

UNITED STATES DISTRICT COURT
FOR THE CENTRAL DISTRICT OF CALIFORNIA
WESTERN DIVISION

		)	
H. RAY LAHR,		)	
	Plaintiff,	)	
v.		)	CV 03-08023-AHM (RZx)
		)	
NATIONAL TRANSPORTATION		)	
SAFETY BOARD, et al.,		)	
		)	
	Defendants.	)	
		)	

DECLARATION OF DENNIS A. CRIDER

I, Dennis A. Crider, am over the age of eighteen (18) years, have personal knowledge of the statements to which I am attesting, and am competent to attest to the information presented. I declare as follows:

BACKGROUND

1. I am employed as a National Resource Specialist for Vehicle Simulation in the Vehicle Performance Division of the Office of Research and Engineering for the National Transportation Safety Board (NTSB). I have held this position since the early part of 2002. I joined the NTSB in October of 1995 as an Aerospace Engineer, specializing in Vehicle Performance, and continued in this position until early 2002. My principal role is to determine the motion of a vehicle, such as an airplane or submarine, through the accident sequence and to determine what caused that motion.
2. On July 17, 1996, a Boeing 747 crashed into the Atlantic ocean about 8 miles south of East Moriches, New York, after taking off from John F. Kennedy International Airport. This flight was a regularly scheduled flight identified as TWA flight 800.

3. My superiors at the NTSB, who directed my actions, assigned me to the investigation shortly after the initial launch.
4. My first involvement with the TWA flight 800 investigation was to determine the trajectories for parts of the aircraft, and thus their point of origin relative to their recovered position on the ocean floor, based upon the known radar data and flight data recorder (FDR) information. I drafted a Trajectory Study to document my findings. This Study is attached as an exhibit to this declaration, and is available in the NTSB's public docket for this accident investigation as well as on the NTSB's web site¹. I performed this work on my own, with the guidance of the management of the NTSB, but no investigative group was formed for this task.
5. Following this Trajectory Study, management of the NTSB determined that it would be beneficial to derive the flight path of the main wreckage for TWA flight 800 after the separation of the forward fuselage. I was assigned this task. I wrote four reports discussing the flight path of TWA flight 800: the Main Wreckage Flight Path Study (November 21, 1997), Errata Main Wreckage Flight Path Study (December 4, 1997), Addendum I to Main Wreckage Flight Path Study (January 31, 2000), and Addendum II to Main Wreckage Flight Path Study (June 9, 2000). All of these reports are attached. They also are available in the

¹ For the TWA flight 800 accident investigation, a part of the public docket was placed on the NTSB's web page. At the agency's home page, www.nts.gov, select "Aviation." At the next screen, select "Major Investigations," then scroll down the listing on the left-hand side and select "TWA Flight 800." The next screen is a menu listing a variety of items available from the public hearing held in December of 1997, through to the Board Hearing in the summer of 2000. Select "Docket Information," and this will connect to a listing of a number of the reports available in the public docket. The Trajectory Study is one of the reports available on line, identified as Exhibit 22A and its supporting materials is at Exhibit 22B (Document number 640 and 641 on the August 30, 2000 Docket Contents listing).

public docket, which may be purchased on a CD-Rom through our distributor, General Microfilm, Inc., by calling 301-929-8888. The Main Wreckage Flight Path Study and the Errata Main Wreckage Flight Path Study are available on the NTSB's web site.

6. The purpose of this declaration is to provide a description of the NTSB's collection, creation and analysis of data related to the determination of the flight path of TWA flight 800, the search for and production of records responsive to plaintiff's October 3, 2003 FOIA request, and the justification for withholding some of this material from public disclosure. So that it may be easier to understand, as much as possible, the description of the computer program has been written in non-engineering terms. Thus some technical descriptions have not been used in this declaration.

COLLECTION OF DATA AND CREATION OF THE TWA FLIGHT 800 FLIGHT PATH SIMULATION

7. Although the NTSB's Trajectory Study is a separate and distinct project from the simulation of the aircraft's flight path, which I understand is at issue in this case, some limited information from the Trajectory Study was used for the simulation study. Specifically, the Trajectory Study provided information about the timing of a key event, which is when the forward fuselage separated from the rest of the aircraft.

8. To derive the flight paths as accurately as the data allow, I developed a simulation computer program. This is not an off-the-shelf system. I did not intend it for public use, so it is written in a format that is intuitive to me. Except for limited comments, at the time of the TWA flight 800 investigation, there was no instruction book or on-line guide for using the program. My simulation program combines my knowledge of mathematics and physics

with mathematical models that describe the forces acting on the specific aircraft type at issue (proprietary data provided by the aircraft manufacturer) to derive the motion that results from these forces. The mathematical formulations necessary for the simulation program are written in computer code, and are not separate from the remainder of the code. Again, there currently is no standardization for simulation code, so I created the code for the formulas in a way that is intuitive to me. The motion is given as estimates of velocity, position and orientation of the aircraft.

