



2355 Polaris Lane North, Ste. 120
Plymouth, MN 55447

SCOTT E. DILLON, P.E., IAAI-CFI, CFEI, CVFI
PRINCIPAL

sedillon@engsys.com

Scott Dillon is a Principal for ESI. Scott is a licensed professional engineer with over 20 years of experience in the areas of fire protection engineering, fire science, fire and explosion investigation and forensic analysis. He provides clients with expert consultation regarding fire protection and alarm systems, life safety, fire dynamics, fire testing, fire modeling and compliance with industry codes and standards. He has an in-depth understanding of origin and cause investigations of fires and explosions and has experience performing investigations involving residences and vehicles as well as commercial, industrial, chemical and agricultural facilities. He is skilled in performing investigations and managing large fire and explosion scenes, including those involving fuel gas systems and equipment. He is proficient in the investigation of incidents involving combustible dusts and metals as well as evaluating combustible dust hazards and performing Dust Hazard Analyses (DHAs) in accordance with National Fire Protection Association (NFPA) standards. He has performed evaluations of the design, installation, inspection, testing, maintenance and failure of fire and life safety systems, including sprinkler systems, clean agent systems, vehicle suppression systems and commercial kitchen suppression systems. He also has experience performing fire risk assessments and safety, risk, and hazard evaluations of facilities related to root cause analysis of accidents as well as the prevention of accidents.

Areas of Specialization

Combustible Dust Hazards
Combustion testing and analysis
Dust Hazard Analysis
Fire and Explosion Investigations
Fire Protection and Alarm Systems
Fire Sprinkler Systems
Fuel Gas Systems
Industrial, Chemical and Agricultural Facility incident investigation
Life Safety Systems

Education

M.S. in Fire Protection Engineering, University of Maryland, College Park, MD, 1998.
B.S. in Fire Protection Engineering, University of Maryland, College Park, MD, 1996.



Licenses/Certifications

State of Illinois P.E. License 062.060342
State of Iowa..... P.E. License 21836
State of Minnesota..... P.E. License 51152
State of Missouri..... P.E. License 2014014004
State of Montana P.E. License 51798
State of Nebraska..... P.E. License E-17017
State of North Dakota P.E. License 9200
State of Vermont..... P.E. License 018.0103109
State of Wisconsin..... P.E. License 43245-6
ASGE Certified Gas Engineer
IAAI Certified Fire Investigator (IAAI-CFI)
NAFI Certified Fire and Explosion Investigator (CFEI)
NAFI Certified Vehicle Fire Investigator (CVFI)
OSHA Hazardous Waste Operations and Emergency Response (HAZWOPER) Technician
(29 CFR 1910.120)

Professional Affiliations/Honors

International Association of Arson Investigators (IAAI) – Member
International Association of Arson Investigators, Minnesota Chapter – Member
National Association of Fire Investigators (NAFI) – Member
Society of Fire Protection Engineers (SFPE) – Professional Member
Society of Fire Protection Engineers, Minnesota Chapter – Member
American Society of Gas Engineers – Member
National Fire Protection Association (NFPA) – Member

Mr. Dillon also serves as a member of the NFPA Technical Committees on

Fire Tests

Combustible Metals & Metal Dusts (NFPA 484)

Wood & Cellulosic Materials Processing (NFPA 664)

Positions Held

Engineering Systems Inc., Plymouth, Minnesota

Principal, 2025 – Present

Engineering Systems Inc., Plymouth, Minnesota

Senior Managing Consultant, 2019 – 2024

Crane Engineering, Plymouth, Minnesota

Fire Protection Engineer, Fire Science Manager, 2013 – 2018

Exponent, Warrenville, Illinois

Senior Managing Engineer, 2006 – 2013

Bureau of Alcohol, Tobacco, Firearms, and Explosives (ATF), Fire Research Laboratory (FRL),
Ammendale, Maryland

