

Certified Mail Receipt  
# P 425 000 703

Mr. James Hall, Chairman  
National Transportation Safety Board  
490 L'Enfant Plaza, S.W.  
Washington, D.C. 20594  
Ref. Reopening the ValuJet Investigation

October 13, 1998

Via Facsimile (202) 314-6018 and Certified Mail

Dear Mr. Hall:

Based upon numerous errors I've seen in the Board's Final Report (NTSB/AAR-97/06), this serves as a request to the Board to reopen the ValuJet Investigation. It is with regret I must say it appears to be a pattern and so grievous that I feel obliged to file a criminal complaint against the Board's conduct. It appears that numerous and relevant facts have been omitted and altered to fit the Board's conclusions that oxygen canisters and not electrical malfunctions started this fire.

I note other parties have also asked the Board to reopen this investigation and my understanding is that none have received a response. This non-response does little for public confidence in this Board. Of the others known to me, and of those that list numerous specific instances of errors or omissions, I make direct reference to Mr. Werjefelt's letter of May 25, 1998. Like my request here, Mr. Werjefelt's plea to reopen this investigation was based on Board errors and omissions. Mr. Werjefelt also specifically drew your attention a litany of electrical related reasons that contrasted with the Board's findings of an oxygen canister ignited fire. In addition, Mr. Werjefelt gave credible FAA data that called into question the overall timeline of the moments preceding flight 592s impact and laid claim that approximately one minute was missing. My understanding is that the Board has not responded.

Each Board member who signed this Final Report will also receive this letter and the 17 reasons or errors and omissions I have found in the Board's Report. When, and if, responses are received, I promise specific responses, backed with reasonable documentation, will receive equal treatment and posting throughout the Internet. Absent the Board's specific responses, I intend to file criminal complaints, notify congress, the GAO and other parties associated with air safety. The FAA has already taken several postures and continues to issue directives regarding the troublesome wire insulation types. In that light, the Board's refusal to reopen the ValuJet investigation will come to be viewed.

Enclosures:  
Attachment "17 reasons..." 15 pages  
Wejefelt/Hall letter 5/25/98 3 pages

Sincerely,

c.c. Via Certified Mail/ Numbers  
Mr. Francis P 425 000 704  
Mr. Hammerschmidt P 425 000 705  
Mr. Goglia P 425 000 706  
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ATTACHMENT TO KING/HALL LETTER OF OCTOBER 13,1998.

17 REASONS WHY THE NTSB VALUJET 592 SHOULD BE REOPENED

1. FAA's PRIOR TESTS OF WIRE INSULATION FAILURES APPEAR LITTLE KNOWN.

The NTSB's Final Report's focus on a mechanical fault is inconsistent with the FAA's knowledge of electrical wiring insulation failures. Three FAA Tech Center reports of wire insulation construction faults and resultant failures (arc-tracking, ticking faults) appear largely unavailable to any but those who have specific knowledge of their content. Contained in these three reports were observations of self-igniting, self-fueling wire insulation fires of 2,000 degrees(F.), excessive smoke generation, warnings about resetting tripped circuit breakers and the critical message that these were not mechanical faults (chaffing) but rather a "electrical" failure of the wire insulation. The 1995 report specifically said; "This testing was conducted to evaluate the FIRE POTENTIAL that may result from ELECTRICAL faults". (Caps added).

Not until just this spring were the author's (Patricia Cahill) works ("Aircraft Electrical Wet-Wire Arc Tracking", 1988, DOT/FAA/CT-88/4; and "Flammability, Smoke, and Dry Arc Tracking Tests", 1989, DOT/FAA/CT-89/21; and "Electrical Short Circuit and Current Overload Tests on Aircraft Wiring", 1995, DOT/FAA/TN-94/55) included in the New Jersey Tech Center's Library Database at (<http://www.tc.faa.gov/its/worldpac/ENG/wphome.htm>) This occurred after our complaint to the NTSB.

None of the report numbers or 'keywords' ("short circuit, ticking fault, current overload, wet or dry wire tracking, wire insulation, carbonization, smoke test, electrical wire insulations, sixty-degree flammability tests") work in the NTSB or FAA database search engines at (<http://nasdac.faa.gov/asp/fw/Crosssys.asp> (New URL) or <http://www.nts.gov/aviation/months.htm>

Virtually none of the 'keyword' commercial aircraft types names ("DC-9, MD-80, Boeing 747, etc.) worked in these same search engines. Only about 11% of the 264 such commercial in-flight electrically related fires or smoke events testified to by FAA's Thomas McSweeney during Senate Aviation hearing (#103-397, 1993). Our laborious line-by-line search of over 1,000 items turned up but 35 such commercial emergencies. Neither the three specific fires found in that FAA 1995 Tech Center Report were found, nor were two specific media reported fires.

With that 1995 Tech Center report in-hand, a FOIA request was filed to the same authoring (N.J.) Regional that wrote that Report. As a test, the exact date was omitted and only the question for such "studies/reports since 1990" was made. The results demonstrated a lack of knowledge or worse.

- a. FAA N.J. Tech Center response on 1/14/ deflected the 1/6/97 FOIA request for "studies/reports... since 1990" to Washington.
- b. FAA N.W. Regional response on 4/15/97 claimed nothing "within the scope ...since 1990", but supplied Cahill's 1988 report. The N.W. Regional had authored many electrical related Airworthiness Directives and Bulletins but appeared ill informed to the other two FAA Tech Center reports.
- c. Another FAA N.J. Tech Center response on 5/16/97 claimed; "all the reports associated with your request that have been prepared at the Tech Center" are now provided with another Cahill Report dated 1989. Still omitted was that 1995 Report, a report far more detailed of electrical insulation failures.

- d. Finally on 11/24/97, FAA's N.J. Tech Center again responded to another request with that elusive 1995 Report, but then said; "This is the only report on the subject prepared at the William J. Hughes Tech Center". Contrary to that, all three reports are clearly marked as being generated at this N.J. Regional.

## 2. OTHER IN-FLIGHT ELECTRICAL'S - VERSUS THE O2 CANISTER THEORY WERE IGNORED.

The NTSB Final Report's focus on 6 prior oxygen canister related fires ignored the fact of the 35 reports of electrical wire related in-flight fires in all aircraft types we had found. By the FAA's Senate testimony alone, there may be as many as 264. Our search included such aircraft types as Boeing 707s, 737s, 747s, Douglas DC-3s, DC-8s, DC-10s and MD-80 series aircraft. Of great concern to us is that of the random 35 found in the databases above, DC-9s held a disproportionate share of 10. When the electrically similar (so much so, that both aircraft types were combined in FAA Bulletins and Directives) MD-80s series aircraft were included, that raised these similar type aircraft share to 14 (or 40% of the random sample). Again, this is still far short of the 264 referenced to by FAA's Thomas McSweeney in that 1993 Senate Aviation Committee report (#103-397).