9. My simulation program is written in the C++ programming language, with parts written in C. I began writing this program prior to my employment with the NTSB. After joining the Board, I have further developed and used the simulation program in accident investigations involving a Boeing 737-200, 737-300, MD-80 and the Airbus 300, for example. There is no hard copy of the simulation program.

10. In order to estimate the forces and moments acting on the aircraft, the simulation contains software code of math models that describe the aerodynamics, propulsion, geometry, controls, mass properties and so on of the aircraft. This information has been provided by the manufacturers (Boeing and Airbus, for example) for the aircraft types the NTSB has simulated to date. This is the proprietary information Boeing provided for the TWA flight 800 investigation. These data are integrated with the computer code. The program cannot operate without these data; thus the program is not segregable from the proprietary data.

11. The flight path simulation data derived the flight path following the loss of the forward fuselage. To run a specific simulation, a starting condition (airspeed, position,

altitude, etc.) must be established. In the case of TWA flight 800, this information was obtained from the FDR and radar data, which were the primary means of identifying the motion of the aircraft up to the center wing tank explosion and loss of the forward fuselage. The Airplane Performance Study, a report describing the collection and evaluation of the radar data, and the Flight Data Recorder Group Chairman Factual Report are available in the public docket and through the NTSB's website, as described above. The simulation also requires information on the specific configuration (such as flap setting and landing gear position, which could be obtained from the flight data recorder, and may be included in the Flight Data Recorder Group Chairman Factual Report available in the public docket) of the flight, as well as the particular aircraft's weight and center of gravity.

12. The program also requires some basis for guiding the aircraft. In the case of TWA flight 800, this information was obtained from radar data.

13. Boeing provided the aerodynamic, mass properties and engine characteristics of the Model 747-100 aircraft in two configurations: the baseline and a hypothetical aircraft missing its front fuselage. This included data such as the thrust produced by the engines, and data to determine the coefficient of drag (the force that opposes the plane's forward movement, the opposite to thrust), the coefficient of lift (the force perpendicular to airflow that allows the plane to rise, the opposite force to gravity), and the coefficient of pitching moment (the "force" that pitches the nose up or down), which are specific to the design of the Boeing 747 aircraft. I learned that Boeing was providing this information to the Central Intelligence Agency (CIA), as well as developing its own basic estimate of the flight path, so Boeing then included the NTSB on the routing of these data.

14. Boeing provided all data in document form, and all pages were marked as "Boeing Proprietary" and/or "Preliminary." I understood that these data provided critical information about the physical attributes and responses of the 747 aircraft, and that these data were highly valuable to Boeing. Not only do these data reflect the design characteristics of the 747, but these data typically are part of a simulator training package, and the cost of these packages often is nearly one million dollars (\$1,000,000).

15. I believe that releasing this information to the public would provide a competitor with this highly sensitive data without the financial and skill commitment required by Boeing in creating it.

16. Also, releasing this information to the public would have a chilling effect on Boeing's, and other manufacturers', willingness to provide data in the future. These data are vital to the NTSB's accident investigation process, so the loss of access to these data would compromise our ability to enhance the safety of the flying public.

17. Although wanting to assist with an accident investigation in order to insure safety in flight, if doing so may risk the release of vital data, Boeing may provide only the most basic, or very limited, information. Also, so as not to jeopardize the release of data, it may not provide the access to these data and the use of resources, including cooperation and coordination with Boeing employees, which was essential to prompt and accurate hypotheses about the flight path of TWA flight 800. This knowledge and these resources are essential to the NTSB's ability to complete its accident investigation work.

18. I reviewed the data provided by Boeing and my colleagues at the NTSB and selected the relevant figures in the variables or ranges I needed for my simulation program. I

also used known radar and FDR data for the timing, position (such as altitude, latitude and longitude) of the aircraft. The radar and FDR data were the primary means of identifying the motion of the aircraft up to the center wing tank explosion and loss of the forward fuselage. The flight path simulation data derived the flight path following the loss of the forward fuselage.

19. I performed all of the calculations and made all of the necessary adjustments to the computer program to simulate the flight path of TWA flight 800 for the NTSB. NTSB management reviewed and commented on my work after the initial simulation was completed.

20. This process requires application of my engineering knowledge and professional judgment to determine whether the program is operating as designed, and whether it is representing and utilizing the data appropriately.

