MEMORANDUM

TO: Russ Mortenson

FROM: Rick Salwen

DATE: December 3, 1979

RE: Omni Litigation: Airworthiness of Aircraft

Enclosed with this memorandum are two copies of a letter dated February 21, 1979 from Ken Lenz, flight engineer for VR-CAN during the trip to the Middle-East and back, to Omni International. Please note that Mr. Lenz thanks Omni for the opportunity to serve them as flight engineer on the "charter" for Ross Perot. This is significant, since a charter operation differs significantly from a simple aircraft lease, and requires substantially higher levels of care, and equipment reliability.

Also, please note the twenty-four item list which Mr. Lenz states it would be "desirable to correct" before further operation of the aircraft. In my conversation with Mr. Lenz in California, I asked him to evaluate the seriousness of each item listed. His comments, item by item, were as follows:

1. This was smelly, and annoying, but did not affect the airworthiness of the aircraft.

2. Same comment as No. 1.

3. This is a nit-picky item.

4. This could result in inability to operate the water system, which would be annoying and uncomfortable but not affect the safety of flight; or, if there really is no circuit breaker protection, could create a danger to anyone touching metal in the vicinity in the event of a short circuit.

5. This is not an airworthiness item either, but simply makes it inconvenient to open and close the door.

6. This item requires a crew member to stand outside to start the No. 1 engine. It presents some danger to the crew member who must perform the starting operation; however, this was not a pre-existing defect Omni should have known about, but rather malfunctioned during the course of this trip.

7. This item is more serious. The ADF is a required navigational instrument for operation in instrument flight; large aircraft such as the Boeing 707 are required to have two of these. The margin of safety in flight is derogated if either one fails to operate.

8. This is the primary enroute navigational instrument for use in flight. It is a required piece of equipment. The aircraft could not legally operate in U.S. airspace in instrument weather conditions with this instrument inoperative. The appearance of the "flag" noted by Mr. Lenz is a malfunction indicator for the instrument.

9. This malfunction makes it difficult or impossible to operate the aircraft on autopilot during climb and descent operations. It has an impact on safety, since climb out and descent are the busiest times for the crew, and the ability to operate the aircraft on autopilot during those operations is important.

10. This item relates to the inertial navigation system (INS), and the inoperative system restricts the ability of the aircraft to operate in transatlantic flight. Under current air traffic control rules, the most advantageous high density flight corridors cannot be used with this instrument inoperative. As a result, the aircraft must operate close to its maximum fuel-range limits for a transatlantic flight, reducing the margin of safety. This defect rendered the aircraft unfit for its intended purpose; and Omni's represenatives were well aware that we intended the aircraft for a transatlantic flight. Incidentally, Lenz noted in conversation that the INS instrument installed in the aircraft was not the same as the one for which the operating manuals in the aircraft had been produced. While it was the same series, the serial number for the operating manual was different from the serial number of the instrument installed.

11. A transponder is a required instrument for flight in U.S. airspace as well as operation in most European countries. This particular malfunction created serious problems, since the air traffic control facilities were unable to receive the transponder signal of the aircraft, making radar identification for air traffic control purpose much more difficult.

12, 13, and 14. These items, combined, made it virtually impossible to monitor accurately the use of fuel in flight. Because fuel flow varies significantly depending upon atmospheric conditions, altitude, and other aspects of the flight regime, accurate fuel flow information is critically important on large jet aircraft. Three of the four fuel flow meters must be in proper working order for legal operation in U.S. airspace.

15. This is a required item of equipment for operation in IFR weather conditions. During this trip, its malfunction created a problem in the approach to Heathrow Airport in England, under emergency conditions, making that approach, in bad weather, much more difficult.

16. This compass was on the captain's position at the beginning of the flight, and the autopilot directional control used this compass for directional guidance information. If this compass had remained in the No. 1 position,

it would have made use of the autopilot totally impossible. Even after the crew switched it to the copilot position, it derogated safety because of the margin-of-safety impact.

17. The severe weakness in the VOR receivers was the direct cause, Lenz believes, of the malfunctions covered above under Items 8 and 15.

18. Accurate air speed indication is critical to proper flight operation, and, at low speeds, this inaccuracy, if not know to and compensated for by the crew, could have caused the aircraft to stall and crash.

19. This gauge is a required item -- however, its proper functioning is not critical to safety of flight.

20, 21 These items were annoying, but not critical.

22. These lighting malfunctions made night flight extremely difficult, since a flash light had to be used to read the instruments. Note that the malfunction was more serious than just burned out bulbs.

23. Proper oxygen supplies are critical to passenger safety in the event of failure of the pressurization system in the aircraft. As a matter of fact, the pressure did partially fail during this flight, necessitating rapid descent since not enough passenger oxygen was on board.

24. This problem made it difficult to operate the aircraft at any airport which was not fully equipped with services for a large jet aircraft. Luckily, the airplane did not have to operate from such vehicles.