## 3. THE REPORT DELETED ALL EYEWITNESS ACCOUNTS TO A CONTROLLED DESCENT.

The Report's claim to a 'uncontrolled decent to impact' was directly contradicted by these consistent accounts of level flight above the Everglades by 6 of the 7 eyewitnesses in the "Witnesses Group Chairman's Factual Report." (The 7th saw only the impact). On page 4 of the Report, the "Statements of Witnesses" is brief with only 4 of the 7 witness's accounts being carried into this Report. Here, in describing the crash this Report said;

"Two witnesses fishing from a boat in the Everglades when flight 592 crashed stated that they saw a low-flying airplane in a steep right bank. According to these witnesses, as the right bank increased, the nose of the aircraft dropped and continued downward. The airplane struck the ground in a nearly vertical attitude.

"Two other witnesses who were sightseeing in a private airplane in the area at the time of the accident provided similar accounts of the accident."

Of these four, the one account from the private aircraft is falsely attributed. The ten pages of 7 eyewitness accounts from the "Witnesses Group Chairman's Factual Report" had been reduced to just two paragraphs.

Portions of the 6 eyewitness accounts and testimony of level and controlled flight above the terrain were omitted. Two eyewitness testimonies were edited to include only that portion of their testimony that described the nearly vertical impact during the final seconds.

Of these four included in the Report, one (Mr. Delisle) did not see the aircraft flying but only the impact ("...never observed an airplane, but he observed the explosion cloud it made.") None-the-less, his (Mr. Delisle's) statement was falsely claimed to be the same as the other three statements edited to include only that portion to only a dive and nose-in impact.

In review, every one of the 6 witnesses accounts to the aircraft Flying-Level and In Control, were deleted in this Final Report. Deleted from the Report were the witness accounts of;

#1, Steven Almecia Sr. and Steven Jr. ; "Flying past at a very low altitude in a right turn". (2 witnesses)

#2. Walton Little, Jr.; "It continued toward the canal in a nose level attitude ..". "The nose was still level..."

- #3. Henry Nelson; "...was banking at an 80 degree angle and appeared to be normal with the exception that it was flying at a low elevation."
- #4. Chris Osceola; "It was in a horizontal position and, as it approached the canal ...".
- #5. Daniel B. Muelhaupt; "It appeared to be at his altitude, descending in a 75-80 degree left bank".

A most important factor in any other investigative process, but here witness accounts in the area of flight below the radar's reach were deleted or altered to fit a 'plunge scenario'. And thus the reader is left with the clear picture of a helpless plunge to the ground because of the calamitous fire and a loss of control initiated by overly hot O2 canisters promoting a fast moving fire. In this contradictory report, the witness deletions are but one of many things wrong with this Final Report and why there are real reasons why the NTSB and any reader should be uncomfortable with it.

#### 4. THE REPORT'S CARGO FIRE CLAIM CONTRADICTS ACTION TAKEN BY THE CREW.

The Report summed it up and claimed a cargo hold and then a resultant cabin floor fire. From the critical 'Analysis' on page 103 (para 1), it said;

"All of these factors in combination most likely prevented any noticeable migration of smoke from the forward cargo compartment into the passenger cabin or cockpit until relatively late in the development of the fire."

On page 134, item 13, of the "Conclusions" in this Report, it also said:

"Only a small amount of smoke entered the cockpit before the last recorded flightcrew verbalization at 14:38, including the period when the cockpit door was open."

The Report's claim to a fire initiated in the forward cargo bay and then the CABIN omitted an explanation to the cockpit voice recorders capture of a "loud rushing sound", a sound explained when the crew exercised the DC-9s emergency procedure for excess COCKPIT smoke – opening the cockpit slider windows. According to the Report's page 174 account and transcript of the cockpit voice recorder (CVR), this sound began at 1411-21 (2:11PM and 21 seconds) and continued until the last taped recording at 1413-11. For 1 minute and 50 seconds this sound continued. Although every chime, click or other sound was attempted an explanation, none was given for this continuing "loud rushing sound". On page 50 of the Report, it appears that the explanation was given in another way and few would make the connection, it said:

"The Douglas smoke removal procedures were developed as a result of DC-9 flight tests conducted in 1975 by the Douglas Aircraft Company. The flight test also revealed that opening a cockpit window would effectively remove cockpit smoke if the smoke originated in the area of the cockpit".

However, when faced with a CABIN fire, a crew caution was given to NOT open the cockpit slider windows. From this Douglas test, it said;

"However, in tests with smoke created in the cabin or with the cockpit door louvers open, smoke was drawn into the cockpit as soon as the cockpit window was opened".

That “loud rushing sound” on the CVR need not have gone long unexplained. Opening cockpit windows for Cockpit Smoke is standard operating procedure in other so equipped aircraft types. Opening the slider windows on any DC-9 and comparing the CVR recording of it would have quickly solved this ‘mystery’. The crew’s actions provided positive audio evidence to smoke in the cockpit for almost two minutes before the last communication, but it too was ignored in this Final Report. Although early cockpit smoke was consistent with the many other reports of electrically related in-flight fires, it was contrary to the NTSB claim of a cargo-ignited fire.

#### 5. THE REPORT REMOVED MORE EVIDENCE TO COCKPIT SMOKE AND FIRE.

On page 46 of the Final Report, the NTSB claimed that;

“No evidence of soot or fire damage was found on the recovered electric and electronics compartment components and structure located just under the cockpit and forward of the cargo compartment”.

Contrary to that was the contrary contemporaneous evidence released to the press and publicized immediately following the accident. Examples include;

- a. U.S. News, web posted 11:55 p.m. May 15, 1996; “A oxygen bottle in the cockpit had soot on it.”
- b. A.P Wire, Miami, May 15, 8:54 p.m.; “Recovery workers pulled more soot-stained wreckage from the Everglades and investigators were examining a scorched stairway beneath the cockpit for clues to a possible explosion or fire aboard ValuJet Flight 592.”
- c. Washington Post, May 16, page A8; “Soot-covered or scorched parts found so far seemed to form an arc from the front of a circuit breaker panel in the ceiling above the forward lavatory down to maintenance steps that are below the cockpit and near the main equipment center.”
- d. AW&ST, May 20, 1996, page 24; “They already have recovered parts from the electronics equipment bay, cockpit and forward cabin that are covered with soot and show signs of exposure to high temperatures.”

#### 6. THE NTSB DID NOT PERFORM THE FIRE TESTS BUT ADOPTED FAA’S AS THEIR OWN.

On page 102, and with the words, “In the Safety Board’s fire tests”, the NTSB Final Report critical “Analysis” section implies that the NTSB performed these fire tests. Certainly a minimal and objective investigative step since the NTSB was also assigning the FAA as a casual factor to the accident for not properly responding to prior oxygen canister related fires and inadequate oversight of ValuJet’s maintenance.

