

Dr. Gregory A. Harrison, P.E. & Associates

ENGINEERING SERVICES

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Gaithersburg, Maryland 20878

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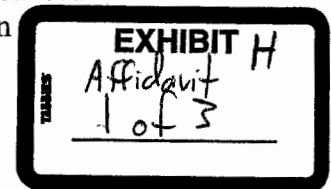
CA Reg. #352
MD Reg. #8669
VA Reg. #025011

AFFIDAVIT OF GREGORY A. HARRISON, Ph.D., P.E.

I, Gregory A. Harrison, am a U.S. citizen over the age of 21 years with no felony charges or convictions and being of sound body and mind hereby offer this affidavit as follows:

1. I have worked full time for the U.S. Government for 17 years to include the agencies of the Department of Defense, NASA, NBS, and the U.S. Nuclear Regulatory Commission;
2. I have carried security clearances in my U.S. employment and private practice all the while to include many years of "TOP SECRET";
3. I have served as an expert witness for the U.S. on many occasions involving fires and explosion in a number of settings;
4. I have four degrees in engineering to include a B.S. in Fire Protection Engineering;
5. I worked two years in Saudi Arabia with the world's largest oil and gas company and was exposed to a lot of practical and engineering experience in and around combustible and flammable liquids;
6. I have over 36 years of experience in the area of fire protection, safety, fire investigations, accident investigations, explosion investigations, fire science, and flammable/combustible liquids;
7. I served on the National Fire Protection Association (NFPA) committee for the safe use and storage of flammable liquids – NFPA Standard No. 30;
8. I actively served many years as a volunteer fire fighter in two departments and have received a Maryland State certification as a level three fire fighter;
9. I taught fire science at the University of Maryland and Northern Virginia Community college for many years and subjects covered in class lectures included fire investigations, flammable liquids, credible ignition sources, explosions, fire chemistry, and fire dynamics;
10. I am well published on fire related matters;
11. I am sought after by both defense and plaintiff's council to serve as an expert witness for active and ongoing litigation in many states; and
12. my resume is attached herewith.

I have reviewed certain circumstances surrounding the TWA 800 flight disaster causation, which has also been investigated by the FAA, et. al. Published reports assign the proximate cause of the TWA Flight 800 explosion and crash as having been caused by a faulty fuel pump/wiring located within a wing fuel tank. It is alleged that an



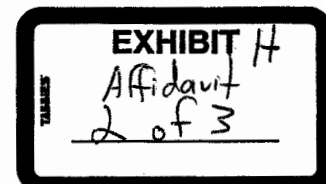
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electrical spark ignited a fuel vapor and air mixture within the tank that then created an explosion of sufficient intensity to destroy TWA Flight 800. The focus of my opinion is solely on the aspects of the credibility of such a proximate causation theory assigned to this incident by the FAA, et al.

The essence of the FAA position that an electrical spark somehow created an explosion within a fuel tank has to be based upon sound principles of fire science in order to be credible and in accord with the principles of the scientific method of investigation. This method of investigation is well articulated in the scientific literature and is also the standard of care in fire/explosion investigation as presented in the NFPA Standard No. 921, "Guide for the Investigation of Fires and Explosions". Relying upon my education, training, and job experience, and the review of certain file materials, the fire science literature, and fuel fire tests relevant to the subject TWA Flight 800 disaster, my professional opinions within a reasonable degree of fire protection certainty are as follows;

1. that an aviation fuel having a flash point greater than 100 degrees F would be properly classified as a combustible liquid and NOT a flammable liquid;
2. the fuel onboard TWA Flight 800 had a flash point greater than 100 F;
3. a combustible liquid is one that will NOT give off flammable vapors in sufficient quantity to allow combustion and/or an explosion at ambient temperatures;
4. as an airplane gains altitude, the ambient temperature drops;
5. a fuel tank containing a flammable liquid is not (contrary to Hollywood movies) prone to exploding because the tank's atmosphere is too rich to ignite and burn or detonate;
6. a nearly empty or "empty" fuel tank carrying a flammable fuel will also not be prone to exploding because of the "too rich" fuel vapor environment;
7. today cars have fuel pumps inside their gas tanks and the field experience over many years is that these tanks are not exploding given pump failures or wiring short circuits;
8. there are no report(s) in the fire science literature that internal electrical shorts are somehow igniting tank contents;
9. a fuel tank carrying a combustible liquid is, by scientific definition, not capable of an internal fire or explosion because there simply cannot be the presence of flammable vapors therein;
10. the FAA fire/explosion report is NOT in accordance with NFPA Standard No. 921 fire investigation principles;
11. the FAA conclusion regarding an internal fuel tank fire/explosion does not rest upon fire science facts or principle and is otherwise flawed in concept, theory, and fact;
12. it is totally understandable that the FAA could produce and continue to support