21. At times, as I was verifying, developing, and manipulating the simulation program, I performed calculations by hand and noted revised information, such as radar data. These draft parts of the analyses reflect my thought processes in evaluating the program and the data. These records are potentially misleading and confusing because they are not fully refined. Unlike the flight path data presented in my publicly available reports, this information has not undergone the necessary adjustments to ensure it is definitive.

22. During and following Boeing's production of the aerodynamic and mass properties data, I participated in several conference calls and e-mail exchanges to understand and verify the data and estimates provided. I learned that both Boeing and the CIA were using different methods to simulate the flight path, but that accounting for these variations,

each simulation was formulating relatively similar conclusions. The NTSB, however, was utilizing additional, and more specific, data for its simulation.

23. I sought and obtained all additional data required to refine or update the simulation study. For example, as Boeing was refining its calculations of the net thrust from the engines, I adjusted the figures in my simulation program and revised the outputs. As discussed in the Safety Board's Aircraft Accident Report for this investigation, a series of computer simulations were performed.

24. I performed all adjustments to the simulation program, and updated the data inputs as new information was received.

ANALYSIS OF SIMULATION OUTCOME FOR THE FLIGHT PATH STUDY

25. I also discussed the analysis of the flight path data in formal and informal meetings with my superiors including, Bernard Loeb, formerly the Director of the Office of Aviation Safety; Vern Ellingstad, Director of the Office of Research and Engineering; John Clark, formerly the Deputy Director of the Office of Research and Engineering; and Jim Ritter, the former Chief of the Vehicle Performance Division. While each of these individuals offered comments throughout the period, John Clark had primary responsibility for decisions about how the flight path data should be reviewed and presented.

26. Comments from my supervisors and recommendations for additional research were accepted and/or rejected during these formal and informal meetings. As a result, these meetings guided my analysis of the flight path.

27. My initial draft of the report titled "Main Wreckage Flight Path Study" was

reviewed by my superiors at the NTSB. The final draft was reviewed and approved by Mr. Ritter, following review of the data plots by Messrs. Loeb, Ellingstad and Clark, before I signed the final Study.

28. The Main Wreckage Flight Path Study, dated November 21, 1997, describes in text and graphs the flight path following the separation of the nose section of the aircraft. The mass properties data provided by Boeing is summarized in this report. Also, the first three graphs illustrate in general terms the aerodynamic properties data provided by Boeing, addressing the changes in the lift, drag and pitching moment coefficients versus the angle of attack. This report is available as part of the public docket released for the TWA flight 800 accident investigation, and is available on the NTSB's web site at www.nts.gov.

29. In addition to this report, as I received new data or developed new technology, I wrote several addenda and errata to correct and/or update the flight path study report. I submitted an Errata to the Main Wreckage Flight Path Study, dated December 4, 1997 correcting the clock time for the nose departure, and wing tip failure immediately followed by the left wing failure events. Addendum I to Main Wreckage Flight Path Study, dated January 31, 2000, examined the effect of the tolerance in the aerodynamic coefficients used in the Main Flight Path Study, and addressed each radar site separately as compared to the composite of primary radar returns from all sites in the original Study. Addendum II to Main Wreckage Flight Path Study is dated June 9, 2000. This report investigates the effect of a change in the breakup timing on the simulations, specifically the timing of the outboard wing panel failure and the wing center section failure.

30. These reports also were reviewed by my superiors before they were entered into the public docket.

31. As an investigator and an engineer, I believe that the release of the investigatory drafts and preliminary data would have a negative effect on candid discussion among NTSB investigative staff.

32. Candid discussion among the staff is critical to formulating the best analysis and findings in order to inform, advise, and provide recommendations to the five-member Safety Board, which is the ultimate decision-maker, as to the probable cause(s) of an accident, and the safety recommendations that follow from that cause. The Safety Board uses the information provided by the staff, but makes its own decisions. Such candid discussion is critical to the Safety Board's ability to make recommendations that can alter maintenance of systems, training of personnel, or construction of systems so as to prevent future accidents.

33. While the reports, such as the Trajectory Study and the Main Wreckage Flight Path Study and the Addenda, have been included in the public docket, the final decision of the Safety Board is found in the Aircraft Accident Report.

THE PLAINTIFF'S FOIA REQUESTS

34. To the best of my recollection, I met Plaintiff at the Board meeting for TWA flight 800, which began on August 22, 2000. Then in the fall of 2000, Plaintiff called me at my office and stated that Chairman Hall had authorized me to speak with him. Because I had not received that direction from Chairman Hall, I informed Plaintiff that I needed to verify with the Chairman what information he would like me to discuss. Following verification from Chairman Hall, the Plaintiff was asked to contact Jim Ritter, my division chief at the time, to arrange for a meeting or a telephone conference. I stood ready to speak with Plaintiff. Plaintiff, however, did not contact me again during Chairman Hall's tenure.

