

## **Curriculum Vitae of John P. Erickson P.E.**

### **EDUCATION:**

BS Chemical Engineering, Purdue University

MBA, The George Washington University

### **EXPERIENCE:**

**American Public Gas Association**, Washington, DC 2004 – present

Vice President, Operations responsible for monitoring, preparing industry-consensus positions and preparing reports on safety, engineering, operations and other technical issues affecting the natural gas industry; providing technical and administrative support for the APGA Operations Committee and its subcommittees; advising APGA's members on the proper application of pipeline safety regulations; and producing engineering reports, conferences, standards and publications related to natural gas design, construction, operations and maintenance.

**American Public Gas Association Security and Integrity Foundation**, Washington, DC 2007-present

Chief Operating Officer, responsible for administration of a 501(c)(3) non-profit foundation to promote the security and operational integrity of small natural gas utilities and related distribution and utilization facilities. The SIF, funded via cooperative agreements with the Pipeline and Hazardous Materials Safety Administration (PHMSA), provides training and operator qualification services; develops integrity management programs; and provides other products and services to assist gas distribution system employees and their contractors to operate and maintain safe and secure gas piping systems.

**Safety & Compliance Evaluation, Inc.**, Springfield, Virginia, 1997 – present

President and founder of SCE, responsible for day-to-day operation of SCE's natural gas system consulting, evaluation and recordkeeping business. SCE provides technical services to natural gas and hazardous liquid pipeline companies including compliance audits; benchmarking studies; expert witness and litigation support; and research. SCE also reviews and prepares operating and maintenance plans, operator qualification plans, emergency plans, public awareness programs, pipeline integrity management plans and other programs required by safety regulations. SCE evaluates individuals' qualifications to perform safety-sensitive tasks and makes these records available to many natural gas companies. SCE is a leading provider of compliance programs for operator qualification regulations.

Retained by the American Public Gas Association in 2003 to provide operations, safety and regulatory review, advice and analysis for APGA's ~650 gas utility members.

**Doran & Associates**, Springfield, Virginia, 1996 - 1998

**Vice President, Engineering Services**, responsible for performing safety benchmarking studies for gas utilities using DOT incident and annual report and other data in a model developed by Mr. Erickson which calculates the same benchmarks used by state and federal pipeline safety inspectors to target utilities for inspection; producing targeted safety compliance audits focusing on the areas identified by the benchmarking program; reviewing and developing operations, maintenance and emergency plans, operator qualification plans and risk management plans; consulting on accident investigations and litigation involving gas safety; preparing petitions, waivers and other requests to federal and state regulatory agencies; tracking federal regulations; providing company-specific impact analysis of rules; and organizing and conducting in-house training for utility personnel.

**American Gas Association**, Arlington, VA, 1981 - 1996

**Manager, Engineering Services Programs**, responsible for monitoring, preparing industry-consensus positions and preparing reports on environmental issues affecting the natural gas industry; providing technical and administrative support for various technical committees; and producing engineering conferences, standards and publications related to natural gas design, construction, operations and maintenance.

Promoted to **Director, Engineering Services** in 1985 with added responsibility for public and occupational safety issues, liaison with the Department of Transportation, gas measurement standards, managing contract research projects, developing and controlling the engineering group budget and providing technical review of all association work.

Promoted to **Staff Vice President** in 1989 with overall responsibility for the engineering group, working with the Board and industry officers to develop and implement association policies; representing the association before regulatory agencies and Congress; speaking at conferences sponsored by member companies, other associations and government; and serving as spokesman to the news media on safety and other technical issues.

Promoted to **Vice President** in 1991 with additional responsibility for coordinating the association's international committee activities, supporting US participation in the International Standards Organization, launching an on-line information system and creating a new business for engineering standards and reports on CD.