In addition, Mr. Lenz and I discussed the malfunction of the pressurization system, which was a result of a piece of insulation being caught in the "bleed air" valves, holding those valves open so that the compressors were unable to maintain cabin altitude when the aircraft reached high flight operating altitudes. This problem, of course, was not one which could have been foreseen. However, once it occurred, the other, pre-existing problems aggravated an otherwise inconvenient situation, turning it into a critical safety hazard requiring emergency action and unscheduled termination of the flight at Heathrow Airport.

I also discussed the malfunctions listed in Mr. Lenz's letter with John Carlen, the captain of the aircraft, and he stated that, basically, three factors had resulted in his decision to take emergency action terminating the flight, as follows:

1. Because the compass, flight director, and INS were inoperative (as discussed above) it was impossible to fly the aircraft using autopilot, which would have necessitated several hours of transatlantic flying by hand, leading to severe fatigue on the part of the crew.

2. The failure of the pressurization system required the aircraft to operate at low altitude, creating an ability on the part of air traffic control to follow the flight properly and give proper clearances, as well as a fuel consumption problem (since the aircraft uses more fuel at low altitudes) aggravated by the lack of accurate fuel flow information discussed above.

3. Finally, the lack of oxygen availability to the passengers over this long flight with the possibility that the pressurization system would fail entirely, made continuation of the flight unreasonably hazardous.

Carlen also noted several incidental matters with regard to the flight that are not reflected elsewhere in the file as follows:

a. Omni's contact in London, who made all parking and other arrangements for the aircraft after landing at Heathrow, was named Jeff Fordham;

b. After landing in London, the aircraft was held over, together with the crew, by direction of Omni, for several days, for the purpose of flying a trip to Rio de Janiero after the aircraft had been repaired. When the prospective customer cancelled, the crew was sent home.

c. Also, after the Rio trip cancelled, Omni talked about having the crew bring the aircraft back to the U.S. after repair, but decided not to do so because (Omni told Carlen) it would be easier to sell the plane in London.

The above items should, with the documents and information previously sent you, give you access to all the information I currently have with regard to this case. As you already know, I am available to assist in any way you deem appropriate with further preparation for trial.

RS:kf

[redacted]

02-21-79

Omni International
Gentlemen:

Thankyou for ~~for~~ the opportunity to serve you as Flight Engineer on the Boeing 707 VR-CAN H. Ross Perot charter.

The following amounts of monies are due me for services rendered and expenses paid by me.

Pay at $160 per day for 9 days 2/12 THRU 2/20	$1440 —
Airline fare to Dallas	127 —
Hotel, food and phone 2/15-L 21.22 x 2.16	45.84
Hotel food and phone 2/19-L 36.73 x 2.16	79.34
Cab fare at Istanbul	5.00
	$1697.18

If you desire to offer me work in the future please let me hear from you. I will be available approximately 15 days each months and have extensive F.E. experience on the DC 8, Convair 880, +L-188 as well as first officer experience on B707 & B727.

Before further demonstration of VR-CAN ~~the~~ it would seem desirable to correct at least the following items.

1. Both front and aft toilets flushing lines keep plugging up.
2. Middle toilet does not have an external vent or drain connection.
3. Coffee makers in both galleys do not heat water hot enough.
4. No circuit breaker protection for water evaporator pumps or at least ~~the~~ not identified or readily available.
5. Door handle steering cable for fwd galley door is too short.

6. # 1 engine start valve must be hand operated
7. # 2 ADF is weak in all functions - unusable.
8. Captains HSI (VOR-loc) flag will not stow (Salvage in view)
9. Auto pilot pitch trim is inoperative (Autopilot pitch trim inoperative)
10. No 2 Inertia Nav. sys is removed because inop.
11. No. 1 transponder has no installation rack and connection.
12. No. 2 fuel flowmeter underreads approx 800 lbs/hr.
13. No # fuel flowmeter inoperative, ~~or~~ amplifier is missing.
14. Fuel flow inoperative in normal position.
15. # 1 Glide Indicator is unreliable in VOR/Loc & Glide Slope.
16 #2 compass erratic and wonders continuously left & right of heading up to 15° and bank up is ~~30 degrees~~ banks (was swapped ~~from # 2~~) position ~~as would not fit # 2.~~
17. # 1 VOR reception very weak.
18. Discrepancy between Capts & F.O.'s airspeed and mach meters indications 10 knots and .03 mach at 32000 feet.
19. Utility hydraulic gauge indications erratic from low of 150 # to high of ~~4000~~ #
20. F. E's table light inoperative
21. F.O.'s map light froze in red position.
22. Many ~~each~~ F.O.'s instrument edge light out replacing bulbs no help.
23 Passenger Oxygen only 750 lbs
24. A.P.U. random trip usually due to moisture, will not carry both airplane electric & engine start air

If I can be of further help please let me know

Regards
Ken Lenz