35. Instead, Plaintiff wrote a letter to former Chairman Hall, seeking among other things, the data and computer program used to create what he termed the "zoom-climb" simulation. The flight path simulation I derived for this accident investigation is the motion of the aircraft following the loss of the forward fuselage. Plaintiff used the term "zoom-climb," and I, along with the FOIA Office and the Office of General Counsel, assumed that he was referring to the flight path. Following a meeting to discuss the agency's response to this letter to the former Chairman, wherein I identified some of the data as proprietary data provided by Boeing, a member of the Office of General Counsel contacted the Boeing Company to determine whether Boeing would agree to the release of the proprietary engineering data it provided. As I recall, Boeing objected to the NTSB releasing this data, and Chairman Hall sent a letter to Plaintiff informing of this decision and responding to his other issues. (Exhibit XI)

36. Following these initial contacts, I understand from the agency's FOIA Officer, Melba D. Moye, and the Office of General Counsel that Plaintiff sent several FOIA requests. Through these offices, I was asked to search for, and produce potentially responsive documents to these FOIA requests. I provided all TWA flight 800 records to the FOIA Office. These included documents such as handwritten notes, draft reports with handwritten comments, preliminary graphs of results from the simulation program, a copy of the executable computer simulation program from the TWA flight 800 investigation, and the data provided by Boeing and marked as proprietary and/or preliminary. As indicated by the FOIA Officer, NTSB request number 2001-0048, dated November 10, 2000, sought "...a copy of the computer program and the data used to produce the NTSB simulation."

Following consultation with the Boeing Company and me again, on April 5, 2001, the NTSB responded to this request, including releasable responsive documents. Plaintiff appealed that response on April 18, 2001, and the agency responded to that appeal on June 13, 2001. (Exhibits II-1 through II-5)

37. Plaintiff's next FOIA request, numbered 2001-0410, was dated August 6, 2001 and sought "...information relating to the NTSB calculations of the TWA 800 climb after the nose was blown off: 1. All of the Boeing information pertaining to this climb with only the proprietary portions removed; 2. All of the publicly published formulas used for calculations; 3. All of the weight and balance data entered into the computer simulation; and 4. The document from Boeing stating that it wishes to deny access to proprietary information, and a general description of what is considered proprietary, and the name of the person making the request." Again, representatives of the FOIA Office, and a member of the Office of General Counsel contacted me and asked that I identify responsive documents. Following my search and discussions with these offices, the agency responded to the request on September 6, 2001, and included all releasable responsive documents. I was informed that Plaintiff appealed that response on September 27, 2001, and the agency replied on October 26, 2001. (Exhibits II-6 through II-9)

38. Then I was informed that Plaintiff submitted another FOIA request, dated July 31, 2002, numbered 2002-0306, seeking eleven enumerated items related to "...the process by which the NTSB calculated its 'zoom-climb' conclusion." I reviewed and discussed this request with a member of the Office of General Counsel. (Exhibit II-11)

39. With the interpretation as described in paragraph 35 of what Plaintiff meant by “zoom-climb conclusion,” I identified and searched for potentially responsive records, as well as the records that had been produced in response to Plaintiff’s previous requests.

40. Because the Trajectory Study provided limited information for the flight path simulations, I located some records from the Trajectory Study to determine if any were responsive to Plaintiff’s July 31, 2002 FOIA request, and identified them to the NTSB’s FOIA Office. Following my search and discussions with these offices, the agency responded to the request on November 6, 2002, and supplemented with another letter on April 3, 2003. (Exhibits II-14 and II-15)

41. On October 1, 2003, I signed and submitted a Declaration describing my role in the TWA flight 800 accident investigation, the development of the simulation program, and my responses following searches for potentially responsive records to Plaintiff’s various FOIA requests. That declaration was made part of the NTSB’s Vaughn Index filed on October 3, 2003 in the litigation related to the July 31, 2002 request. (CV 02-8708-AHM (RZx))

42. I was informed by the Office of General Counsel that the litigation brought by Plaintiff in relation to his July 31, 2002 FOIA request, and a subsequent request dated July 28, 2003, (CV 02-8708-AHM (RZx)) was dismissed.

43. The FOIA Officer and/or the Office of General Counsel also informed me that Plaintiff submitted another FOIA request dated October 8, 2003, numbered 2004-0027. (See Exhibit I-1)

44. This request includes 145 specific requests for records as to the NTSB’s “zoom-climb data and calculations,” which the Plaintiff has defined in his request as TWA flight 800s “aircraft’s continuing to fly after the nose of TWA 800 was blown off, climbing as much as

3,200-feet (the "zoom climbs")." "The FOIA Requests are numbered 4 through 149." (See Exhibit I-1)

45. Plaintiff used the term "zoom-climb," and I, along with the FOIA Office and the Office of General Counsel, assumed that he was referring to the flight path of the aircraft after the separation of the forward fuselage. Again, representatives of the FOIA Office, and/or a member of the Office of General Counsel contacted me and asked that I identify responsive materials.