**OTHER INFORMATION:**

Registered Professional Engineer, Virginia  
Member, National Society of Professional Engineers  
Member of the Gas Piping Technology Committee (GPTC), 2005 - present  
Member of the GPTC working group on Distribution Integrity Management, 2006  
Member of the Pipeline and Hazardous Materials Safety Administration (PHMSA) working group on Distribution Integrity Management, 2005  
Member of the PHMSA Small System Operator Qualification Guide Material Project, 2003.  
Member of the Plastic Pipe Database Committee 2005-present  
Member of the PHMSA Large Excess Flow Valve Working Group 2009 - present  
Member of the API RP 1162 Public Awareness revision working group, 2008 - present  
Chair of the APGA Safety Committee, 2002-2003  
Past member of Gas Research Institute Environmental and Measurement Project Advisory Committees  
Organized US participation on the International Standards Organization Technical Committee on Natural Gas  
Member of the National Propane Gas Association subcommittee on leak detection technology, 1990 to 1996.  
Past member of the Natural Gas Council Technology Committee on natural gas composition standards, 1993 and 2005

**PROFESSIONAL ACCOMPLISHMENTS**

Participated in the 1988 National Academy of Sciences study on pipelines and public safety

Appointed to the Pipeline and Hazardous Materials Safety Administration (PHMSA) Distribution Integrity Management Program Steering, Coordinating and Data Working Groups in 2005.

Member of the Interstate Oil Compact Commission committee on safety standards for underground storage of natural gas in salt caverns (1994-1995).

Served as technical advisor to the negotiated rulemaking committee during the development of operator qualification regulations, 1997-98.

Helped create the APGA Security and Integrity Foundation (SIF) and developed the project plan for its first project, to train and qualify employees of small utilities, master meter and propane piping system operators.

Wrote operations and maintenance procedures for gas distribution construction, maintenance, operation and inspection tasks for the SIF, 2008.

Created and managed the APGA GOAL program for measuring the effectiveness of utility public awareness programs, 2005-present

Conducted a thorough analysis of one utility's public awareness programs; recommended and helped implement improvements, 2004.

Analyzed distribution covered tasks for knowledge, skills, abilities and abnormal operating conditions and developed evaluation tests and observation checklists to document evaluations for distribution covered tasks, 2001.

Wrote personal computer programs now used by many natural gas companies to:

- Estimate capital requirements, potential revenues and net present value from generating electricity from pressure letdown at compressor or gate stations.

- Perform gas measurement and compressibility calculations according to ANSI standard methods

- Calculate thermodynamic properties of natural gas mixtures.

- Track fuel consumption and mileage for natural gas vehicle fleets.

- Benchmark safety records with comparable utilities and pipelines.

- Calculate the interchangeability of natural gas mixtures

- Track inspections and repairs required by pipeline safety regulations

Developed an Operating and Maintenance/Emergency Response Manual for a propylene pipeline (2001)

Developed an Operating and Maintenance/Emergency Response Manual for a natural gas transmission pipeline (2001)

Developed operator qualification plans for 80 natural gas distribution operators, 5 natural gas transmission operators, 4 hazardous liquid pipeline operators and over 100 master meter operators (1998-2002).

Developed O&M manuals and operator qualification programs for master meter operators; conducted training and testing of personnel; and performed inspection of master meter piping.

Conducted compliance audits of four natural gas distribution systems (1998, 2001 and 2003).

Conducted compliance audits of two natural gas transmission systems (2002).

Lead negotiations resulting in an agreement on legislation for offshore pipeline safety in 1990 and an agreement on excess flow valve performance and installation standards in 1993.

Panelist in a workshop of the Congressional Research Service exploring methods to reduce third party damage to natural gas pipelines, Washington, DC, April 25, 1991.

Participated in federal rulemakings involving:

- Ovality of field bends (Docket PS-49)
- Change in class location (Docket PS-53)
- Testing and repair of transmission lines (Docket PS-54)
- Testing relief devices (Docket PS-55)
- Class location, rural church rule (Docket PS-56)
- Damage prevention programs (Docket PS-57)
- Reporting unsafe conditions (Docket PS-59)
- Exception from pressure testing non-welded tie in joints (Docket PS-60)
- Alternate methods for confirmation or revision of MAOP (Docket PS-63)
- Enforcement of operators plan's and procedures (Docket PS-66)
- Underwater inspection and burial of pipelines (Docket PS-67)
- Gas detection and monitoring in compressor buildings (Docket PS-69)
- Leakage surveys (Docket PS-70)
- Operating and maintenance plan requirements (Docket PS-71)
- Passage of instrumented internal inspection devices (Docket PS-72)
- Excavation damage prevention (Docket PS-73)
- Customer-owned service lines (Docket PS-74)
- Reporting and recordkeeping procedures (Docket PS-75)
- Reporting & Recordkeeping Procedures
- Excess Flow Valve-Performance Standards
- Mandatory Participation In Qualified One-Call Systems
- Excess Flow Valve Customer Notification
- Customer Notification, Yield Strength, Damage Prevention Program
- Metric Equivalents
- Pipeline Integrity Management
- Pipeline Operator Public Awareness
- Qualification and training of operation and maintenance personnel
- Installation of excess flow valves
- Increased inspection of transmission lines in populated areas
- Pipeline safety user fees
- Pipeline integrity management
- Distribution integrity management
- Control room management
- Distribution incident and annual reports
- Distribution reportable incident definition
- Indoor air quality (EPA)

Abandonment of PCB-contaminated gas pipe (EPA)  
Outdoor standards for nitrogen dioxide (EPA)  
Greenhouse gas emission reporting (EPA)  
OSHA Excavation rules  
OSHA Process Safety Management rules  
OSHA Confined Space Entry rules

Actively participated in the development of the:

1990 Clean Air Act Amendments  
1988 Pipeline Safety Act  
1990 Offshore Pipeline Safety Act  
1992 Pipeline Safety Act  
1996 Accountable Pipeline Safety and Partnership Act  
2002 Pipeline Safety Improvement Act  
2006 Pipeline Inspection, Protection, Enforcement and Safety Act

Represented the natural gas industry:

Before Department of Transportation hearings on excess flow valves, passage of smart pigs, maintenance of customer-owned service lines and other pipeline safety issues.

Before the DOT Technical Pipeline Safety Standards Committee (TPSSC).

On national network television news investigating safety devices.

On national radio broadcasts covering safety issues.

Coordinated industry programs related to handling PCB contaminated liquids in the natural gas piping system, including organizing educational seminars, coordinating information exchange on PCB handling practices and communicating with federal environmental regulators on this issue.

Served on a research review panel on indoor air quality for a major California gas utility  
Served as an advisor to the Gas Research Institute on a 1993 study of methane emissions from natural gas facilities.

Analyzed the \$/Btu impact on 1,100 natural gas pipeline operators of mileage-based fees assessed by DOT and of alternative assessment methods.

Researched regulations, interpretations, enforcement actions and opinions of key regulators regarding natural gas transmission pipeline pressure uprating requirements and prepared a decision memo explaining uprating options.

Completed a benchmarking study comparing one natural gas distribution operator's corrosion control program and management of bare steel mains with national averages and companies with similar piping systems.

Completed a benchmarking study on cast iron main management programs.

Performed a study of one utility's pressure test records and advised on the proper interpretation of pipeline safety regulations regarding establishment of maximum allowable operating pressures for the utility's gas pipelines.

**Expert Testimony (NOTE: see last page of this CV for the list of cases in which John Erickson has testified in court and/or in deposition)**

Testified as an expert on pipeline safety before the Massachusetts Department of Public Utilities, November 29, 1994, concerning safe methods for abandoning natural gas service lines. Reviewed over 2,500 DOT distribution incident reports in conjunction with this effort.

Testified as an expert on pipeline safety before the Philadelphia Utilities Board, July 21, 1995, reviewing the pipeline safety risk management plan and capital budget of a natural gas distribution company.

Testified as an expert on natural gas industry engineering and operations practices before the Oklahoma Corporation Commission, July 9, 1998.

Prepared testimony for the gas industry for the March 15, 1995 hearing of the House Energy and Power subcommittee considering the Pipeline Safety Act of 1995.

Testified on the safety of underground storage of natural gas before the US Department of Transportation at a public hearing in Houston, TX, July 20, 1994.

Prepared testimony presented before the House subcommittee investigating safety of offshore pipelines, eventually leading to the passage of the Offshore Pipeline Safety Act of 1990, New Orleans, LA, February 26, 1990.