On April 6, 1998 a FOIA response (control # 1998-005131CT) from the FAA New Jersey Tech Center disclosed the following;

“Regarding the second part of your request for records relevant to the ValuJet 592 flight, at the request of the National Transportation Safety Board, the Technical Center conducted 3 full-scale tests related to the in-flight fire accident of May 1996. In a strict sense the tests did not simulate a Class D cargo compartment since the cargo door was left open to facilitate video/photographic coverage, and the size (volume) of the test was far greater than the cargo compartment in the accident aircraft, and what is allowed by regulation for Class D compartments. Therefore, it is difficult to relate the test

measurements to the conditions that might have existed inside a closed, small Class D cargo compartment.”

“Enclosures

Enclosure 1. Oxygen Generator Testing. This is a description of the fire load for each test. Note that in tests 1 and 3 a sustained fire did not occur. Also, under test 5 there were 2 attempts that did not result in a sustained fire.

Enclosure 2. Temperature, heat flux, and gas profiles for tests 2, 4, and 5.

Enclosure 3. A video of the above-mentioned tests 2, 4, and 5.”

“Finally, a report has been drafted which describes preliminary tests with single canisters and multiple canisters packed in a cardboard box that were conducted in an open area. That report has not been finalized nor reviewed prior to publication. It will be available in approximately 3 months.”

That August 19, 1997 NTSB Final Report said the canisters started that fire but, 8 months later, and as of April 6, 1998, the FAA had yet to release even a Draft Report of Preliminary Tests “with single canisters and multiple canisters packed in a cardboard box that were conducted in a open area.” The ‘tests’ even came with its own disclaimer; “Therefore, it is difficult to relate the test measurements...” There was no Draft/Final Report, No Final Conclusions and, further on here, certain other test results were also left out (measurements of the activated canister exterior temperatures, tests to “jostle” the unsafetied triggering mechanisms to actuate).

In five firings of these canisters, the 1<sup>st</sup> and the 3<sup>rd</sup> did not result in sustained fire. In the fifth, two attempts failed. Three out of five failures is hardly a consensus. Because of lack of detail, it was not said if the one failure mode seen in the Report’s “7 Incidents” of canisters fires was adopted here again to assure a sustained fire. (We note that in the simulated TWA 800 Center Wing Tank test for a jet-fuel explosion, a mixture of propane and hydrogen was used). On page 94 of the Report; incident # 2 from Eastern flight 215 was detailed. Here, this canister incident used in this Report concluded with;

“INCIDENT # 2”

“The Safety Board found that the chemical generator had been activated; however, placing the generator on the cart after it was activated caused a full or partial block of the oxygen outlet tube, which resulted in a pneumatic overpressure failure of the generator. The exposed oxidizer continued to burn and produce oxygen creating an oxygen-rich environment resulting in the ignition of the linen napkin and other material in the galley.”

In a production more worthy for a TV movie than a accident investigation that July 1996 video of a raging fire, in a many times larger DC-10 cargo compartment, and left open for camera purposes, was released. Worst yet, the FAA says here, that in these “tests” the activating pins had to be pulled. Whereas on flight 592, the presumption was made that they were ‘jostled’ out. Yet no FAA or NTSB tests were conducted to test this theory. An independent lab (Inalab Inc.) tried, but could not!

7. THE REPORT’S CLAIM TO “JOSTLED” CANISTERS – WAS NOT TESTED.

From page 102 of that critical ‘Analysis’ section comes this statement; “Activation of a generator would have been most likely to occur during an event that could cause movement or jostling of the

contents of the boxes.” A critical point; IF- jostling did occur, IF- the canister/s did activate, IF-the canister got hot enough to auto-ignite bubblewrap, IF-elevated oxygen levels lowered AIT temperatures. No tests were found where the NTSB or the FAA performed any tests to weigh the NTSB’s claim that ‘jostling’ somehow set off one or more shipped oxygen canisters. In the Board’s ‘Tests’ (actually FAA’s) at the FAA N.J. Tech Center, the firing pins had to be pulled. That independent lab (Inalab) tried, but failed. That lab’s statement follows;

“The experiment “Kessler 4” was conducted to assay the mechanical integrity of the oxygen generating canisters. A single canister was held at an approximate 6 foot height and dropped to the floor. It was dropped four times, each time positioned on a different axis prior to release and subsequent impact. This experiment was conducted to simulate substantial mechanical abuse (occurring during takeoff and or landing on a aircraft) and its potential for activation of the units. Both ends were severely bent and damaged after the repetitive 6 foot falls and subsequent impact, but in no instance was the generator activated.”

We consider the NTSB’s silence to several parties’ questions about this lab’s findings a tacit admission that they do not dispute this lab’s findings.

#### 8. THE REPORT’S CLAIMS TO HEIGHTENED OXYGEN LEVELS WERE UNSUPPORTED.

On page 54 (footnote 75) The Report claimed;

“ Auto-ignition of the bubble wrap in contact with the hot surface of the generators in the presence of elevated concentrations of oxygen was the source of ignition.”

Nothing to support this ‘elevated oxygen levels’ promoting auto-ignition (AITs) was found in the NTSB files. From ‘Board’s Tests’ in item 6, above, “Enclosure 2. Temperature, heat flux, and gas profiles for tests 2, 4, and 5” included the “Oxygen Profiles” chart (“Run Date 11-06-1996, Run # 2”) of oxygen levels taken during those FAA N.J. Tech Center tests -the oxygen levels are flat.

In published industry data, including the three editions of “Combustion” by Professor Irving Glassman, Academic Press) no support to heightened oxygen levels lowering AITs was found.

That Hawaiian State certified arson lab (Inalab Inc.) addressed this when it said;

“An important, industry wide misconception, is that oxygen in of itself effects the ‘ignition temperature’ of solid or liquid fuels. The presence of oxygen is a necessary and limiting condition for combustion. However oxygen DOES NOT in an of itself, make a fuel more susceptible to ignition, nor does it “lower” a material’s fundamental ignition temperature.”

Again, it appears unsupportive opinion has been substituted for scientific fact. Several parties have brought this critical point to the attention of the NTSB. We consider the NTSB’s silence a tacit agreement to the Inalab statement.

#### 9. THE REPORT SELECTED TEST DATA TO SHOW HIGHER O2 CANISTER TEMPERATURES

Key to the NTSB conclusion that one or more activated oxygen canisters initiated that fire is ‘How hot does the exterior of an activated canister get’? Although the NTSB quickly adopted and promoted the FAA’S clamitous fire video, the NTSB also continued to use a higher operating temperature from

the manufacture product data but not seen in FAA's tests. Admittedly conservative said one manufacturer; these numbers were meant to protect the manufacturer. From page 7 of the Final Report it said, "Manufacturing test data indicate that when operated during tests, maximum shell temperatures typically reach 450 to 500 degrees. (F). Another FOIA response (#1998-002827) from the FAA Tech Center showed a far lower number when the FAA said;

"There were several attempts to measure the surface temperature of an activated canister. The most reliable data was obtained with a thermocouple spot welded to the steel canister. During this test, the maximum temperature was 400 degrees Fahrenheit, which occurred at about 10 minutes."

