

**Lemoine (Lee) V. Dickinson, Jr., Ph.D., P.E.**  
**Principal Engineer**

**Professional Profile**

Dr. Lee Dickinson is a Principal Engineer in Exponent's Buildings and Structures practice. He specializes in transportation related issues, particularly accident reconstruction and safety analysis of transportation related products, systems and installations. He has had extensive experience spearheading many investigations of major transportation related accidents and failures, and his current research focuses on urban transport studies, safety analysis of railroad equipment and operations, evaluation of aviation safety and air traffic control, roadway design and its relationship to accidents, traffic engineering, reconstruction of accidents involving on-road and off-road vehicles, and analysis of government and social policy issues related to safety and risk. In addition to his transportation-related research, Dr. Dickinson also specializes in the evaluation of construction and utility equipment and operations and analysis of civil engineering structures and systems.

Dr. Dickinson is a former member of the National Transportation Safety Board and held several engineering and research positions before joining Exponent. He also served as a Civil Engineer/Lieutenant in the U.S. Army Corps of Engineers.

**Academic Credentials and Professional Honors**

Ph.D., Civil Engineering/Transportation Planning/Traffic Engineering, University of Maryland, 1975

M.S., Civil Engineering/Transportation Planning, University of Maryland, 1973

B.S., Civil Engineering, University of Maryland, 1966

Sigma Xi; Phi Kappa Phi

**Licenses and Certifications**

Registered Professional Engineer, Virginia, #6728

Registered Professional Engineer, Maryland, #8883

## **Selected Reports/Books**

Transportation Engineering, Planning & Policy. Chapter 7. In: Air Transportation. Transportation Engineering Press LC, Senior Author, L.E. Haefner, 2007.

Dickinson LV. Ensuring Railroad Tank Car Safety. Special Report 243, Transportation Research Board, National Research Council, Washington, DC, October 1994.

Dickinson LV. Competing Against Time. Report to Governor George Deukmejian from the Governor's Board of Inquiry on the 1989 Loma Prieta Earthquake, North Highlands, CA, May 1990.

Dickinson LV. Human Error in Aviation Accidents. Strike Aircraft Test Directorate, Patuxent Naval Air Section, Patuxent River, MD, April 1989.

## **Presentations**

Dickinson LV. NTSB investigations—The client's perspective. DRI Product Liability Conference – Aviation and Aerospace, Phoenix, AZ, February 7, 2008.

Dickinson LV. History Channel – Modern Marvels: Engineering disasters. September 28, 2004, Delta Airlines Flight 1141, B-727, Dallas, TX.

Dickinson LV. History Channel – Modern Marvels: Engineering disasters. September 7, 2004, EL AL Flight 1862, B-747, Amsterdam, Netherlands.

Dickinson LV. The distracted driver and the use of cellular telephones while driving. Proceedings of the 8<sup>th</sup> Annual International Conference, Advances in Industrial Engineering Theory, Applications and Practice 8, Las Vegas, NV, November 2003.

Dickinson LV. Press briefing on roller coaster safety. National Press Club, National Press Building, Washington, DC, January 21, 2003.

Dickinson LV. Airport/aircraft security. DRI Products Liability Conference, Los Angeles, CA, February 13, 2002.

Dickinson LV. Homeland Security. Presented to Stihl, Inc., Virginia Beach, VA, January 29, 2002.

Dickinson LV. Accident investigation/reconstruction. Presented to the Alexandria Rotary, Alexandria, VA, April 20, 1999.

Dickinson LV. Accident reconstruction. Presented to the Philadelphia Association of Defense Counsel, Philadelphia, PA, October 1998.

Dickinson LV. Animation/demonstrative evidence. AVCON 1998 Aviation Safety Conference, Gatwick, England, September 1998.

Dickinson LV. Accident response, investigation and litigation. American Society of Safety Engineers, Washington, DC, May 13, 1998.

Dickinson LV. Automotive accident reconstruction. Presented to the Zurich Insurance Company, Baltimore, MD, July 1997.

Dickinson LV. TWA 800 accident reconstruction. Presented to the International Association of Defense Counsel (IADC), Southampton, Bermuda, July 1997.

Dickinson LV. Light and medium duty truck trailer risk analysis. National Association of Trailer Manufacturers, Las Vegas, NV, February 1996.

Dickinson LV. Transportation surety: Lessons learned. Transportation Surety Symposium Paving and Transportation Conference, Albuquerque, NM, January 1996.

Dickinson LV. Heavy truck-trailer under-ride risk analysis. Truck Trailer Manufacturers Association, Scottsdale, AZ, April 1995.

Dickinson LV. Anti-lock braking systems. Truck Trailer Manufacturers Association, Scottsdale, AZ, April 1995.

Dickinson LV. Aviation accident investigation and media relations. The Freedom Forum, Rosslyn, VA, January 1995.

Dickinson LV. Aviation accident investigation techniques. Aviation Disaster Management Conference, Washington, DC, October 1994.

Dickinson LV. The grounding of the Tankership Exxon Valdez and oil spill. Women's Transportation Seminar, Washington, DC, May 1989.

