determined that the staffing level of the tower ***was not realistic if twenty-four (24) hour service was to be maintained.***

11) Mr. Collins confirmed that that ***Bruce Johnson, FAA Vice President of Terminal Services, directed him to staff two (2) people on all midshifts and to ensure that the tower and TRACON [radar] functions were done by two (2) separate controllers.*** (Page 24).

12) Mr. Collins stated that he believed he got the direction in October or November of 2005 verbally from Mr. Johnson, ***repeatedly in telecons and in person at hub manager meetings.*** Mr. Johnson said, "[t]his is a policy" but there was no written formal directive. (Page 24-25).

13) Mr. Collins stated that there were no other facilities in his hub other than Lexington that had only one person working the midshifts and he was "surprised" to learn that Lexington often did not staff the midshifts with two controllers. (Page 25).

14) Mr. Johnson ***admitted that he provided the" two controllers on midshifts" guidance in November of 2005 to all facility managers of combined tower/radar facilities to ensure that the functions of the two facilities must be kept separate***. The guidance was made verbally. Post-accident, the Agency decided to put the guidance into writing. He expected compliance from managers because ***in his mind the message was very clear,*** but managers thought they had more flexibility. (Page 26).

15) Mr. Johnson stated that the genesis of the policy was the operational error at Raleigh-Durham that occurred on August 17, 2005 when one controller was working the tower and radar functions combined. (Page 26). (See Attachment B).

16) Mr. Johnson did not learn that Lexington was working midshifts with only one controller until after the accident on August 27, 2006. ***He was concerned that Lexington operated midshifts with only one controller because the guidance was very clear.*** He stated that ***the FAA had operations money available so providing overtime funds was not an issue.*** (Page 27-28).

17) Mr. Johnson said he was not aware that any facility was not complying [with his guidance] because of staffing. (Page 28).

18) On October 2, 2006, Mr. Johnson provided data to the NTSB, which shows ***only three facilities in the nation as not being routinely staffed with two (2) controllers on the midshifts.*** Of the three facilities, Lexington is by far the busiest facility (it is an ATC Level 7 facility with approximately 650 average operations a day as compared to the other two facilities which are ATC Level 6 facilities with approximately 250 to 350 average operations a day). (Page 33).

Taken together, these factual determinations made by the NTSB reveal that after the operational error in Raleigh-Durham (approximately one year prior to the Comair crash), the highest levels of the FAA recognized the need to mandate two person staffing on all midshifts at all tower/radar combined facilities. The Agency consequently informed all facility managers of that mandate repeatedly via meetings and teleconferences. According to the testimony of FAA managers, they were under no illusions as to the mandatory nature of the "two people on all midshifts" requirement. However, at the same time, the Agency was ignoring requests from facility managers for additional resources that would allow them to properly staff the midshifts. The Lexington Tower ATM's requests that the Agency provide him more controllers were blatantly ignored. His request in the alternative that the Agency provide him with additional overtime funds to staff the midshifts was sharply rebuked with a threat to his own performance rating should he not stay within his annual budget. And yet, the Vice President of Terminal Services informed the NTSB investigators that additional overtime funds existed and were available as necessary.

From the internal contradictions within the testimony given by the FAA managers to the NTSB, it is readily apparent as to what really occurred. Simply put, the Agency's bottom line focus on curtailing all personnel and overtime costs took precedence over the Agency's mandate to assure the safety of the system. It is clear from Mr. Johnson's remarks that the Agency clearly and fully knew after the Raleigh-Durham operational error in August of 2005 that one person midshifts were inherently dangerous. Despite recognizing this danger, the Agency refused to commit the personnel and overtime funds

necessary to alleviate the safety concern. Instead, the FAA chose with one hand to go on the record giving "guidance" to facility managers to staff the midshifts with two controllers (thereby appearing to take action in response to the new safety issue) while at the same time with the other hand actually limiting access to the resources that the facility managers required to make the staffing happen. This cynical approach to resource management by top-level FAA managers left the Lexington Tower ATM in a no-win situation. The Agency's failure to either provide additional controllers and overtime funds to the Lexington Tower ATM or, in the alternative, to shut down the midshifts, resulted in the ATM staffing the midshifts with only one controller, in direct contravention of Agency policy. This was a blatant and intentional violation of Agency safety requirements by various levels of FAA management. Accordingly, the NTSB's failure to identify this factor as contributing to the Comair crash is in error.

C) *The NTSB's Findings in the Final Accident Report*

The findings contained within the NTSB's Final Accident report that was adopted by the full Board during the public NTSB meeting held on July 26, 2007 also strongly support a conclusion that the FAA's failure to properly staff the Lexington Tower or to enforce the Agency's own staffing guidance directly contributed to the crash. For example, the NTSB reached the following conclusions related to the FAA and staffing (emphasis added):

1) The ***concurrent radar and tower tasks that required the controller to divide his attention*** occurred during the window of opportunity when the controller could have, but did not, notice that he airplane was stopped short of runway 26. (Page 85).