Nothing more is seen in the Report to reconcile this difference. The NTSB claim that this 500 degree temperature was sufficient to autoignite (autoignition or AIT) bubblewrap or cardboard came with no supportive data. Such appears to be unsupported opinion and appears contrary to fact in other scientific ways. In published tests by a state of Hawaii certified arson lab (Inalab Inc.) AIT temps began well above 500 degrees (550). This 20-year arson lab further stated that, in three tests, including a heavily wrapped canister, the exterior temperatures reached no more than 404 F.

People understand that 400 degrees does well for pizza but is not a threat. To go further, John King, a licensed FAA inspector (lic. A&P#1552888), placed bubblewrap in a calibrated commercial oven and noted that typical bubblewrap packing did not ignite until over 550 degrees. If you don't mind the goo, try this 400 degree temperature in your home oven.

#### 10. THE REPORT'S CLAIM TO A CAUSE OF A CRITICAL FLIGHT DATA RECORDING IS IMPOSSIBLE.

On page 101, the Analysis of the "Propagation and Detection of Fire" section, the NTSB demonstrates a appalling lack of understanding of the most elementary systems in pressurized commercial aircraft – the pitot/static system. The NTSB claimed that a wheel/tire assembly "ruptured" due to the cargo fire and that this pressure was then sensed in the flight data recorder via the "alternate static sense line". Here it said;

"The first indication of a problem during the accident flight occurred at 1410:03, approximately 6 minutes after flight 592 took off from Miami, when the CVR (cockpit voice recorder) recorded an unidentified sound, which prompted the captain to ask "What was that?" Simultaneously, an anomaly in the FDR altitude and airspeed parameters occurred consistent with a static pressure increase of about 69 psf. Within 12 seconds, the captain reported an electrical problem, and at 1410:25, there were voices shouting "fire, fire, fire in the passenger cabin."

" In the Safety Board's fire tests, a main tire that had been inflated to 50 psi ruptured 16 minutes after the first oxygen generator was activated, when the fire destroyed 9 of the 12 tire sidewall plies. Because the tires in the accident airplane were loaded just forward of the cargo door, the tires would have been located just above the static ports. The FDR altitude and speed data are based on readings from the left alternate static port, which is located on the left side of the fuselage at FS 341 between longerons 26 and 27, indicating that the unidentified sound on the CVR and the FDR anomaly at 1410:03 were most likely caused by the rupture of an inflated tire in the forward cargo hold compartment after the tire was

partially burned through by the fire. Based on this sequence of events, the investigation analyzed when the fire onboard the accident flight might have initiated.”

This was impossible. As a matter of proper function, all pressurized aircraft pitot and static system lines are isolated from any internal aircraft pressures and are expressly plumbed to the exterior of the aircraft. These systems are designed to sense pressures from the outside. No claim was made in the Report that the static lines were burned through or compromised internally.

#### 11. THE REPORT’S CLAIM TO THAT “RUPTURE” IS CONTRARY TO FACT AND PRACTICE.

Key to the Reports’s claim that the shipped tire assembly (two assembled wheel halves with tire mounted and inflated) “ruptured” was the implication put forth that it was a serviceable (new) unit. The Report continued with this ‘new’ tire scenario on page 44 when it said;

“The edges of the tire along this tear were deflected outward, consistent with the tire having ruptured along this tear in the sidewall.”

Further on, the Report continued on page 55 with;

“ In the fire test, two boxes of oxygen generators were placed on top of a main gear tire inflated pressurized to 50 psi.”

Like the impossible tire “rupture sensed in the alternate static sense line” above in Item 10, this appears to demonstrate two other appalling lack of understandings of basic aviation industry practices and wheel safety features. First, the ‘rupture’ only works if the tire had any pressures. There were none. Because of past industry accidents where these aluminum wheel halves had developed hard-to-see in-service cracks, these wheels have exploded to maim and kill. The pressures of these tires are always dumped before removal. Simply, and like automotive tires, the tire fill valve is removed and discarded. Secondly, all outer wheel halves are equipped with ‘fuse plugs’. Each plug is approximately as big as your thumb, and has a small hole through it that is packed with a material that melts long before improperly working braking systems heat up the wheel assembly. It’s a matter of a few hundred degrees before pressure is released and way short of the 2 to 3,000 degree fires mentioned in this Report.

Another FOIA request was made to clear up the tire removal status. The NTSB’s FOIA response to John D. King of May 27, 1998 and signed by Jim Hall said;

“ The Safety Board’s investigation found that the wheel assembly was a removed unit.”

An unserviceable (used) tire is empty. Tires are not swapped (with other aircraft) but simply removed for wear or damage beyond limits. Here, this specific tire was noted in this Report as having “X” shaped tears and cuts.

In the view of this writer, who has performed hundreds of such tire changes, worn tires is the chief reason for tire removals; such ‘tears and cuts’ is the second. I have never seen a ‘ruptured tire’ due to such heat, but I have changed many with “X” shaped tears and cuts due to sharp objects.

#### 12. THE REPORT’S TIRE CLAIM SHOULD HAVE CREATED AVIATION HISTORY.

The Report’s tire claim missed credit for recognizing a point of aviation history - the first on-board DC-9 fire suppression system had failed. On page 133 of the Report, item 8, it said;

“If the plane had been equipped with a fire suppression system, it might suppressed the spread of the fire.... It would have delayed the fire.... It would likely have provided time to land the plane safely.”

Industry wide practice for aircraft tire fills is not air - but nitrogen, the same nitrogen proposed for inerting the 747 center wing tanks against possible explosions like that of TWA 800. The Report made only unsupported claims of discharging oxygen canisters and increased oxygen levels but said nothing of the effects and fire inerting release of nitrogen because of that tire “rupture”.

### 13. THE REPORT’S ACCOUNT OF TROUBLED SHIPPED PARTS - THE WRONG DAY ?

In another leap of faith we try to understand how those shipped oxygen canisters and that tire soon to “rupture” in that fire on May 11<sup>th</sup> arrived in ValuJet’s Atlanta Stores on May 10<sup>th</sup> ? From page 176 of the Final Report that critical shipping document is displayed. The “SaberTech shipping ticket, No. 01041” is clearly marked on the bottom “Rec’d. At ValuJet Airlines (ATL), Date 5/10/96, By Christopher.”

### 14. MORE TROUBLE WITH THAT SHIPPING TICKET – THE WRONG SERIAL NOS.

Again, from page 176 of this Report and on that SaberTech shipping ticket, No. 01041, it says of item 4 (the main wheel assembly) that the serial number was (illegible) “R 236”.