Fire Research Engineer, 2000 – 2006

Southwest Research Institute, Department of Fire Technology, San Antonio, Texas

Fire Protection & Testing Engineer, 1998 – 2000

Publications/Presentations

“Explosion from a Smoldering Silo Fire, Process Safety Progress,” R.A. Ogle, **S.E. Dillon**, M.T. Fecke,
Vol. 33, No. 1, American Institute of Chemical Engineers, March 2014

“Investigating Inadvertent Automatic Fire Sprinkler System Discharges,” A.F. Blum, R.T. Long, **S.E. Dillon**,
American Society of Civil Engineers (ASCE) 6th Forensic Engineering Congress, San Francisco, CA, October 31-November 3, 2012

“Analyzing Unsatisfactory Fire Sprinkler Performance,” A.F. Blum, R.T. Long, N.P. Wu, **S.E. Dillon**,
American Society of Civil Engineers (ASCE) 6th Forensic Engineering Congress, San Francisco, CA, October 31-November 3, 2012

“Common Causes of Bus Fires,” S.A. Smyth, **S.E. Dillon**, SAE Technical Paper 2012-01-0989, Society
of Automotive Engineers (SAE) World Congress, Detroit, MI, April 24-26, 2012

“Flash Fire Involving a Hot Combustible Liquid,” R.A. Ogle, J.R. Ramirez, **S.E. Dillon**, American Institute
of Chemical Engineers (AIChE) 2012 Spring National Meeting & 14th Annual Process Plant
Safety Symposium, Houston, TX, April 1–5, 2012

“Facility Siting and Hidden Pathways for Hazardous Gas Migration,” R.A. Ogle, **S.E. Dillon**, A. R.
Carpenter, Mary Kay O’Connor Process Safety Center, 2011 International Symposium, College
Station, TX, October 25–27, 2011

- “Fatal Explosion Caused By an Intermittently Used Fuel Gas Piping System,” R.A. Ogle, **S.E. Dillon**, A.R. Carpenter, American Institute of Chemical Engineers (AIChE) 7th Global Congress on Process Safety, Chicago, IL, March 13–16, 2011
- “A Review of the Hypotheses of Low-Temperature Self-Ignition of Wood,” D.R. Morrison, **S.E. Dillon**, T.H. Hetrick, Proceedings, 2011 Fire and Materials Conference, San Francisco, CA, Interscience Communications Limited, London, January 2011
- “Lessons Learned From a Thermal Runaway Incident Involving an Organic Peroxide Intermediate During a Power Outage,” D.R. Morrison, **S.E. Dillon**, M.T. Fecke, American Institute of Chemical Engineers (AIChE) Proceedings, 2010 Global Process Safety Congress, San Antonio, TX, March 21–24, 2010
- “Analysis of a Two Decade Old Arson Investigation Using Scientific Fire Investigation Methods: The People Vs. Madison Hobley,” D.R. Morrison, R.A. Ogle, Lucas RJ, **S.E. Dillon** presented at the 2009 Fire and Materials Conference, San Francisco, CA, Interscience Communications Limited, London, January 2009
- “Comparative fire risk of motor vehicle fires: Gasoline vs. Ethanol,” **S.E. Dillon**, A.R. Carpenter, R.A. Ogle, American Institute of Chemical Engineers (AIChE), 42nd Annual Loss Prevention Symposium, New Orleans, LA, April 7–9, 2008
- “Characterization of Candle Flames,” A. Hammins, M. Bundy M, **S.E. Dillon**, Journal of Fire Protection Engineering 2005; 15(4):265–286. Society of Fire Protection Engineers, Bethesda, MD, 2005
- “Ignition Propensity and Heat Flux Profiles of Candle Flames for Fire Investigation,” **S.E. Dillon**, A. Hammins, Proceedings, 2003 Fire and Materials Conference, San Francisco, CA, Interscience Communications Limited, London, January 2003
- “Characterizing the Thermal Environment of the Cone Calorimeter for Analyzing Ignition Data of Materials,” M.L. Janssens, **S.E. Dillon**, S. Allwein, Proceedings, 9th Interflam Conference, Edinburgh, Scotland, Interscience Communications Limited, London, pp. 125–135, September 17–19, 2001
- “A Comparison of Building Code Classifications and Results of Intermediate-Scale Fire Testing of Stored Plastic Commodities,” M.L. Janssens, A.S. Garabedian, **S.E. Dillon** presented at the Conference Proceedings, 9th Interflam Conference, Edinburgh, Scotland, Interscience Communications Limited, London, September 17–19, 2001
- “Using the Cone Calorimeter as a Screening Tool for the NFPA 265 and 286 Room Test Procedures,” **S.E. Dillon**, M.L. Janssens, M.M. Hirschler, Proceedings, Fire and Materials Conference, San Francisco, CA, Interscience Communications Limited, London, January 2001