46. I was the only member of the NTSB staff tasked with performing calculations and/or computations of the flight path for TWA flight 800. Again, the flight path simulation I derived for this accident investigation was the motion of the aircraft following the loss of the forward fuselage. I also was the only member of the NTSB staff who created a computer simulation of the flight path of the TWA flight 800 aircraft. I presented the results of the flight path simulations in the following reports: the Main Wreckage Flight Path Study (November 21, 1997), Errata Main Wreckage Flight Path Study (December 4, 1997), Addendum I to Main Wreckage Flight Path Study (January 31, 2000), and Addendum II to Main Wreckage Flight Path Study (June 9, 2000).

47. In order to respond to FOIA request 2004-0027, I searched for any potentially responsive records to the FOIA requests. Because I had provided all of my TWA flight 800 records to the FOIA Office, I again reviewed these records and the computer systems used to create the flight path simulation presented by the NTSB. I did not locate any records other than what has been provided in response to the Plaintiff's previous FOIA requests, or provided in the Vaughn Index produced during the previous litigation (CV 02-8708-AHM (RZx)). Following my search and discussions with these offices, the agency initially

responded to the request on November 6, 2003, then sent a supplemental letter dated April 13, 2004, which included responsive, releasable records related to the animations. (Exhibits I-2 and I-3)

48. The results of the search for records responsive to plaintiff's October 8, 2003 FOIA request are as follows:

- a. **Category 1 (requests 4-68):** I conducted a search for responsive records to plaintiff's requests 4-68 seeking all records of formulas used by the NTSB in its computations of the "zoom-climb" conclusions. As stated in the paragraphs 35-41 above, on at least three prior occasions, I have been asked by the FOIA Officer and/or the Office of General Counsel to produce all records that are responsive to requests submitted by plaintiff related to the TWA flight 800 accident investigation. Upon my review of this October 8, 2003 request, if responsive records were produced previously to the FOIA Office, I identified those responsive records again. Some formulas are in reports in the public docket. Further, the predicate in Category 1 is similar to request FOIA 2001-0410; and as stated in that response, I may have referred to one or more textbooks when working with the computer program for the TWA Flight 800 Main Wreckage Flight Path Study, but no record was created. The mathematical formulations necessary for the simulation program are written in computer code, and are not separate from the remainder of the code. As stated in paragraph 8 above, there currently is no standardization for simulation code, so I created the code for the formulas in a way that is intuitive to me. I cannot segregate these formulas from the program without translating the relevant parts of the code

into recognized mathematical terms, thus creating a new record. Therefore, no new responsive records were identified during this most recent search.

- b. **Category 2 (requests 4-68):** I conducted a search for responsive records to plaintiff's requests 4-68 for all records of the weight and balance data used by the NTSB in its computations of the "zoom-climb" conclusions. As stated in the paragraphs 35-41 above, on at least three prior occasions, I have been asked by the FOIA Officer and/or the Office of General Counsel to produce all records that are responsive to requests submitted by plaintiff related to the TWA flight 800 accident investigation. Upon my review of this October 8, 2003 request, if responsive records were produced previously to the FOIA Office, I identified those responsive records again. Weight and balance data are in reports in the public docket (for example, page 2 of the Main Wreckage Flight Path Study), and were provided in response to plaintiff's previous FOIA requests. No new records were identified during this most recent search for responsive material.
- c. **Category 3 (requests 75 and 78):** I conducted a search for responsive records to plaintiff's requests 75 and 78 seeking all records of the formulas and data entered into the computer simulations regarding the NTSB's "zoom-climb" conclusion. Please see the information identified in Category numbers 1 and 2 above, as well as the public docket, and information sent to plaintiff previously in response to his prior FOIA requests, particularly FOIAs 2001-0048 and 2001-0410, also as identified in Categories 1 and 2, and paragraphs 35-41 above. The mathematical formulations necessary for the simulation program are written in computer code, and are not separate from the remainder of the code. Because these formulations are embedded

with the computer code, I cannot segregate these formulas from the program without translating the relevant parts of the code into recognized mathematical terms and extracting them from the program, thus creating a new record. The data used are either presented in reports in the public docket, or withheld because they have been determined to be proprietary. The program cannot operate without these embedded data, and these embedded data also cannot be segregated from the program without creating a new record. All responsive records had been produced to the FOIA Office previously, but I identified them again in response to this October 3, 2003 request. No new records were identified during this most recent search.