Contrary to that, and from the originating “NTSB Fire and Explosion Group Factual Report, pages 2 and 3, D. Details of Investigation, 1.0 Tires (2nd paragraph).”

“Another gear tire (Goodyear part number 404F42-9). S/N 435403071 was mounted on a wheel assembly (part # 9561146CI B assembly 9544451. SN OCT 73 -11893) on inboard and outboard assemblies.”

None of the above various numbers fit. Industry practice is to use the inboard and outboard wheel assembly numbers. Here, that would be the “Oct73” (year of manufacture) and “11893” (assigned serial numbers). SNOCT73–11893 was in the originating ‘fire and Explosion’ report. The NTSB’s claimed shipping ticket (above in Item 13) for the boarded wheel/tire assembly said to have “ruptured” lists a different serial number ( ? R286). This is different than that in the originating fire and explosion report.

### 15. THE REPORT DISREGARDED EVIDENCE TO A DANGEROUS ELECTRICAL CONDITION.

From page 36 of the report (“Maintenance”), unexplained and unrepaired electrical malfunctions were listed. The left fuel gage, cockpit interphone, autopilot malfunctions items were continued as the fixes remained elusive. A more serious electrical item, the right auxiliary hydraulic pump, was added and now prohibited that final flight from Miami. This grounding item was cleared and here the Report said;

“After examining the pump, cleaning the cannon plug pins, and reconnecting the cannon plug, a mechanic was able to reset the circuit breaker without further difficulty.”

In the trade, this is often called “pencil whipping” an item (a bogus action, having no real action to correct the problem). From the Report’s critical Analysis section (ref pg. 100) it further said;

“There was no evidence of preexisting mechanical malfunctions or other discrepancies in the airplane structure, flight control systems, or powerplants that would have contributed to the accident.”

Contrary to that, the FAA knew far more. With an anonymous call to the FAA after the crash, a ValuJet mechanic admitted so to Jim Cole of the FAA. This 7 page admission that circuit breakers had been “by-passed” and a number of electrical troubles were seen became the NTSB’s evidence item 6E - but remained buried in the NTSB’s index (NTSB File DCA96MA054) of 4,750 pages under “Survival Factors 6 –Exhibit No. 6G – Anonymous Interview”. ‘Bypassing’ or hot-wiring a circuit breaker removes the circuit breaker from the circuit leaving that circuit with no protection against direct short circuits or the electrical wire insulation faults described in those FAA N.J. Tech Center Reports.

Reflecting back to those FAA Tech Center Reports, and again, in this 1995 Report, gave grave warnings regarding the role of circuit breakers when it said;

“Abstract: This document describes the electrical short circuit and current overload tests that were conducted on wires used in commercial transport category aircraft. This testing was conducted to evaluate the fire potential that may result from electrical faults. Results of this testing showed that circuit breakers provide reliable overcurrent protection and that circuit breakers may not protect wire from ticking faults (an intermittent metal-to-metal conductor-to-conductor, conductor-to-structure, etc. that results in the discharge of sparks and arcing events) but can protect wire from direct shorts. It also showed that circuit breakers may not safeguard against the ignition of flammable materials by ticking faults.”

“Current overload testing that resulted in complete thermal degradation of the wire was also conducted to compare it with a fire-exposed wire. No differences were seen; however, the conductor of the wire subjected to the fire was more brittle than the current overloaded wire. Further testing along with metallurgical evaluation would be necessary to substantiate this finding fully.”

This ValuJet mechanic’s unprecedented admissions remained hidden and catalogued under ‘Item No. 37’; one of 137 items, while over 106 items relating to ‘Hazardous materials’ filled the report. The anonymous caller need not have remained so because a simple record search of his other admitted actions would have directly lead to his earlier required maintenance signoffs. His admissions and any of the relevant portions of that 1995 FAA Tech Center Report (DOT/FAA/CT-TN94/550) were not mentioned in the NTSB’s Report.

#### 16. NO TESTING WAS DONE TO DETERMINE IF WIRE INSULATION STARTED THIS FIRE.

The Report indicates no effort was made beyond an ineffective visual inspection to consider the wire insulation as the initial fuel for this in-flight fire. The Report’s ‘Analysis’ section, page 100, said;

Para 4

“The airplane's electrical system was examined for indications as to what caused the electrical problems initially noted by the flightcrew. However, because so much of the wiring ran adjacent to the cargo compartment, and because so many of those wires were severely damaged, the source of those electrical anomalies could not be isolated.”

Para 5

“Examination of the heat-damaged wire bundles and cables revealed no physical evidence of short circuits or of burning that could have initiated the fire.”

Evidence to the visual inspections came but from these two points. Reference is made to the NTSB’s FOIA response # 97-442 on 12/23/97, to Mr. Ernest Hadley whereas one fundamental (soot) test was not done. In Mr. Hadley’s letter, the NTSB stated: "There was no testing done of soot samples." No other explanation was given.

Worst yet, the metallurgical testing suggested by the FAA was also not done. In the FAA Tech Center (Cahill) 1995 Report it said in the “Abstract”;

“Current overload testing that resulted in complete thermal degradation of the wire was also conducted to compare it with a fire-exposed wire. No differences were seen; however, the conductor of the wire subjected to the fire was more brittle than the current overloaded wire. Further testing along with metallurgical evaluation would be necessary to substantiate this finding fully.” (Underling Added.)

No such recommended metallurgical testing was seen in this Report.

17. THE REPORT PROMUGATED MANY UNSUPPORTIED SCENARIOS REGARDING SYSTEM FAILURES AS MECHANICAL RATHER THAN ELECTRICAL FDR ANOMALIES.

Like Swissair flight 111, the ValuJet Flight Data Recorder and Cockpit Voice Recorders underwent anomalies and power losses. This Report focused only on the presumed effects of wire being burnt by surrounding fuels rather than the wire insulation itself being the fuel as seen in the FAA Tech Center reports. Here, on page 101 (ref para 5) of the ‘Analysis’ section it said,

“Further, the heat and fire damage to the interior of the cargo compartment was more severe than the damage to the exterior, consistent with the fire having been initiated inside the cargo compartment.

Finally, the heat-damaged wire bundles were not routed near the breached area of the cargo compartment, whereas the boxes containing the oxygen generators were loaded into the area directly beneath the breached area of the cargo compartment. Thus, the electrical system was not a source of ignition of the fire.”