- “Predicting Fire Performance of Interior Finish Materials in the ISO 9705 Room/Corner Test,” A.T. Grenier AT, M.L. Janssens, **S.E. Dillon**, Proceedings, Fire and Materials Conference, San Francisco, CA, Interscience Communications Limited, London, January 2001
- “Burning Characteristics of Heptane and Methanol Pool Fires,” M.L. Janssens, **S.E. Dillon**, S. Allwein S. Proceedings, Fire and Materials Conference, San Francisco, CA, 2001, Interscience Communications Limited, London, January 2001
- “Balanced Approach to the Fire Performance Evaluation of Interior Finish Materials,” M.L. Janssens, **S.E. Dillon**, NISTIR 6588, S.L. Bryner (ed), November 2000, U.S./Japan Government Cooperative Program on Natural Resources (UJNR), Fire Research and Safety, 14th Joint Panel Meeting, Vol. 1, Proceedings, San Antonio, TX, March 1-7, 2000
- “Flame Spread Model Progress: Enhancements and User Interface,” M.J. Spearpoint, **S.E. Dillon**. NIST GCR 99-782, National Institute of Standards and Technology, Gaithersburg, MD, November 1999
- “Prediction of ISO 9705 Room/Corner Test Results” Volumes I and II, CG-D-22-99, C.L. Beyler, S.P. Hunt, B.Y. Lattimer, N. Iqbal, C. Lautenberger, N. Dembsey, Barnett J, M.L. Janssens, **S.E. Dillon**, A.T. Grenier. United States Coast Guard, Washington, DC, November 1999
- “Discussion of a Model and Correlation for the ISO 9705 Room-Corner Test,” **S.E. Dillon**, J.G. Quintiere, W.H. Kim. Proceedings, Fire Safety Science 6th International Symposium, University of Poitier, France, M. Curtat (ed), International Association for Fire Safety Science, July 5-9, 1999, pp. 1015–1026
- “Wall and Ceiling Heat Flux Measurements in a Room-Corner Test,” **S.E. Dillon**, J.G. Quintiere, S. Messa, D. Rosa. NISTIR 6242, October 1998, National Institute of Standards and Technology Annual Conference on Fire Research, Book of Abstracts, Gaithersburg, MD, November 2-5, 1998, pp. 141-142
- “Analysis of the ISO 9705 Room/Corner Test: Simulations, Correlations, and Heat Flux Measurements,” **S.E. Dillon**. Master’s Thesis, University of Maryland. NIST GCR 98-756, National Institute of Standards and Technology, Gaithersburg, MD, August 1998
- “Determination of Properties and the Prediction of the Energy Release Rate of Materials in the ISO 9705 Room-Corner Test,” **S.E. Dillon**, W.H. Kim, J.G. Quintiere. Volume 98, NIST GCR 98-753, National Institute of Standards and Technology, Gaithersburg, MD, July 1998
- “Thermal and Structural Response of Light Steel Frame Wall Assemblies Exposed to Fire Using The SAFIR Finite Element Model,” J. Milke, **S.E. Dillon** presented at the National Institute of



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January 2025

Standards and Technology, 2nd International Conference on Fire Research and Engineering,
Gaithersburg, MD, August 10–15, 1997