Prepared testimony on behalf of the gas industry for the July 29-30, 1992 hearing of the National Transportation Safety Board on its investigation of an underground LPG storage facility explosion in Brenham, TX, April 7, 1992.

Testified at a November 22, 1996 DOT hearing on behalf of a coalition of operators of small-diameter, natural gas pipelines advocating changes in how DOT assesses pipeline safety user fees.

Testified on behalf of APGA at a December, 2005 Pipeline and Hazardous Materials Safety Administration (PHMSA) public meeting on distribution integrity management.

**Technical Publications and Published Articles**

“Gas Distribution Integrity Management Rule Is On Its Way,” *Pipeline & Gas Journal*, June, 2007.

Wrote the American Public Gas Association’s model public awareness plan, 2005

Revised and edited the American Gas Association’s System Design book, 2004

Primary author of the US Department of Transportation’s Operator Qualification Guide for Small Distribution Systems - 2003

“Regulations And Standards For Natural Gas Pipeline Safety,” presented at the Natural Gas Claims and Litigation Association Annual Meeting, April, 2003

Compiled and edited the National Safety Council/APGA *Natural Gas Safety Handbook for Utility Workers and Contractors*, 2002

"A Practical Approach to Operator Qualification," *Journal of Pipeline Safety*, Autumn, 1999

"How to Qualify for an Operator Qualification Plan," *Gas Utility and Pipeline Industries*, June, 1999

"A Primer on the Operator Qualification Rule," *Oil and Gas Journal*, April, 1999

"Examples of Covered Tasks Under Operator Qualification," *Gas Utility and Pipeline Industries*, March, 1999

"A Four-Part Test of Operator Qualification," *Gas Utility and Pipeline Industries*, January, 1999

"Guide to the Operator Qualification Rule," *Gas Utility and Pipeline Industries*, December, 1998

Revised and edited the American Gas Association’s Purging Principles and Practices manual, 1998

“Guide to the Operator Qualification Rule,” *AGA Operating Section Proceedings*, 1998

“How to Prepare for Regulated Training,” *Gas Utility and Pipeline Industries*, December 1997, p 14.

“Are You Ready for Regulated Training?” *Gas Utility and Pipeline Industries*, November 1997, p 24.

“EFV’s, Qualification, User Fees Headline Coming Year Activity,” *Pipeline & Gas Industry*, March 1997, p.83.

"Operating Problems under Mandatory Carriage," *Gas Energy Review*, 1984 examining the engineering principles involved with capacity determination and non-steady state operation of a high-pressure natural gas pipeline.

"Environmental Benefits of Natural Gas Pipeline Expansion" *American Gas Association Engineering Technical Note*.

"Sound Regulatory Decisions can help Natural Gas Consumers" *Pipeline and Gas Industries*, February 1996.

"New Congress Should Ensure Rational Safety Regulations" *Pipeline and Gas Industries*, February 1995.

“Pipeline Safety Law Establishes New Standards,” *Pipeline & Gas Journal*, January, 1993.

"Operating Safety in the Natural Gas Industry," *A.G.A. Engineering Technical Note*, 1987.

“Putting Gas Range Emissions in Perspective" presented at the 1981 International Indoor Air Quality Symposium, Springfield, MA.

"Indoor Air Quality and Gas Range Emissions," 1984 International Indoor Air Quality Symposium, Stockholm, Sweden.

### **Presentations**

Speaker on Distribution Integrity Management Program (DIMP) at pipeline safety seminars in Iowa, Nebraska, Ohio, Florida, Alabama, Louisiana, North Carolina, South Carolina, Georgia and Tennessee in 2007, 2008 and 2009

Provided training on how to respond to natural gas fires at a 2006 conference organized by the Maryland Fire Marshal.

Organized and conducted a series of 14 state and regional workshops on pipeline public awareness in 2005 and 2006.

Organized and conducted the Operations and Regulatory Update roundtable at the Training and Education Workshops in Decatur, AL, 2006, 2007 and 2008.

Organized and conducted an Operations Workshop on pipeline safety issues for the American Public Gas Association, May, 2003

Organized and conducted operator qualification knowledge, skills and ability evaluations for over 200 utility and master meter system employees, 2002.