From this assumption, crew action (rather than electrical insulation) explanations were assigned to the following abnormalities in this Report’s, ‘Analysis’ section (page 106). (‘assumptions’ have been underlined)

Ref para 3;

- a. “According to FDR data, while the left engine remained at its previous EPR setting, the right engine's EPR decreased to the flight idle value. The reduction in thrust would likely have been an intentional act by the flightcrew to reduce power for the descent to return to the ground.”
- b. “The activation of the landing gear warning horn at 1410:28 suggests that the flightcrew had reduced power to idle (the warning horn is activated by one or both throttle levers being positioned at approximately the flight idle position). Because the flightcrew would not have intentionally reduced thrust on one engine only, they must have been unable to reduce the thrust on the left engine because of fire damage to the engine control cable located above the compartment.....”

Ref para 4

- c. “Further, the thrust asymmetry continued throughout the period and resulted in a sideslip and lateral accelerations that were not corrected with rudder application. Therefore, left wing-down (LWD) aileron deflections would have been necessary to keep the airplane from rolling to the right.”
- d. “Because there were no right roll indications in the FDR heading data, the flightcrew must have been applying the LWD control inputs.”

Ref para 5

- e. “The FDR indicates that at 1411:20, vertical acceleration increased to about 1.4 G, although the control column had not moved. Subsequently, the control column position was moved forward about 5 degrees to reduce the vertical acceleration back to 1 G. At this time, the airplane leveled temporarily at about 9,500 feet. These events indicate that the flightcrew was confronted with a disruption in pitch control (in the elevator or trim systems), and was active in maintaining at least partial control of the airplane. The pilots could have found the disruption in control to be distracting, and the level off is consistent with their attempts to handle the pitch controls carefully. The development of malfunctions from the electrical system to engine thrust controls and flight controls indicates that the flight experienced a progressive degradation in the airplane's structural integrity and flight controls.

Ref page 107, para 3

- f. “The control inputs required to balance asymmetric thrust during the steep left turn, followed by the level-off, indicates that the flightcrew initiated a turn and descent, and that the captain and/or the first officer were conscious and applying control inputs to stop the steep left turn and descent (until near 1413:34). Thus, the airplane remained under at least partial control by the flightcrew for about 3 minutes and 9 seconds after 1410:25.

17. THIS REPORT IS, AGAIN, INCONSISTANT WITH THE FAA’S KNOWLEDGE OF WIRE INSULATIONS WOES.

Contrary to the Board’s rejection of any wire related cause to the ValuJet 592 crash and claims that there was no evidence, the FAA and the NTSB take a different stance on TWA 800. In the FAA’s latest round of directives to increase wire insulation inspections, Boeing had vigorously opposed them as any claim to the reason to the loss of TWA 800. Part of the objection was the lack of proof. The FAA claims that prior electrical troubles were an indicator of impending greater problems. On October 6th, in a Newsday TWA 800 article by staff writer Sylvia Adcock, this FAA response was included;

“The wires to the fuel-measuring system on 747s run from the cockpit to the center fuel tank. They carry an extremely low current, too small to spark an explosion. But investigators have determined that it's possible for more electricity to get into the wires, either from damaged wiring in the same bundle or electromagnetic interference.”

“The wiring theory is one that Flight 800 investigators have focused on, although it's doubtful that the scenario can be prove. Boeing vigorously opposed the rule, filing documents with the FAA stating that there was no conclusive evidence that the TWA explosion off Long Island was caused by a failure of the fuel-measuring system. The FAA

said it agreed that evidence is not conclusive, but it noted that proof is often destroyed and that low-level electrical arcing from one wire to another often leaves no trail.”

“Boeing also told the agency that if a wire bundle to the fuel-measuring system failed, the problem would show up on the fuel gauge and would be caught before it caused an explosion. Here again, the FAA disagreed, noting that two minutes before the explosion on Flight 800, the flight crew noticed erratic readings on a fuel-flow indicator, which is wired in the same bundle as the fuel-measuring system. “Such indications could have been due to a failure in the wire bundle,” the FAA said.”

Failures in wire bundles abounded in high current and high voltage generator feed wires that arced to adjacent structure or wires and evident in those 37 in-flight fire list we compiled from the databases. From those FAA or NTSB files, the importance of shutting off the generator feeds in previous accidents was noted. For example;

- a. 2/2/1989 - Douglas DC-9 (SAS) “A fire developed in the circuit breaker panel and the cockpit filled with thick black smoke. The crew isolated the source of the electrical energy by switching off both electrical generators”.
- b. 1/18/1990, “US Air MD-80 was forced to return when the cockpit filled with smoke. Left generator tripped off-line and the captain turned the right generator off. When starting the auxiliary power unit, the smoke returned. The smoke disappeared again when only emergency power was left on”.
- c. 7/5/97, DC-9-30, Northwest Airlines. NTSB Identification: CHI97IA195. “The aircraft declared an emergency when the cockpit filled with smoke. The smoke immediately stopped when the generators were taken off line, according to the captain. He said the cockpit smoke had cleared completely within about 4 minutes”.

According to the NTSB’s ValuJet Fire and Explosion Group Factual Report (page 14), 226 feet of generator power feeder “0” gage aluminum were recovered - but little was recovered over the forward cargo bay (forward of station 680).

No verbalizations were noted in the Report’s cockpit voice recording to indicate the crew had any awareness of the importance to shut off the generator feeds or to not reset tripped circuit breakers. The same was noted in Flight 111s cockpit tapes. Responses from pilots and mechanics alike to our website (<http://members.aol.com/papcect/>) show that none were aware of the FAA’s encounters and Tech Center’s findings regarding troublesome wire insulation constructions.

The importance of the sharing the knowledge and dangers of wire insulations that burn with heavy sooted smoke that can’t be stopped and evidenced in those FAA Tech Center Reports became our question to the NTSB chairman, Jim Hall. In a January letter this year, Mr. Hall had assured us that the Board was “well aware” of the Tech Center Reports however none of that is evident in this ValuJet Final Report. Instead, a single focus was made upon oxygen canisters initiating that fire and a helpless plunge to impact followed. All other evidence contrary to that was discarded in a manner not permitted in any other investigative process.

All the aircraft systems are dependent on wire systems gathered in bundles that last saw the light of day when the aircraft was built. A fire in any one system can create havoc and rapid catastrophic failures across any systems in that, or adjacent bundles. With the 2,000-degree wire insulation fires

described in the FAA (Cahill) Reports all wire bundles become mere fuel for the ensuing fire and continuous smoke.

#### FRANK TALK FROM THE TOP - SUMMARY

More importantly, are the earlier signatures of this arc tracking or 'ticking fault' phenomena. For the moment, these may induce false signals and momentary malfunctions of wiring dependant systems. The common thread is the many system anomalies seen in these in-flight events. Circuit breakers did not give reliable indications and system faults remained elusive to duplicate and repair. The wire insulation failure modes remain unexplained to the uninformed flight crews and maintenance staffs as they pursued ineffective paths. The Flight 111 crew may have been an example of this danger. Were they were aware of the peculiar failure modes of wire insulation failures ? Perhaps not, as some time was spent pursuing the standard air conditioning pack causes. As seen in Item 17 above, reducing the electrical loads appeared to have, in some instances, immediately stopped the smoke and systems damage.