Dickinson LV. CFR—Crash, fire, rescue operations in aviation accidents. Texas Airport Operators Conference, Austin, TX, April 1989.

Dickinson LV. National Transportation Safety Board. Women of Capitol Hill, Washington, DC, February 1989.

Dickinson LV. Aviation accidents—A statistical comparison. Air Transport Group of the American Society of Civil Engineers, Washington, DC, February 1989.

Dickinson LV. Weather-related aviation accidents. 3rd International Conference on the Aviation Weather System, American Meteorological Society, Anaheim, CA, January 1989.

Dickinson LV. Crash, fire, rescue, and aviation accidents. American Association of Airport Executives, Phoenix, AZ, November 1988.

Dickinson LV. Department of Transportation's proposed rules on drugs and alcohol. Women's Transportation Seminar, Washington, DC, September 1988.

Dickinson LV. The nation's infrastructure and deteriorating bridges. National Association of Counties, Anaheim, CA, August 1988.

Dickinson LV. Aviation safety and deregulation. American Society of Civil Engineers, Air Transport Group, Orlando, FL, June 1988.

Dickinson LV. Human performance in transportation accidents. Human Factors Society, Potomac Chapter, Washington, DC, May 1988.

### **Interviews**

Dickinson LV. TV interview on the Air France Airbus A-340 Flight 358 landing accident for ABC News, August 2, 2005.

Dickinson LV. Radio and TV interviews on the investigation of the Shuttle Columbia accident, Washington, DC, February 3, 2003.

Dickinson LV. American Airlines Flight #587, accident investigation. CNN News; National Public Radio (NPR); Jim Lehrer News Hour, Washington, DC, November 2001.

Dickinson LV. Airport security. CNN and FOX News, Washington, DC, September 2001.

Dickinson LV. Air France Concorde Flight #4590 accident investigation. CNN News, Jim Lehrer News Hour, Canadian Broadcasting Company (CBC), Washington, DC, July/August 2000.

Dickinson LV. Alaska Airlines Flight #261 accident investigation. CNN News, Jim Lehrer News Hour, CBC, February 2000.

Dickinson LV. Egypt Air Flight #990 accident investigation. CNN News, Jim Lehrer News Hour, Washington, DC, November 1999.

Dickinson LV. Burden of proof: Discussion of J.F.K., Jr., Piper Saratoga II aircraft accident and investigation. CNN News Show, Washington, DC, July 27, 1999.

Dickinson LV. American Airlines Flight #1420, accident investigation. CNN News Interview Washington, DC, June 2-3, 1999.

Dickinson LV. Avianca and ATC procedures. British Television Network movie, Cove Neck, Long Island, New York, May 14, 1999.

Dickinson LV. SwissAir MD-11 Accident. CBS, ABC, CNN News Interviews, Washington, DC, September 3, 1998.

## **Project Experience**

Monorail—Managed a major investigation of the Monorail System in Las Vegas, Nevada. The system had been fraught with numerous operational problems since its launch in early 2004. Instrumentation, testing, and data analysis allowed us to determine the reasons for the failures and recommend modifications necessary to get the system back in service.

Synthetic Stucco—Managed a major investigation of synthetic stucco homes throughout the U.S. The synthetic stucco (External Insulation and Finish System - EIFS) was failing and resulting in major problems for homeowners. Inspections, testing, and data analysis allowed us to understand the problem and offer solutions.

United Airlines B-747—Led the investigation of a United Airlines B-747 cargo door accident in Honolulu, Hawaii. The right forward cargo door came off as the aircraft was ascending after take-off resulting in numerous passengers being pulled out of the aircraft. Also, led the public hearing of this accident to determine what caused the door to fail catastrophically.

Exxon Valdez—Led the public hearing into the grounding of the Exxon Valdez that ran aground of Bligh Reef in Alaska in 1989. The hearing gathered factual data that was analyzed in determining the reason(s) for the grounding.

Delta Airlines B-727—Led the accident investigation into a Delta Airlines B-727 that crashed on take-off from Dallas/Ft. Worth Airport. After pushing back from the gate, the aircraft was told to hold short of the runway for further clearance. When it was cleared for take-off by air traffic control (ATC), it took off with improper flap settings and crashed.

Amtrak—Led the investigation of an Amtrak passenger train that collided with an emergency vehicle in Catlett, Virginia. The emergency vehicle was responding to a fire and drove into the path of the Amtrak train at a private grade crossing.

## **Professional Affiliations**

- National Transportation Safety Board (appointed by President, confirmed by Senate) (member)
- Special Assistant to Vice Chairman: National Transportation Safety Board
- Special Assistant to the Deputy Secretary: Department of Transportation
- Senior Policy Analyst, Office of Technology Assessment: U.S. Congress
- Committee on Aircraft Certification: National Academy of Sciences, National Research Council, Washington, DC, 1997
- Institute of Transportation Engineers (member)
- American Society of Civil Engineers (member)
- Civic Association, Alexandria, VA (past president)