Organized and conducted a seminar on DOT's operator qualification rule, February 18, 1998.

Organized and conducted meetings of the International Standards Organization Technical Committee on Natural Gas, Baltimore, MD, March 9, 1993; Tampa, FL, February 13-15, 1991 and Phoenix Arizona, June 3-7, 1991.

Organized and conducted a safety seminar for the American-Israeli Gas Company and the government of Israel, Tel Aviv, Israel, September 4, 1995.

Organized and conducted a seminar on natural gas transmission and distribution design, construction, operation and maintenance for the members of the Argentine Institute of Petroleum and Gas, Buenos Aires, Argentina, May 29-30, 1996.

Organized and conducted a 2-day course on gas transmission and distribution emergency response at the 8<sup>th</sup> Iberoamerican Congress on Fire Protection, Cartagena, Colombia, April 8-12, 2002.

Organized and conducted a 2-day course on gas transmission and distribution design, construction, operation and maintenance at the 7<sup>th</sup> Iberoamerican Congress on Fire Protection, Bogota, Colombia, August 3-6, 1999.

Taught courses on risk management and pipeline safety at the Midwest Gas Association Operations Conference, Ames, Iowa, August 10-11, 1994, August 9-11, 1995, August 7-8, 1996 and August 7, 1997

"Regulations and standards of care for natural gas pipeline safety," Natural Gas Claims and Litigation Association meeting, San Francisco, CA April 7, 2003.

"Operator Qualification of Contractors," Panelist, Colorado PUC Pipeline Safety Seminar, Colorado Springs, CO, March 21, 2002

"Pipeline Safety Update", presented at the Midwest Gas Association Operations Roundtables, April 2-3, 1998, Colorado Springs, CO.

"Overview of the Operator Qualification Rule," presented at the Ohio Gas Association's Operations Conference, March 26, 1998

Featured speaker at the Society of Gas Operators, New York City, March 24, 1994, speaking on pipeline safety.

Panelist on pipeline damage prevention at the 1992 annual meeting of One-Call International, Minneapolis, MN.

Panelist, with Department of Transportation representative, at the A.G.A. Legal Forum, Lake Tahoe, July 16-19, 1994.

Taught course on pipeline safety at the New England Gas Association Operations School, Waltham, MA, June 7-9, 1993, June 7, 1994 and June 5-7, 1995.

Speaker at the Midwest Gas Association Operator Qualification Workshop, Indianapolis, IN, September 20-22, 1994.

Instructor at the Midwest Gas Association Pipeline Inspector Training Course, Decatur, IL, February 18-20, 1997.

Panelist on natural gas distribution trends and outlook at Gulf Publishing Inc.'s 1994 and 1995 editorial forums.

Panelist on pipeline safety trends and regulation at the DOE/NARUC natural gas conference, February 12-14, 1995, Orlando, FL.

Speaker on pipeline safety at NARUC pipeline safety subcommittee meeting, February 27, 1995, Washington, DC.

Speaker on pipeline safety at National Association of Pipeline Safety Representatives Board of Directors meeting, March 27-29, 1995, San Antonio, TX.

Speaker on pipeline safety at the Annual meeting of the Pennsylvania Gas Association, Grantville, PA, April 18-19, 1995.

Featured speaker at the June 17, 1995 Annual meeting of the Rocky Mountain Gas Association.

Speaker on operator qualification, customer-owned service line and excess flow valve regulations at the October 23-26, 1995 New England Pipeline Safety Representatives conference.

Speaker on pipeline safety at the New England Gas Association's Operations Committee meeting, Hartford, CT, September 30, 1991 and Sturbridge, MA, December 5, 1995.

Speaker on pipeline safety at the meeting of the Board of Directors of the National Association of Pipeline Safety Representatives, April 1-2, 1996, San Diego, CA.

Speaker on federal pipeline safety regulations affecting natural gas contractors and the Board of Directors of the Distribution Contractors Association, Dallas, TX, November 12, 1992.

Speaker on pipeline safety at the 27<sup>th</sup> Annual Risk Management and Employee Benefits Conference, Atlanta, GA, April 10-11, 1989.