#### BOTTOM LINE.

Where does the flight crews and maintenance people get that information contained in those early FAA Tech Center Reports regarding electrical insulation failures, inadequate circuit breaker protection and resultant in-flight fires and uncontrolled smoke ? – apparently, now, from Administrator Garvey's press releases.

Some 19 months ago and from the White House commission on aviation safety, FAA administrator Garvey now says;

“The practices and criteria in place today do not adequately address the issues posed by aging systems. The problem is compounded by a monumental data problem. Reporting of wire failures remain problematic. Trend analysis is not possible with existing databases. (regarding 'Kapton'), Garvey continued) “We will look at it again, setting all prejudice aside.”

Prejudice indeed, as in not telling the crews of these dangers. Prejudice in the ValuJet Report ? Considerable evidence that countered the FAA/NTSB's oxygen canister and helpless plunge conclusion was either omitted or altered to support the canister theory and conclusion in the Final Report. In review, a partial list of that evidence includes;

- a. The eyewitness accounts to level controlled flight above the Everglades were edited out; accounts of the final vertical plunge were left in. A false account was added. Item 3.
- b. The Report adopted a draft and preliminary FAA Report as factual findings into it's Final Report. Item 6.
- c. The Report's claims to heightened oxygen levels promoting an accelerated fire were not supported in (the NTSB's adoption of) the FAA Fire tests. Item 7.
- d. The Report ignored the FAA Fire Test measurements to lower O2 canister exterior temperatures but then adopted the manufactures conservative higher data as factual. Item 8
- e. Individual O2 canister tests for 'jostling' were among those not completed. Item 9
- f. The 'ruptured tire scenario' conflicts with industry practice and handling for "removed units". It was empty. Item 11.
- g. The 'ruptured tire scenario' omits the effects and release of fire inerting nitrogen into the sealed cargo compartment. Item 12.

h. A ValuJet mechanic's admissions to substantial and dangerous pre-crash electrical troubles were left out. Item 15.

In addition, the follow errors were noted;

- i. The 'ruptured tire scenario' claim to being sensed in the FDR and the assumed fire time line was impossible. Item 10.
- j. The claimed shipping document was for the wrong day and the wrong serial numbered parts. Items 13 & 14.

There is much more and that's why this NTSB Final Report and investigation must be reopened. ValuJet was no less than the 10<sup>th</sup> such DC-9 event. The actual number remains elusive. This should not be so. The Report is an affront to the public's right to a proper and fair analysis of every air accident and a report filled of opinions and unsupported data. This critique now becomes the basis for a criminal complaint and for referral to the Investigator Generals and various other agencies because of sufficient evidence that such material facts were concealed or altered to fit a single (oxygen canister/helpless plunge) scenario. No evidence that the Board's claim to be "well aware" of the FAA's Tech Centers wire insulation findings are seen in the NTSB Final Report. To the contrary, every electrically related item related to flight 592 is set aside with unsupported opinion and conjecture.

Discarding evidence is a crime. The following applies;

Title 18 U.S.C. s2 26, aiding and coverup of an offense. Title 18 U.S.C. s371, insure that aircraft are properly maintained and safe to fly. Title 18 U.S.C. s1101 25, conceal by trick material facts and false representation. Title 18 U.S.C. s1341/43, use of interstate wires to defraud. Title 18 U.S.C. s1505, obstruction of proceedings, false testimony, creating bogus records. Title 18 U.S.C. s1512, engaging in misleading conduct. Misfeasance, Malfeasance, Perjury.

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25 May, 1998

Via Facsimile (202) 314-6018 and Federal Express

Re: Request to re-open ValuJet 592 Investigation based on omission of evidence of an electrical fire from NTSB Final Report and recently obtained FAA radar data showing NTSB radar track to crash site is false.

Dear Chairman Hall,

In response to my letter of August 11, 1997 requesting postponement of the August 19, 1997 NTSB so called "Sunshine Hearing" on the ValuJet 592 accident, you arranged for us to meet on August 15th with some of your key staff members to present our findings. Of the many discrepancies in the NTSB factual reports, the most serious one was that the radar track presented by the NTSB was false, incomplete, and led to incorrect conclusions as to the causes and circumstances of the accident. For these and the following reasons, I request a re-opening of the ValuJet 592 investigation.

NTSB radar track is false and misleading

Mr. Loeb, with one of his radar experts, attempted to rebut our claim that the radar data & track (relevant portions: attachment A & B) presented by the NTSB was false. The expert claimed that radar was not a perfect technology. He stated that on occasions, the NTSB would look at radar data of an accident that showed a flight path apparently inconsistent with what it believed happened. Occasionally, he said, the NTSB had to shape the data to fit the "facts." Mr. Loeb also dismissed our position by claiming that we did not have all of the radar data. He promised to get additional radar data to us, which he did.

FAA radar data proves NTSB radar track is false

The radar data Mr. Loeb and general counsel Dan Campbell provided gave no new information. Consequently, we filed a Freedom of Information Act request for radar coverage of the same event. The FAA was more forthcoming. Although we still have not received all relevant original radar data, the FAA's data clearly and indisputably now shows that the ValuJet 592 aircraft continued inbound to the airport past the crash site distance of 17 miles (from the airport), past the end of the radar track created by the NTSB, and did not disappear from radar until it reached a point 12 miles from the Miami Airport. (See attachments C & D.)

Supporting evidence that the NTSB radar track is false

This radar data is consistent with our independent investigation in which the FAA air traffic controller told us that the ValuJet aircraft disappeared from the radar scope at 12 miles. Furthermore, the 12 miles position was confirmed in the radio communications transcripts contained in the NTSB factual reports.

On this basis alone, the evidence shows that the NTSB has developed a false radar track. However, we also have other information, much of which we detailed to your staff in our meeting, showing additional flaws in the NTSB's purported radar track and communications with ValuJet 592.

Unreported Eye witnesses account of ValuJet flying away from the airport

ValuJet 592 was lost off the FAA radar 12 miles from the airport inbound for landing but the crash site is 17 miles from the airport. How did it get there? The answer is contained in the unreported words of two of the witnesses, who told the NTSB investigators that they saw the ValuJet aircraft flying westbound (away from the airport) at a very low altitude (apparently below the radar horizon) and then make a 180 degree right turn and disappear below their visual horizon. Although this testimony was also repeated to my associate, the NTSB failed to record this significant information in the Witness Group Chairman's Factual Report and in the final NTSB report

Ostensible attempt at repression of third eye witness testimony

I have expressed to you my concern about another serious omission, specifically the NTSB's failure to interview the Chinese student pilot who was an eye witness to the crash. That negligence was compounded by the NTSB's subsequent claim that no such witness existed. Now that the witness has finally been interviewed by the NTSB we find that his testimony is consistent with that of the other eye witnesses mentioned above. Furthermore, the Chinese pilot's testimony refutes the specious NTSB radar track since he saw the plane flying west to east for about fifteen seconds before the crash. In contradiction, the NTSB's purported radar track of the plane shows it flying south at that time.