Category 3 (requests 76 and 77): With respect to plaintiff's requests 76 and 77 for all records of the formulas and data entered into the computer simulations regarding the NTSB's "zoom-climb" conclusion, the programs known as BREAKUP and BALLISTIC are not a part of the simulation program for the main wreckage flight path. BREAKUP and BALLISTIC were used to determine the trajectory of certain pieces of the aircraft. The simulation concerns the flight path of the main wreckage after the separation of the forward fuselage. BREAKUP provided the timing of the nose separating from the aircraft. Specifically, the nose was found to have departed the aircraft at a clock time of 8:31:15.2, which initially is stated on page 10 of the Main Wreckage Flight Path Study, and corrected in the Errata Main Wreckage Flight Path Study, dated December 4, 1997. (Exhibits VII and VIII) Both of these reports are included in the public docket. Except for providing this one point in time, which was used in the simulation, the BREAKUP and BALLISTIC programs played no role in the simulation. Therefore, no responsive records were identified during this most

d. **Category 4 (requests 85 and 88):** I conducted a search for responsive records to plaintiff's requests 85 and 88 for all records reflecting whether or not the NTSB conducted the computer simulations in-house and, if not, all records of when, where, and by whom the computer simulations was performed. There is only one simulation code; therefore, the search for responsive records included everything related to that code. There is not distinction, for example, in the simulation code "with or without modification for bank and roll" as stated in request 88. Responsive material may be found in the public docket. As stated in the paragraphs 35-41 above, on at least three prior occasions, I have been asked by the FOIA Officer and/or the Office of General Counsel to produce all records that are responsive to requests submitted by plaintiff related to the TWA flight 800 accident investigation. Upon my review of this October 8, 2003 request, if responsive records were produced previously to the FOIA Office, I identified those responsive records again. Further, I submitted a declaration as part of the October 3, 2003 Vaughn Index submitted in the prior litigation (CV 02-8708-AHM (RZx)), where I describe in paragraphs 8 through 14 the development of the simulation program. I describe the development of the simulation program in this declaration also, at paragraphs 8 through 14. No new records were identified during this most recent search for responsive material.

Category 4 (requests 86-87): In response to plaintiff's requests 86 and 87 for all records reflecting whether or not the NTSB conducted the computer simulations in-house and, if not, all records of when, where, and by whom the computer simulations was performed, the programs known as BREAKUP and BALLISTIC are not a part of

the simulation program for the main wreckage flight path. BREAKUP and BALLISTIC were used to determine the trajectory of certain pieces of the aircraft. The simulation concerns the flight path of the main wreckage after the separation of the forward fuselage. BREAKUP provided the timing of the nose separating from the aircraft. Specifically, the nose was found to have departed the aircraft at a clock time of 8:31:15.2, which initially is stated on page 10 of the Main Wreckage Flight Path Study, and corrected in the Errata Main Wreckage Flight Path Study, dated December 4, 1997. Both of these reports are included in the public docket. Except for providing this one point in time, which was used in the simulation, the BREAKUP and BALLISTIC programs played no role in the simulation. Therefore, there were no responsive records.

- e. **Category 5 (requests 95 and 98):** I conducted a search for responsive records to requests 95 and 98 wherein plaintiff again requested the computer simulation programs used by the NTSB and the CIA. There is only one simulation code; therefore, the search for responsive records included everything related to that code. There is not distinction, for example, in the simulation code "with or without modification for bank and roll" as stated in request 98. As stated in the paragraphs 35-41 above, on at least three prior occasions, I have been asked by the FOIA Officer and/or the Office of General Counsel to produce all records that are responsive to requests submitted by plaintiff related to the TWA flight 800 accident investigation. Upon my review of this October 8, 2003 request, if responsive records were produced previously to the FOIA Office, I identified those responsive records again.
- f. Responsive material may be found in the public docket. Further, I submitted a

declaration as part of the October 3, 2003 Vaughn Index submitted in the prior litigation (CV 02-8708-AHM (RZx)), where I describe in paragraphs 8 through 14 the development of the simulation program. I describe the development of the simulation program in this declaration also, at paragraphs 8 through 14. No new records were identified during the recent search for responsive materials. I have no records concerning what, if any, computer simulation program was used by the CIA.

