



NESTOR J. CAMARA, B.SC., IAAI-CFI(V)[®], NAFI-CVFI

Senior Fire Analyst/Mechanical Technician

Fire Science, Fire, and Explosion Analysis
Residential Appliance Failure and Gas System Analysis and Testing

PROFESSIONAL SUMMARY

- ▶ Bachelor of Science (Fire Science). Extensive training and experience in fire and explosion analysis, origin and cause investigations, and documentation and preservation of evidence.
- ▶ Obtained Certified Fire Investigator (CFI), Texas Commission on Fire Protection (1998).
- ▶ Primary Areas of Consultation: Forensic Fire Analysis, Vehicle Fire Analysis inclusive of Recreational, Personal, and Commercial Vehicles, Residential Appliance Failure Analysis, Natural Gas and LP Gas Piping Systems, Site Documentation and Computer Aided Design, Evidence Documentation and Preservation.
- ▶ Extensive experience in gas system analysis and testing; explosion and fire origin and cause analysis including analysis analyses involving LPG and other flammable gas and liquid related losses, and in the design and instrumentation of fire and engineering testing.
- ▶ Cy-Fair Volunteer Fire Department, Firefighter, Retired Fire Investigator

EMPLOYMENT RECORD

- ▶ 1989-Present **McDOWELL OWENS ENGINEERING, INC.** *Houston, Texas*
Senior Fire Analyst/Mechanical Technician Primary areas of responsibility include Forensic Fire Analysis inclusive of residential, commercial, and industrial losses and recreational and commercial vehicles; documentation and preservation of evidence; natural and LP gas installation and testing of piping systems, combustion and ventilation, burner and regulator operations, and pilot, meter, and orifice types and sizing; appliance failure investigations and testing; preparation and monitoring of small to full scale testing. Large Loss Investigations include DuPont Plaza, Malden Mills, Phillips Petroleum, Air Liquide Explosion, Impress in Puerto Rico, Robbins Chevrolet and the most recent, Servicios Acros Whirlpool warehouse in Monterrey, Mexico.
- ▶ 1988-1989 **OFFICE DEPOT**
Warehouse Distribution Supervisor Responsible for organization and distribution of products to national stores; supervision and training of warehouse employees.

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- ▶ 1984-1988 **BUILDERS SQUARE**
National Distribution Center; Operations Manager Responsible for all international shipments entering the port of Houston and Savannah, Georgia and distribution to national stores. Responsible for supervision and training of distribution center personnel.

- ▶ 1980-1984 **AUTO ELECTRIC & COOLING**
DC Electronics Technician Responsible for trouble-shooting and rebuilding of DC electronic circuits and components.

EDUCATION

- ▶ Bachelor of Science, Fire Sciences
University of Maryland, University College, 2005

- ▶ Completed Fire Prevention VI, Phases 1-4, Arson Investigation
Texas A&M University, Texas Engineering Extension Service

REGISTRATIONS, LICENSES & CERTIFICATIONS

- ▶ Certified Fire Investigator
International Association of Arson Investigators
No. 03-142

- ▶ Certified Vehicle Fire Investigator
National Association of Fire Investigators
No. 18927V

- ▶ Certified Level I Instructor
State Firemen's and Fire Marshal's Association of Texas

- ▶ Certified Basic Firefighter
State Firemen's and Fire Marshal Association

CONTINUING EDUCATION

- ▶ Vehicle Fire Investigation – International Association of Arson Investigators, Livingston, Texas, February 8-10, 2022
- ▶ Marine Fire Investigation – International Association of Arson Investigators, Zachary, Louisiana, February 12-15, 2019
- ▶ Residential Electrical Systems and Investigating Motor Vehicle Fires – CFITrainer.net, International Association of Arson Investigators, Inc. (IAAI), December 7, 2017
- ▶ International Fire, Arson and Explosion Investigation Training Program, National Association of Fire Investigators, Seattle, WA, March 2016
- ▶ Advanced Principles of Fire Dynamics, Gulf Coast Fire, Research and Education, Dr. James Quintiere, February 2016
- ▶ NASP 2014 National Association of Subrogation Professionals, Orlando, Florida, November 10-11, 2014
 - ✓ Dryer Fires: Cleaning up on Subro; Ed Jager and Ron Parsons
 - ✓ Successfully Climbing the Mountain in Your Subrogation Case: NFPA 921
- ▶ 2013 National Vehicle Fire, Arson, Explosion Investigation Training Program, National Association of Fire Investigators, September 30 - October 3, 2013
- ▶ 2012 International Symposium on Fire Investigation Science and Technology, Annual Conference, October 15-17, 2012
- ▶ Hazardous Materials Transportation Training and Security Awareness Training, U.S. Department of Transportation, Pipeline and Hazardous Materials Safety Administration, March 29, 2012
- ▶ HAZWOPER – Hazardous Waste Operations and Emergency Response (8-hour Refresher Course), CFR 1910.120, MDLS Safety Training, 2007–2019
- ▶ Advanced Arson Investigative Techniques for the Insurance Industry, Federal Law Enforcement Training Center (FLETC), Bureau of Alcohol, Tobacco and Firearms National Academy (IAAI), November 2-6, 2009
- ▶ 2008 IAAI Annual Training Conference, IAAI, April 27-May 2, 2008
- ▶ Investigating Residential Dryer Fires, Fire Findings, April 17-18, 2007