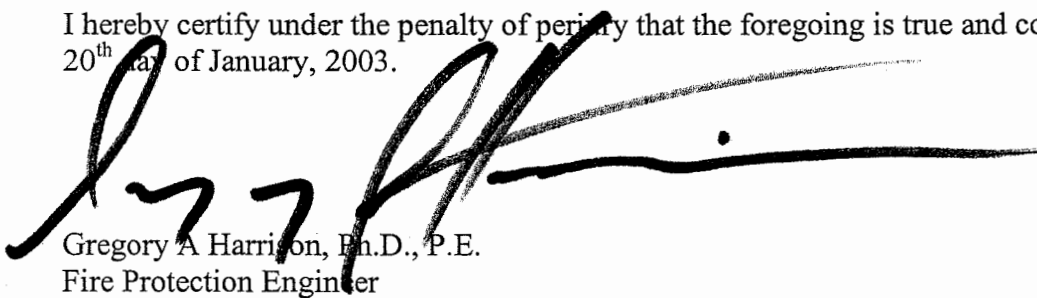


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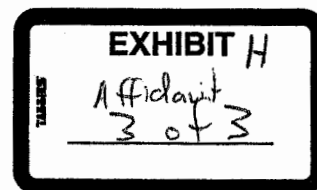
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- their theory of a fuel tank explosion created by an electrical short occurring within a fuel tank carrying a combustible liquid; and, finally,
13. this engineer would be shocked to learn that the FAA employed a qualified fire protection engineer(s) as part of their investigation team and that the same qualified engineer(s) endorsed the final report findings as generated by FAA.

I hereby certify under the penalty of perjury that the foregoing is true and correct on this 20th day of January, 2003.



Gregory A Harrison, Ph.D., P.E.
Fire Protection Engineer



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EDUCATION

B.S. Fire Protection Engineering, University of Maryland (1966)
M.S. Civil Engineering, University of Maryland (1970)
M.S. Engineering Administration, George Washington University (1979)
PhD. Safety Engineering, Kennedy-Western University (1994)

PROFESSIONAL LICENSES

Registered Professional Civil/Safety/Fire Protection Engineer, Maryland #8669
Registered Professional Fire Protection Engineer, California #352
Certified Fire & Explosion Investigator (CFEI) #2193-73
Maryland State Fire Fighter III Certification

MEMBERSHIPS HONORS

Professional Member - American Society of Safety Engineers (ASSE) #0116402
Professional Member - Building Officials & Code Administration (BOCA) #20308
Professional Member - Southern Building Code (SBCCI) #28543
National Fire Protection Association (NFPA) & NFPA MAC (Past)
Full Member - Society of Fire Protection Engineers (SFPE - Past)
National Association of Fire Investigators (NAFI)
National Fire Sprinkler Association (NFSA)
NFPA Committee on General Storage of Flammable Liquids (Past)
National Safety Council & NSC Falls Prevention Committee
Member of Ellicott City & Rockville Vol. Fire Depts.
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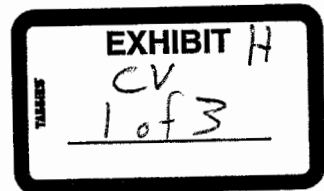
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WORK EXPERIENCE

Over twenty-eight years of diversified safety engineering work with NASA, DOD, NBS, NRC, ARAMCO, and Tenera L.P. Work experience includes building code and life safety code surveys; major fire investigations; insurance claims; slip and fall accident investigations; civil engineering; project engineering; water supply studies; gas plant/refinery equipment fire risk analysis; offshore platform fire protection evaluations, and fire research. Also, experience includes President of a 268 townhouse homeowners association. Work site locations were stateside and overseas including two years with ARAMCO in Saudi Arabia, one third year with BMEWS in Thule, Greenland, and numerous other locations such as Canada, Bermuda, Holland, Kuwait, Bahrain, and Gaithersburg. University of Md. & No. VA Fire Science Lecturer in fire investigation, fire models, fire dynamics, fire departments, and building construction. Investigations for: Nationwide, USF&G, CNA, State Farm, Allstate, Reliance, Liberty Mutual, Chubb, Zurich, etal.

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BOCA Plan Review and Code Update Seminars
Life Safety Code Seminars - National Fire Protection Association
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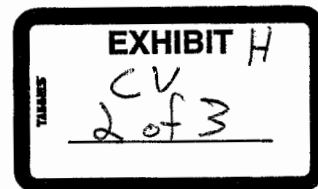
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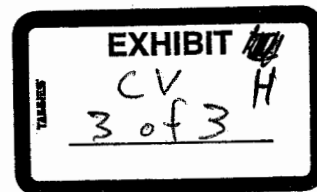
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