Taught course on gas measurement at the International School of Hydrocarbon Measurement, Norman, OK, May 19-21, 1987, May 24-26, 1988 and May 17-18, 1989.

Conducted a seminar on the use of bar codes in gas industry operations for an integrated natural gas company, Youngstown, OH, October 11, 1989.

Speaker on natural gas composition and its effect on end-use at the Institute of Gas Technology, Chicago, IL, February 22, 1990.

Speaker on pipeline safety at the Annual Meeting of the Ohio Gas Association, Cincinnati, OH, March 23-24, 1989; Columbus, OH, April 5, 1990; and Cleveland, Ohio, March 25-26, 1992.

Organized and conducted the 2<sup>nd</sup> International Measurement Symposium, Calgary, Alberta, Canada, June 6-8, 1990.

Speaker on pipeline safety at the Midwest Gas Association's Senior Operating Management Conference, Kansas City, MO, October 9-10, 1990.

Speaker on the outlook for the natural gas vehicle market at the meeting of the Society of Gas Operators, New York City, October 26, 1990.

Organized and conducted a seminar on investigation and remediation of environmental problems at manufactured gas plant sites, Boston, MA, October 31-November 1, 1990.

Taught a course on the impact of the 1990 Clean Air Act amendments on natural gas operations at three regional seminars sponsored by the American Gas Association in Atlanta, Chicago and San Francisco, January 1991.

Speaker on the impact of the Clean Air Act amendments on the market for natural gas at an equipment supplier meeting conducted by a major Midwest gas utility, Cleveland, OH, May 30, 1991.

Speaker on pipeline safety at the Annual Meeting of the Oklahoma Gas Association, Oklahoma City, OK, September 25-26, 1991.

Speaker on natural gas safety at the American Gas Association Risk Management Forum, Atlanta, GA, May 12-13, 1992.

Participated as an expert in a 1987 Federal Energy Regulatory Commission hearing on natural gas industry electronic data collection

**Cases in which John Erickson has testified in deposition or at trial**

1. Yutzy vs Columbia Gas of Pennsylvania, Somerset, PA Case No. 327 Civil 1995: (Testified at trial June 29, 1998) Issues: Meter protection, EFVs
2. Cote et al vs Central Locating Services et al, Superior Court of Bristol County, MA, No.98-1066 (Deposition on June 24, 2002). Issue: One-call requirements
3. Bateman v IES, Iowa Circuit Court, Cedar Rapids, IA (Deposition, December 20, 2002). Issues: Isolation valves, odor investigation
4. Pearson v IES, Iowa Circuit Court, Iowa City, Iowa (Trial, April 23, 2003). Issue: Flexible connectors
5. Pena v TXU, District Court of Dallas County, TX, Cause # 02-00220-L (Deposition, August 22, 2003). Issues: Inspection and Maintenance of service lines, damage reporting requirements
6. Vanhook v Thalle Construction v PSNC, General Court, Durham County, NC, 02 CVS 383 (Deposition, October 21, 2003). Issue: Main installation by boring, one-call requirements.
7. Adams v NICOR, Chicago, IL (Deposition, May 28, 2004). Issue: Flexible connectors
8. Peerless Ins v PSNC, Cabarrus County, NC 06 CVS 02548 (Deposition, July 18, 2007). Issue: Main installation by boring, one-call requirements.
9. Hartford Ins. v Questar, 4<sup>th</sup> Jud. Distr, Utah County, UT Case #050400457 (Deposition, August 24, 2007). Issue: Meter protection
10. Trawick v Alagasco Circuit Court for Jefferson County, AL Civil Action # CV-05-927 Deposition given February 11, 2009. Issues: Meter protection, excess flow valves
11. Leslie v SEMCO Case # 2007-2848, Macomb County Circuit Ct. Michigan Deposition given May 13, 2009. Issues: Main replacement policies, corrosion control, pipe brittleness, excess flow valve requirements
12. Expose v Southern Union Gas Company, No 0816-CV03603 Circuit Court of Jackson County, MO. Deposition given November 13, 2009. Issues: Public awareness, red-tagging policies