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- ▶ HAZWOPER – Hazardous Waste Operations and Emergency Response (40 hour), 29 CFR 1910.120(e) Confined Space Entry and Air Monitoring Certified, Argo Environmental Training and Consulting, Inc., February 19, 2006
- ▶ Catastrophic Propane Explosion and Carbon Monoxide Claims, Propane Claim Training Seminar, November 17-18, 2005
- ▶ Investigation of Gas and Electric Appliance Fires, Fire Findings, November 8-11, 2005
- ▶ Fire and Materials 2005 Conference Delegate, Interscience Communications, San Francisco, January 31 - February 2, 2005
- ▶ Vehicle Fire/Arson Investigation, Public Agency Training Council, January 2005
- ▶ Basic Service and Installation, Natural and LP Gas Systems, Gas Training Services, August 2004
- ▶ NFPA 58 Adoption of the 2001 Edition, Texas Propane Educational and Marketing Foundation, May 2004
- ▶ Analytical Approach to Public Fire Protection, National Fire Academy, Spring 2004
- ▶ Managerial Issues in Hazardous Materials, National Fire Academy, Fall 2003
- ▶ Advanced Fire Administration, National Fire Academy, Fall 2003
- ▶ Fire Dynamics and Fire Safety Engineering Design, The University of Edinburgh, Scotland, March 31 - April 2, 2003
- ▶ Incendiary Fire Analysis and Investigation, National Fire Academy, Spring 2003
- ▶ Disaster and Fire Defense Planning, National Fire Academy, Spring 2003
- ▶ Fire Pattern Recognition Certification, Public Agency Training Council, Fall 2002
- ▶ Fire Prevention Organization and Management, National Fire Academy, September 4 - December 19, 2002
- ▶ Fire Protection Structures and Systems Design, National Fire Academy, September 4 - December 19, 2002
- ▶ 16th Fire Science and Fire Investigation Course, Fire Safety Engineering Group, The University of Edinburgh, Scotland, April 2002 (Examination, IFE, taken)

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- ▶ Fire Dynamics, National Fire Academy, January 28 - May 17, 2002
- ▶ Personnel Management for the Fire Services, National Fire Academy, January 28 - May 17, 2002
- ▶ Electrical Fire Investigation, Public Agency Training Council, 2002
- ▶ Fire-Related Human Behavior, National Fire Academy, September 29 - December 14, 2001
- ▶ HAZWOPER – First Response Operations Level, OSHA; 29 CFR 1910.120(q)(6)(ii)/EPA 40 CFR 311
- ▶ Investigation of Gas and Electric Appliance Fires, Fall 1998
- ▶ Global Atmospheric Lightning Detection Network, Fall 1996
- ▶ Engineering Design and Drafting
- ▶ Metallurgy
- ▶ Computer Aided Design and Drafting
- ▶ Electrical Fire Investigation, Public Agency Training Council, 2002

PROFESSIONAL MEMBERSHIPS

- ▶ American Society for Testing and Materials – Company Affiliation
- ▶ Cy-Fair Volunteer Fire Department
- ▶ International Association of Arson Investigators (IAAI) – Member
- ▶ Fire Investigator Safety Committee – Past Member
- ▶ Training and Education Committee – Past Member
- ▶ National Association of Fire Investigators – Member
- ▶ National Fire Protection Association – Company Affiliation
- ▶ State Fireman’s and Fire Marshals’ Association of Texas
- ▶ American Society of Gas Engineers