Category 5 (requests 96 and 97): In requests 96 and 97, plaintiff again requested the computer simulation programs used by the NTSB and the CIA, but the programs known as BREAKUP and BALLISTIC are not a part of the simulation program for the main wreckage flight path. BREAKUP and BALLISTIC were used to determine the trajectory of certain pieces of the aircraft. The simulation concerns the flight path of the main wreckage after the separation of the forward fuselage. BREAKUP provided the timing of the nose separating from the aircraft. Specifically, the nose was found to have departed the aircraft at a clock time of 8:31:15.2, which initially is stated on page 10 of the Main Wreckage Flight Path Study, and corrected in the Errata Main Wreckage Flight Path Study, dated December 4, 1997. Both of these reports are included in the public docket. Except for providing this one point in time, which was used in the simulation, the BREAKUP and BALLISTIC programs played no role in the simulation. Therefore, there were no responsive records. I have no records concerning what, if any, computer simulation program was used by the CIA.

- g. **Category 6 (requests 105 and 108):** I conducted a search for responsive records to plaintiff's requests 105 and 108 for the printout of the computer simulations used by the NTSB: no such records exist. Therefore, there were no responsive records.

Category 6 (requests 106 and 107): In response to plaintiff's requests 106 and 107

for the printout of the computer simulations used by the NTSB relating to the BREAKUP and BALLISTIC programs, the programs known as BREAKUP and BALLISTIC are not a part of the simulation program for the main wreckage flight path. BREAKUP and BALLISTIC were used to determine the trajectory of certain pieces of the aircraft. The simulation concerns the flight path of the main wreckage after the separation of the forward fuselage. BREAKUP provided the timing of the nose separating from the aircraft. Specifically, the nose was found to have departed the aircraft at a clock time of 8:31:15.2, which initially is stated on page 10 of the Main Wreckage Flight Path Study, and corrected in the Errata Main Wreckage Flight Path Study, dated December 4, 1997. Both of these reports are included in the public docket. Except for providing this one point in time, which was used in the simulation, the BREAKUP and BALLISTIC programs played no role in the simulation. Therefore, there were no responsive records.

- h. **Category 7 (request 115):** I conducted a search for responsive records to plaintiff's request 115 for all records of the timing sequence of the "zoom-climb", including but not limited to radar, radio transmissions, and the flight data recorder. Responsive material may be found in the public docket. For example, the final Main Wreckage Flight Path Study, its Errata, and reports on the radar study and the data from the FDR are available in the public docket and on the agency's web page. I did not use radio transmission information in the flight path study, and have not seen such data. Therefore, I have no such record in relation to radio transmissions. The search for records was not limited to those related to the simulation, but included records about

the flight path of the aircraft, as is evidenced by the references to the FDR and radar data. As stated in the paragraphs 35-41 above, on at least three prior occasions, I have been asked by the FOIA Officer and/or the Office of General Counsel to produce all records that are responsive to requests submitted by plaintiff related to the TWA flight 800 accident investigation. Upon my review of this October 8, 2003 request, if responsive records were produced previously to the FOIA Office, I identified those responsive records again. No new records were identified during the recent search for responsive materials.

- i. **Category 8 (request 122):** I conducted a search for responsive records to plaintiff's request 122 for all records of the correlation of the "zoom-climb" calculations with the actual radar plot. Responsive material might be found in the public docket. As stated in the paragraphs 35-41 above, on at least three prior occasions, I have been asked by the FOIA Officer and/or the Office of General Counsel to produce all records that are responsive to requests submitted by plaintiff related to the TWA flight 800 accident investigation. Upon my review of this October 8, 2003 request, if responsive records were produced previously to the FOIA Office, I identified those responsive records again. No new records were identified during the recent search for responsive materials.
- j. **Category 9 (request 129):** I conducted a search for responsive records to plaintiff's request 129 for all records of the information provided by Boeing to the NTSB used by the NTSB to calculate these "zoom-climb" conclusions. Responsive material may be found in the public docket. As stated in the paragraphs 35-41 above, on at least three prior occasions, I have been asked by the FOIA Officer and/or the Office of

General Counsel to produce all records that are responsive to requests submitted by plaintiff related to the TWA flight 800 accident investigation. I submitted records that included Boeing documents marked "Preliminary" and/or "Boeing Proprietary." Upon my review of this October 8, 2003 request, if responsive records were produced previously to the FOIA Office, I identified those responsive records again. Again I identified records that included Boeing documents marked "Preliminary" and/or "Boeing Proprietary." No new records were identified during the recent search for responsive materials.