2) ***Staffing during the midnight shift at Lexington was frequently not in compliance with the FAA guidance*** [requiring two controllers on all midshifts]. (Page 98).

3) The controller's ***combined radar and tower responsibilities imposed concurrent tasks, which required him to engage in selective attention*** during the minutes before the accident. (Page 99).

The Board also made the following findings:

#12. The controller did not notice that the flight crew had stopped the airplane short of the wrong runway because he did not anticipate any problems with the airplane's taxi to the correct runway ***and thus was paying more attention to his radar responsibilities*** than his tower responsibilities. (Page 104).

#15. Even though ***the air traffic manager's decision to staff midnight shifts at Lexington with one controller was contrary to FAA verbal guidance*** indicating that two

controllers were needed, it cannot be determined if this decision contributed to the circumstances of this accident. (Page 105).

All of these points from the Board's Final Accident Report clearly demonstrate how the lack of a second controller on duty during the August 27, 2006 midshift negatively impacted the actions of the sole controller on duty that night. They also succinctly reemphasize the Agency's intentional violation of their own safety guidance that required two controllers on all of the midshifts. The Board's failure to appropriately consider and properly analyze its very own findings is in error – the Board has simply closed its eyes to the direct causal connection between the Agency's failure to meet their own staffing requirements and the affect of the resulting understaffing on the ability of the sole controller to maintain focused, non-split attention on the morning in question. NATCA asserts that had two controllers been on duty that morning, the lone controller would not have been engaged in radar activities and would have had a better chance at stopping Comair 5191 from rolling down the wrong runway.

D) *Board Member Hersman's Concurring Statement*

Additional support for NATCA's position is found within Board Member Hersman's concurring statement. Ms. Hersman raises the following points regarding the Comair crash and the latent failures in the air traffic control system (emphasis added):

1) *Ineffective FAA Guidance*: The [Lexington] tower was staffed ***in violation of verbal guidance*** issued by the FAA. ... Additionally, ***the guidance was not enforced.***

2) *Understaffed [Lexington] Tower:* The tower manager at [Lexington] tower ***did not follow the FAA's verbal guidance*** for staffing the midnight shift, most likely because there were not enough controllers working at the facility to make compliance possible. The tower manager conducted staffing studies in 2005. ... ***The study was not acted on by the FAA. . . . The verbal guidance, the understaffing, and the lack of response to the staffing study all indicate management failures.***

Ms. Hersman concludes her statement by quoting the ICAO Manual of Aircraft Accident and Incident Investigation adopted in 2003. The Manual states in Section 3.2.2 that with respect to determining causes of an accident, "seen together, the causes should present a picture of all of the reason why the accident occurred. The list of causes should include the immediate causes and the deeper or systemic causes." NATCA agrees with Ms. Hersman that systemic causes should be identified whenever possible during an accident investigation. In that regard, NATCA believes that the NTSB erred when it failed to identify the systemic failures of FAA management as a contributing factor to the Comair crash.

E. *Additional Evidence in Support of NATCA's Position*

There is additional significant evidence in existence beyond that contained within the Board's Report of Investigation and the Final Accident Report that reinforces NATCA's argument that the Agency's staffing failures contributed to the August 2006 accident. For example:

1) *The Board's Inability to Fully Understand Traffic Count Responsibilities at Lexington Tower* – During the public NTSB meeting, while attempting to reinforce the Board's position that a second controller would not have made a difference in preventing the crash, an NTSB representative, Hilton Hall, stated to his belief that if a second controller would have been present on the morning of the crash and had been handling the radar function separately, the Local controller would still have been responsible for the traffic count and he still might have elected to perform the traffic count during the "critical window." However, Mr. Hall's statement is factually incorrect: if two controllers had been on position that morning, the Radar Data controller, not the Local controller, would have been responsible for the traffic count. Local FAA procedures clearly define the entire traffic count as the job of the controller on the Radar Data position and not of the controller on the Local position.[4] Accordingly, if FAA management had properly staffed that midshift with two controllers (one on the Radar

[4] It is important to note that at the time of the Comair crash, Lexington Tower Standard Operating Procedure 72210.10E required that the traffic count always be performed by the controller at the Radar Data position, unless the positions were combined and only one controller was working both positions. Additionally, only after the crash was the SOP changed to prohibit the Local controller from performing the traffic count in such instances. (See Attachment C which reflects both the traffic count responsibilities as well as the post-accident change to the SOP).

Data position and one on the Local position), the controller handling the Radar Data position would have performed the traffic count. This would have left the Local controller free to perform other tasks, including perhaps the freedom to monitor the take-off of Comair 5191.