PROFESSIONAL PRESENTATIONS

- ▶ "A guide to fire and explosion investigations – updates, trends, current issues", dri: 2021 Fire Science and Litigation Seminar, Washington, D.C., September 10, 2021
- ▶ "Understanding Propane Fuel Gas Systems/Equipment", McDowell Owens Engineering Presentation, Houston, Texas, October 8-9, 2018
- ▶ "Fuel Gas Explosion Investigation", Crum & Forster Presentation, Houston, Texas, December 7, 2016
- ▶ "Radiant Barrier – Required Green Building Materials are Creating New Subrogation Opportunities", NASP 2014 National Association of Subrogation Professionals, Orlando, Florida, November 10-11, 2014
- ▶ "A Strange New Source of Structure Fire Ignition", ISFI 2012 International Symposium on Fire Investigation Science and Technology, College Park, Maryland, October 15-17, 2012
- ▶ "Post Incident Site Examination", Freeman Gas Manager's Meeting Presentation, Fontana Dam, North Carolina, April 19-21, 2010
- ▶ "Fuel Gas Fire and Explosion Investigations", Fairmont Specialty Group, September 28, 2007
- ▶ "Fuel Gas Explosion Investigation", Propane Claim Training Seminar, Orlando, Florida, November 17-18, 2005
- ▶ "Liquefied Petroleum Gas", American Management, September 16, 2005
- ▶ "Accidental Fires", American Management, September 16, 2005
- ▶ "Liquefied Petroleum Gas", American Management, July 14, 2005
- ▶ "Accidental Fires", American Management, July 14, 2005
- ▶ "Fuel Gas Explosion Investigation", Fairmont Specialty Group, February 3, 2005
- ▶ "Common Causes of Accidental Fires", Navajo Nation Annual Insurance Conference and Exposition, Las Vegas, Nevada, June 18, 2003
- ▶ International Association of Arson Investigators, Texas Chapter, Spring 1997

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TEACHING EXPERIENCE

- ▶ State Firemen's and Fire Marshal's Association, Basic Volunteer Firefighter Certification, Cy-Fair Volunteer Fire Department, 2000–2010
- ▶ Propane Related Fire and Explosion Investigations, International Association of Arson Investigators, Arkansas Chapter, Fall Conference, October 2004
- ▶ Texas Commission on Fire Protection, Basic Fire Investigator Certification, Tomball Fire Department, October 2002 and 2003

RESEARCH AND TESTING

- ▶ Testing of household clothing dryer design, operation, and fire potential.
- ▶ Compressed natural gas and liquefied petroleum fuel gas fire and explosion testing and investigation.
- ▶ Ignition characteristics of LPG based on diffusion and layering characteristics.
- ▶ Multiple full-scale room burns for the determination of various flame spread, heat characteristics, flashover potential, and temperature range identification.
- ▶ Full scale room burn design using HAZARD I.
- ▶ Full scale room burn utilizing configuration based on scaling of actual loss site with scaled reduction of fire load.
- ▶ Full scale structure fires, with repeated structures, for structural damage comparisons based on various origin(s) and cause(s).
- ▶ Evaluation of down-range accumulation of gunshot residue (GSR) and the resultant fire hazard.
- ▶ Potential for the unobserved existence of deep seated fire in cellulosic masses, i.e. baled cotton, and various extinguishment procedures.
- ▶ The reaction of specific appliances to various fire origins within the appliance as well as the exterior.
- ▶ Modeling of Fire Growth and Spread using commercially available simulation software.
- ▶ Modeling of Egress and Tenability using commercially available simulation software.

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- ▶ Field use of ultraviolet light source for identification of flammable and combustible liquids as fire accelerants.
- ▶ Ignition characteristics of methane in both static and dynamic environments employing various ignition devices.
- ▶ Extensive research testing of 1st, 2nd, single, and appliance regulators and their reaction to vent blockage and resultant associated downstream pressures.

PUBLICATIONS

"NFPA 921, Articulating the Next Steps in a Dynamic Document", Benstock, E. and Camara, N., 2021. [online] dri.org.

Available at:

<https://www.dri.org/docs/default-source/webdocs/other/2021/september/fire-sciencebenstock.pdf> [July–September 2021]

"A Strange New Source of Structure Fire Ignition", ISFI 2012 Proceedings of the 5th International Symposium on Fire Investigation Science and Technology, National Association of Fire Investigators, Pgs. 585-595, 2012

"Reflective Radiant Barriers: Good for Energy Savings – Bad for Fire Safety", National Association of Fire Investigators, October 29, 2010 <[http://www.nafi.org/files/article/Reflective RadiantBarriers112010101029121028.pdf](http://www.nafi.org/files/article/Reflective%20RadiantBarriers112010101029121028.pdf)>

"Special Report: Reflective Radiant Barriers", Fire Findings, Vol. 17, No. 3, Pgs. 7-11, 2009

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