- k. **Category 10 (requests 136, 138-141):** In response to plaintiff's requests 136, and 138-141, seeking all records of the process by which the NTSB arrived at its "zoom-climb" conclusions, I was informed by the FOIA Officer and/or the Office of General Counsel that the request for "...records of the process...", is too inexact for the agency to determine how to search for responsive records. Therefore, I did not conduct a search for potentially responsive records to these particular requests. (Please note, however, that in light of plaintiff's current and previous FOIA requests, I have submitted all of the records I have related to the flight path of TWA flight 800 to the FOIA Office.)
- l. **Category 11 (request 143):** Finally, I conducted a search for responsive records to plaintiff's request 143, seeking all records generated or received by the NTSB used in its computations of its "zoom-climb" conclusions. Responsive material might be found in the public docket. As stated in the paragraphs 35-41 above, on at least three prior occasions, I have been asked by the FOIA Officer and/or the Office of General Counsel to produce all records that are responsive to requests submitted by plaintiff

related to the TWA flight 800 accident investigation. Upon my review of this October 8, 2003 request, if responsive records were produced previously to the FOIA Office, I identified those responsive records again. Again I identified records that included Boeing documents marked "Preliminary" and/or "Boeing Proprietary." No new records were identified during the recent search for responsive materials.

49. In plaintiff's October 8, 2003 letter and/or requests, he made assertions that indicated that he misunderstood the use some of the NTSB's computer programs. In requests numbered 76, 77, 86, 87, 96, 97, 106 and 107, and in the "explanatory notes," plaintiff implies that three programs were used to determine the flight path of TWA flight 800. This is not correct. The programs known as BREAKUP and BALLISTIC are not a part of the simulation program for the main wreckage flight path. BREAKUP and BALLISTIC were used to determine the trajectory of certain pieces of the aircraft. The simulation concerns the flight path of the main wreckage after the separation of the forward fuselage. BREAKUP provided the timing of the nose separating from the aircraft. Specifically, the nose was found to have departed the aircraft at a clock time of 8:31:15.2, which initially is stated on page 10 of the Main Wreckage Flight Path Study, and corrected in the Errata Main Wreckage Flight Path Study, dated December 4, 1997. Both of these reports are included in the public docket. Except for providing this one point in time, which was used in the simulation, the BREAKUP and BALLISTIC programs played no role in the simulation. Therefore, there are no responsive records for requests 76, 77, 86, 87, 96, 97, 106, and 107.

50. I consider animations to be distinct from simulations. Animations are video depictions of data, whereas simulations create that data based upon described parameters.

The four NTSB animations are a visual means of presenting a variety of data, including recorded data from the radar and FDR, and simulated data from the Main Wreckage Flight Path Study. The motion of the aircraft that is presented in the plots on the graphs in the Main Wreckage Flight Path Study, is the same motion depicted visually in the animation. However, not all of the parameters used to create the Main Wreckage Flight Path Study were used for the animations; only the position (in this case, where the plane was in the sky), and orientation (pitch, roll and yaw) of the airplane were used.

51. I was not responsible for creating the four animations related to the flight path of TWA flight 800 shown during the public hearing for this accident investigation on December 8, 1997. Thus, other than providing to Mr. Brazy some of the data from the Main Wreckage Flight Path Study, as described in paragraph 50, perhaps providing radar and FDR data similar to what is available in the public docket, and reviewing one or more of the animations prior to its presentation at the December 8, 1997 public hearing, I have no records responsive to requests 70-73, 80-83, 90-93, 100-103, 110-113, 117-120, 124-127, 131-134, 138-141, and 145-148.

52. I understand from the FOIA Officer, the Office of General Counsel, and/or Mr. Brazy, that, except for the information that was referred to another federal agency, the records Mr. Brazy located through his search for records responsive to plaintiff's October 8, 2003 request were provided to plaintiff.

53. I had no involvement with the creation of any animation presented by the Central

Intelligence Agency. Therefore, I have no records responsive to requests 69, 79, 89, 95, 99, 109, 116, 123, 130, 137, and 144.

54. I have been informed by the agency's FOIA Officer and/or a member of the Office of General Counsel that Plaintiff was advised of the existence of the public docket materials and how to order them. Further, I have been informed that Plaintiff received other responsive, releasable records. I have also been informed that some records are being withheld from Plaintiff based upon several exemptions; including the withholding of proprietary information, withholding personal privacy information, and the deliberative process privilege.

55. Every effort was made to provide the plaintiff with all reasonably segregable portions of the material requested. No reasonably segregable nonexempt portions have been withheld from plaintiff. In fact, through the NTSB's review process, I was informed that additional documents and information were released with this October 3, 2003 Vaughn Index, and repeated in this Index. Accordingly, I understand that all information withheld is exempt from disclosure pursuant to a FOIA exemption or is not reasonably segregable because it is so intertwined with protected material that segregation is not possible or its release would have revealed the underlying protected material.

56. I have no other potentially responsive records to Plaintiff's October 8, 2003 FOIA request.

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I declare under the penalty of perjury that the foregoing is true and correct.

Executed on this 18 day of May, 2004 in Washington, DC.

Dennis A. Crider

Dennis A. Crider

National Resource Specialist, Vehicle Simulation