2) *The Board's Faulty Conclusion As To The Possible Location of A Second Controller* – During the public NTSB hearing, NTSB representative Joseph Osterman stated that it was the position of the staff that an additional controller on duty that morning "would not have given another set of eyes outside the control tower because the belief of the staff is that had another controller been there they would have been downstairs at the radar screen, not [in the tower] looking out the window." However, this conclusion completely contradicts one of the findings from the Board's own Report of Investigation. Specifically, on page 20 of that Report, the Board found as follows (emphasis added): "The controller was asked how tasks were allocated when the midshift was staffed with two controllers. He stated that sometimes one controller would work up in the tower while the other worked approach in a downstairs facility. Other times approach radar was worked from the D-BRITE in the tower. ***He stated that the controller that normally worked the midshifts with him, when the tower was properly staffed with two controllers, would normally work in the tower with him, not downstairs.***" Had the NTSB properly considered this statement, without any more evidence to contradict it, they should have concluded that it was likely that the second controller would have been up in the tower. Combining that conclusion with the fact that the second controller would

also have been responsible for the traffic count leads to the inevitable conclusion that the Agency's failure to properly staff the tower that morning contributed to the crash.

3) *FAA Management Actions Excused From The Concept of Redundancy* – From both the NTSB's conclusions as well as from their recommendations flowing from the Comair accident investigation, it is abundantly clear that the Board values the concept of redundancy and believes it to be an integral and important factor that reinforces and strengthens the safety of the air traffic system and culture. With every accident report, the Board emphasizes the importance of the redundancy of technological systems. In her concurring statement regarding this accident, Board Member Hersmann reiterated again and again the importance of a redundant and continuously improving system of safety. Over the years, the NTSB has continued to insist that two pilots are required to pilot air carrier aircraft.??? NTSB really hasn't" insisted" this, but more appropriately recognizes the FAA requirement of two pilots (redundancy) is appropriate. The principle of redundancy supports the requirement that two controllers work on all shifts, especially if the shifts are inherently fatiguing. However, on the specific issue of staffing the midshifts with two controllers, the Board refuses to recognize the positive, redundant value to both the air traffic system and the NAS of having a minimum of two controllers on all midshifts. The following are examples of facts in support of the proposition that requiring two controllers to be on duty increases safety, that the FAA was fully aware that it does so, and that two controllers on duty would have made a difference on that fateful day:

1) Prior to the crash, the FAA itself had already determined from a variety of events and inputs, including from the Raleigh-Durham operational error in 2005, that it was imperative to always staff the midshift with two controllers and subsequently informed all managers of that fact;

2) The Lexington Tower manager had provided upper level FAA management with two staffing studies in 2004 and 2005 which revealed that the staffing level at the tower was not realistic for twenty-four hour service;

3) The Lexington Tower procedures required any second controller on duty to perform traffic counts so that the first controller could focus on handling aircraft;

4) The Board found that the controller's combined radar and tower responsibilities on the day of the crash imposed concurrent tasks, which required him to engage in selective attention;

5) The controller testified that he was paying more attention to his radar responsibilities that morning; and

6) The Board heard testimony from the controller on duty the day of the accident that had a second controller been on duty with him that day, he would have most likely been in the tower with him.

Despite this wealth of evidence, the NTSB declined to ascribe a high level of importance to the staffing requirement, stating that they "could not determine if staffing played a role or contributed to the circumstances of the accident." This failure by the NTSB to recognize the redundant safety value of staffing the midshifts with two controllers is unexplainable to NATCA. This oversight on the Board's part to apply the same rigorous concept of redundancy to the FAA's inactions that the Board typically applies in other accident investigations allowed the FAA to improperly escape any sort of systemic liability for their failure to abide by the Agency's own staffing policy on the morning of August 27, 2006.

## III. Conclusion

In sum, relying on the facts, testimony, and documents addressed above, NATCA believes that the Comair 5191 crash investigation record is replete with a plethora of evidence in support of the argument that the systemic failure of the Federal Aviation Administration to properly staff the Lexington Tower, despite the full knowledge of the dangers inherent in not doing so, and despite repeated requests from the ATM for additional resources, was a major factor that directly contributed to the August 27, 2006

crash of Comair 5191. Accordingly, NATCA requests that the Board reconsider and modify its determination of factors that contributed to the crash of Comair 5191 in order to include the FAA's inaction on staffing as constituting a factor that directly contributed to the Comair 5191 crash.

Sincerely,

[redacted]/MSS

Peter F. Gimbrere

NATCA LR Attorney

Date: 6/6/18

## CERTIFICATE OF SERVICE

I certify that a copy of the Petition for Modification of the Board's Findings, including all attachments, in the case of NTSB/AAR-07/05 PB2007-910406 was sent this day to the following addressees:

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[redacted]

Marc Shapiro
June 6, 2008