The conditions of the ValuJet aircraft were ready for an electrical fire

Electrical fires often are preceded by indications that the conditions are ripe for such an event. The FAA's service difficulty reports indicated numerous electrical problems on this specific aircraft. The NTSB's records reveal that it was infamous in the ValuJet fleet for continuing electrical problems and was experiencing several electrical problems on the day of the accident. At one point, the flight was delayed in Atlanta while mechanics were trying to find and fix the electrical problems. In spite of these attempts, electrical problems continued while the plane was en route from Atlanta to Miami, which was the flight immediately preceding the accident flight. Indeed, these pre-flight 592 electrical failures appear to have culminated in a series of major electrical failures, which was the initial reason the plane was attempting to return to Miami. This is well documented in the NTSB record.

All of this is irrelevant, however, unless there is some evidence of an electrical fire on ValuJet 592. As it turns out, there is such evidence. Unfortunately, the NTSB conclusion from this evidence was negligently derived.

NTSB's false and misleading statements regarding electrical fire on ValuJet 592

Throughout your group factual report, your investigators claimed that the wires that were burned showed "little or no evidence of embrittlement." Lack of embrittlement, according to Pat Cahill, the FAA's expert on wiring, is indicative of an electrical fire - not a fire from an external source. Yet your final report claims that the wires showed no evidence of an electrical fire. The Final NTSB report (pg.43) states: "The heat damaged wires ... were consistent with those resulting from an external heat source." Such negligent and seriously misleading interpretations strains the credibility of the NTSB itself and raises the issue of the competency and motives of your investigators.

NTSB/FAA oxygen canister fire test ignored the Scientific Method

American's pride themselves as practitioners of the Western tradition of applying the scientific method, a self-correcting process of observations, analyses/synthesis, hypothesis, and test. Fundamental to the validity of the scientific method is the use of the double-blind study. However, it was not used to prove the viability of the oxygen canister theory nor was the demonstration set up to maximize the potential for failure, a mandatory element in the intellectual tradition of the scientific method. Instead, the NTSB, using heuristic reasoning, activated the canisters (manually)--itself an assumption without evidence--and proceeded as a given that throwing a box full of oxygen canisters into the cargo hold would activate one or more of them.

Another fundamental element of the scientific method is that the experiment can be duplicated and repeated by third parties. If we assume, for the sake of argument, that throwing the canister boxes onto ValuJet 592 would ignite them, then we should be able to duplicate such a test. The NTSB should have demonstrated that the oxygen canisters would ignite by having them thrown into a cargo hold. It failed to do that. Consequently, since the ignition of one or more oxygen canisters is a condition precedent to any speculation that they (1) started the fire or (2) that they exacerbated a fire, everything that followed is moot.

We have also obtained test reports and videos from the NTSB/FAA fire tests on the oxygen canisters. Again, an independent forensic laboratory, with extensive experience in fire/arson investigation, has reviewed the data and issued a report highly critical of the tests. This laboratory maintains that this appears to have been an electrical fire, not a fire caused by oxygen canisters.

The NTSB provided radar data and ATC transcripts with altered time

The NTSB has failed to provide: (1) the actual radar data, (2) the actual radar track, (3) an accurate time clock of the radar data and, (4) the true time on the voice transcripts of the conversation between Air Traffic Control (ATC) and the ValuJet pilot. Consequently, none of the times provided by the NTSB can be used to determine the actual time of the accident. Our investigation so far reveals that the NTSB radar

time clock is fast by about 18 seconds at the beginning of the flight and by about 50 seconds at the NTSB's claimed time of the crash (18:13:42). The recently obtained FAA radar data is similarly plagued.

NTSB chose the least reliable reference time

Given a choice between the extremely accurate atomic clock (WWV) to which the FAA radar data tapes are slaved and the Cockpit Voice Recorder (CVR), the NTSB chose the latter which, as the record shows, failed twice during the ill fated flight. As your factual reports state: "Times recorded on the CVR transcript were used as the reference time, and FDR and radar clocks were adjusted accordingly."

Not only is the CVR suspect, it was made more so because, as your factual reports state: "timing on the tape was established using the known time of several air traffic control transmission recorded on a cassette tape provided by the FAA." Our conclusion that the time is inaccurate follows because the air traffic control (ATC) transmission tape was tampered with.

We know this because the same independent audio expert hired on the Aloha Airline accident has confirmed that approximately one minute is missing on the "20 minute" ATC tape. The 19 minute tape was recorded at different speeds and made to fit an inaccurate transcript 20 minutes long (see attachment E). Moreover, a comparison of the CVR times (the NTSB reference time) and the distorted times in the ATC transcripts show that they only differ by a second or so.

NTSB attempts at time correlation were debased further by the non sequitur "merry-go-round" in which "the correlation was established through a comparison of the Microphone Keying information recorded by the FDR, Cockpit Voice Recorder and the (ATC). For more details, see Airplane Performance Group factual report."

The NTSB ignored evidence of the actual time of the crash

An eye witness made a 911 call 20-30 seconds after viewing the crash. The time of the call was recorded on a clock slaved to the same atomic clock used by the FAA's radar. The call was received at 14:15:22. That puts the time of the crash at approximately 14:15:00 local time (18:15:00 UTC). The missing time was adequate for ValuJet to fly from 12 miles back to the crash site

Between the NTSB's claimed time of the crash at 18:13:42 (which is fast by about 50 seconds and should be approximately 18:12:50 UTC) and the eyewitness 911 call to the Broward Sheriff's Department within 20-30 seconds of the accident, there is approximately one minute and 17 seconds missing (or about two minutes when adjusted as noted above).

Whatever manipulation has been done to the time clocks, the plane had to fly from where it was lost off the radar 12 miles from the airport back to the crash site 17 miles from the airport. There was sufficient time to have flown in the manner described by the unreported testimony of eye witnesses.

Integrity of NTSB should be re-established by re-opening the ValuJet 592 investigation

Chairman Hall, in light of the foregoing, the integrity of the NTSB must be seriously questioned. I believe you owe it to the relatives and friends of the victims in this tragic accident and to the American public to re-open the ValuJet investigation and have the truth revealed. What other purpose does the NTSB have than to reveal all the facts in an accident and then make recommendations consistent those facts and related findings. I encourage you to do so with dispatch.

Meanwhile, I look forward to your early response to this letter and to the September 11, 1997 letter from our Counsel, Mr. Hadley to you concerning "ValuJet Flight 592- Possible Tampering with Evidence/Criminal Conduct" (attachment F).

Sincerely,  
VisionSafe Corporation

Bert Werjefelt  
President

