



**Luke S. Platfoot, PE**  
**Fire Protection Engineer**

**Education**

B.S., Mechanical Engineering, Tennessee Technological University, 2005

**Registered Professional Engineer (Fire Protection)**

State of Tennessee

**Professional Affiliations**

National Fire Protection Association, Member  
Society of Fire Protection Engineers, Affiliate Member

**Professional Experience**

Mr. Platfoot has been applying his education in thermodynamics, fluid dynamics, and heat transfer to a variety of fire hazards analyses and fire protection design problems.

July 2005 to Present - Performance Design Technologies, Inc.  
Fire Protection Engineer

Since joining Performance Design Technologies, Mr. Platfoot has participated in the development of fire hazards analyses to characterize fire exposure and to assess the response of structures and systems to fire. Projects have included compartment fire modeling, radiant heat transfer, heat transfer to structural steel, and evaluation of fire rated seals. He has also supported projects on sprinkler system design, hydraulic calculations, water supply analysis, and fire detection/alarm systems design.

Mr. Platfoot also provides code consulting services for ICC codes (International Building Code, International Fire Code, etc.) and NFPA codes. In addition, Mr. Frazer is proficient in fire modeling, including zone models (CFAST), computational fluid dynamics (FDS), and algebraic equations (NFPA 92, NRC Spreadsheets, SFPE Handbook). He is proficient in egress evacuation modeling using the hydraulic model.

Mr. Platfoot has experience working on several nuclear facilities, including multiple nuclear power plants and the Oak Ridge National Laboratory DOE campus. This experience includes extensive walkdowns of Shearon Harris Nuclear Plant in New Hill, NC; Crystal River 3 Nuclear Plant in Crystal River, FL; and providing general fire protection support to facilities of ORNL.

**Recent Projects**

Fire Modeling and Staff Support for New Construction at Y-12 Site - Fall 2011 to Present – Mr. Platfoot has participated in a team effort to prepare required DOE fire protection documentation for the new construction at the Y-12 site. As part of this effort, he has performed fire modeling for sprinkler response and prepared

documents to evaluate the impact of fire on ventilation systems in the building.

Green Mountain Coffee Roasters Flavor Room Code Review – Summer 2013 - Mr. Platfoot prepared a letter outlining the code requirements for an addition to a Green Mountain Coffee Roasters facility meant to hold coffee flavorings, many of which are classified as flammable or combustible liquids.

Spallation Neutron Source Atrium Smoke Modeling – Summer 2012 – A report was prepared by Mr. Platfoot to evaluate the suitability of a smoke control system installed in an atrium. The report calculated the smoke descent a fire in the atrium would cause and gave recommendations to correct the deficiencies found in the preparation of the report.

Fire Modeling for Ontario Power Group to Support License Renewal – Fall 2009 to Spring 2011 – Mr. Platfoot assisted in walkdowns and fire modeling to support the license renewal for Ontario Power Group nuclear power stations. He did the calculations for the scoping tools used to evaluate the vulnerability of the plant to fire.

***Areas of Specialization***

Hydraulic Calculations  
Heat Transfer  
Fire Protection System Design  
Fire Alarm System Design  
Fire Modeling